BIODIVERSITY ACTION PLAN
2022 - 2027

Ealing
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£ CREATING GOOD JOBS

TACKLING THE CLIMATE CRISIS

FIGHTING INEQUALITY

CONTENTS

FOREWORD BY COUNCILLOR DEIRDRE COSTIGAN, DEPUTY LEADER AND CABINET MEMBER FOR CLIMATE ACTION

‘ I am proud to be introducing the updated Biodiversity Action Plan (BAP) for Ealing at this vital time. We have set out ambitious actions for how we will meet the challenge of responding to the dual climate and biodiversity crises.

The BAP is a part of the council’s Climate and Ecological Emergency Strategy and pledge to reach net zero for carbon emissions in the borough by 2030. ‘

All the many green spaces in Ealing, from our parks and gardens, to allotments, street trees, green roofs, to the smallest of window boxes are vital parts of a wider ecological network. They help clean up our air, provide habitat for the species we all know and love, including bats, bees, and butterflies, and tackle extreme heat and flooding.

Ealing is fortunate to have superb green spaces that everyone can be proud of and be part of. These green spaces are essential for the health and well-being of our residents as well as the planet – and we have never appreciated them more than during COVID-19.

We have already taken huge steps to improve the local environment, by planting 37,000 trees since 2018, and in 2021 we achieved 23 Green Flag awards for our parks, a record for Ealing.

But we cannot afford to slow down. That’s why we have upgraded our target for tree canopy cover to 25%, which we will meet via ambitious tree planting programmes in our parks and on our streets, plus working with schools and community groups to green the whole borough. We’ve also committed to increasing the amount of grassland and space for pollinators in Ealing, and creating vibrant, diverse wetlands.

This BAP is not just about the council, we need everyone to do their part in making the borough more biodiverse. That’s why we are creating an Ealing Biodiversity Partnership which will harness the skills, knowledge and enthusiasm of our whole community.

I hope you will join us in meeting the unprecedented challenge of the climate crisis – whether you plant a tree, volunteer in parks, put up a bird box or fundraise for a rewilding project, you are helping the borough’s nature thrive.

1. INTRODUCTION

1.1 What is biodiversity and why is it important?

Biodiversity means the abundance and variety of all life on earth. This includes all animals, plants, the habitats they live in and the ecosystems they are part of. The relationships between species, habitats and ecosystems and their processes are key to sustaining a healthy, functioning planet and create essential environmental, social and economic benefits for people.

Biodiversity is deteriorating globally and at an unprecedented rate. In the UK 41% of our species are in decline (Hayhow DB, 2019) and this impact is felt particularly in urban areas where the needs of people and development are in competition with nature.

Changes in land use affects biodiversity as it has an impact on habitats and the species that need them to survive. To conserve biodiversity, we need to protect our species and habitats, and rewild and enhance poorer quality habitats that we, and future generations, depend on.

In the context of this updated Biodiversity Action Plan (BAP), we talk about the importance of 'rewilding' both the environment and people. In its purest sense, rewilding means leaving spaces unmanaged for nature to revert to its natural processes. In an urban environment our spaces have many uses such as public access and recreation in a park and this necessitates management of the environment. In this document we use rewilding as a term to explore the ways in which nature can heal itself and us. We are rewilding to restore biodiversity and ecosystems to the point where nature is more able to take care of itself, for example creating new wetlands, making gardens more wildlife-friendly or planting more trees in streets, parks and at home – these measures can help alleviate flooding, store carbon and will benefit wildlife. These measures require the council, landowners and managers and residents to actively make those changes rather than true rewilding and simply letting nature take its course. We are also rewilding people in order to restore our relationship with the natural world. The more people enjoy, observe and connect with nature, the more likely they are to care for and take positive actions to save it

1.1.1 Biodiversity - environmental benefits and challenges

The natural environment and its inherent biodiversity are natural capital assets that provide multiple benefits known as ecosystem services. Environmental ecosystem services are remarkable. They provide clean air and water, natural resources such as energy, food and medicine, nutrient cycling, sequestering and storing of carbon, and keep the climate in balance, for example through urban cooling and flood alleviation. In London, parks and green spaces can store 5.5 million tonnes of carbon annually and reduce urban temperatures by 2°C during heat waves – just a few of the beneficial ecosystem services our green spaces provide. (London Green Spaces Commission, 2020).

Traditionally, Ealing has been known as the *Queen of the Suburbs* due to its tree lined streets and many parks and green spaces. Over half of the borough (54%, approx. 3044 hectares (ha)) is recorded as being public, community or privately-owned green spaces (Greenspace Information for Greater London CIC on behalf of LB EAling, May 2017). Green spaces and green infrastructure in Ealing range from parks and open spaces, to private gardens and grounds, brownfield sites, allotments, cemeteries, transport embankments, verges and planters, trees, green roofs, Sustainable Drainage Systems (SuDS), rivers and canals. All these places create crucial green networks, corridors and stepping-stones of different habitat types for wildlife to live in and move through the borough.

Conserving biodiversity in an urban area like Ealing is vital, but also challenging. Ealing is the fourth most populous borough in London and the population is growing: 342,000 in 2018 (Ealing Council, 2018) and projected to increase to 396,000 by 2030 (Ealing's Local Strategic Partnership, 2021). This growth is reflected in the large amount of development and regeneration taking place in the borough. The existence and expansion of the urban environment creates more pressure on our green spaces to fulfil many other functions other than as places for nature. Hard surfaces in built up areas fragment habitats, create urban heat-islands, affect

the natural drainage of surface water, (and increased flooding) and create associated air, water, noise and light pollution.

Despite these challenges, there are still many things that everyone - the council, residents, developers, landowners and managers (including housing, schools and businesses) and community groups - can do at a local level to protect and enhance our biodiversity and ecosystems. The BAP will identify and promote actions that benefit both nature and people, encouraging rewilding across the borough, establishing better conditions for nature to thrive and creating more spaces for natural processes to repair ecosystems and boost biodiversity.

1.1.2 Biodiversity and social benefits

The beneficial links between green spaces, nature and biodiversity to our health and well-being have been well documented. The 2020 Space to Thrive report reviewed 385 studies published within the last 10 years, providing evidence of the major social benefits of urban parks and greenspaces, concluding that: (The National Lottery Heritage Fund, 2020)

1. Access to and use of parks and green spaces enhance physical and mental health, and life satisfaction
2. Parks and greenspaces enable people to connect with nature, which increases well-being
3. Parks can create important opportunities for social integration, cultural identity and 'sense of place'
4. Parks provide opportunities for community engagement, build social connections and enhance personal development and environmental awareness, for example through environmental education and volunteering to improve and shape local spaces.

These mental, physical and social 'co-benefits' are important for Ealing residents, where we have higher levels of obesity and inactivity, in particular for adults, compared with London as a whole.

2019/20: Ealing health and social care data		
	Ealing (%)	London (%)
Percentage of adults classified as overweight or obese aged 18+	60.7	55.7
Percentage of physically active adults aged 19+	59.8	65.2
Percentage of physically active children and young people aged 5-16	34.3	46.1

Figure 2: (Ealing's Local Strategic Partnership, 2020)

The BAP supports Ealing's health and well-being strategic aims in protecting and sustaining environments that help people to spend time outdoors, make healthy choices (such as getting active or volunteering) and by supporting residents and communities to manage their health and build mental and physical resilience.

The natural environment is also an important resource for learning and fostering connections to nature. The term 'connection to nature' describes our enduring relationship with nature, including emotions, attitudes and behaviour. Research shows that people with a greater connection to nature are more likely to show pro-environmental values and behave in ways that benefit the environment, wildlife and habitats. (J Hughes, Sept 2018), (Richardson, 2016). Studies also show that children benefit from both learning in natural environments and gain beneficial outcomes for learning processes such as improved concentration, confidence and behaviour, and an increase in wellbeing and pro-environmental values , (Richardson, 2016) (Sheldrake, 2019) (Wooley, 2009).

Equally, disconnection from nature is considered one of the major barriers in engaging people to take action that conserves and enhances biodiversity. This can be more common in an urban environment where there is less greenspace, nature is not as accessible, there is lack of understanding of what people can do for nature, and a reality or perception that it is not for or relevant to 'people like me'.

The BAP includes engagement and education actions in recognition that rewilding people and developing an enduring relationship between people and nature is critical for inspiring everybody to take positive actions to conserve and enhance biodiversity.

1.1.3 Biodiversity and economics

Green infrastructure is good for the local economy, making places more attractive to residents and businesses to play, live, work and invest in. Managed green spaces can provide resources that generate an income stream for landowners, land managers or residents, such as

food and natural materials. They can also attract external funding through paid for environmental or educational events or by securing grants to deliver biodiversity enhancements, often using local volunteers who benefit from new skills as part of the experience.

The 2017 Natural Capital Account study for London looked at identifying the economic value of benefits that Londoners get from public parks and green spaces (Greater London Authority, 2017). Some key findings were:

- London's green spaces reduce urban temperatures by 2°C during heat waves providing a preventative value estimated to be £594m
- London's public green spaces have a gross asset value of more than £91 billion, providing services valued at £5 billion per year
- Londoners avoid £950 million per year in health costs due to public green space
- For each £1 spent by local authorities and their partners on public green space, Londoners enjoy at least £27 in value

It takes skills and resources to maintain and enhance green spaces and infrastructure and to manage and to future-proof them against the effects of a growing populous urban environment, pests, diseases, invasive species and climate change. The UK National Ecosystem Assessment suggests that if the UK's ecosystems were properly protected and enhanced then they could add an extra £30 billion to the UK economy in ecosystem benefits (Watson, 2011). Nonetheless, the economic value of the ecosystem services and co-benefits that green space and biodiversity provide has often been overlooked both in assessing the true value of open spaces and in allocation of sufficient resources. In the last 10 years, spending on public green space, a non-statutory service, has fallen by over 30 per cent in London, while the population has grown by 11.2%. (London Green Spaces Commission, 2020). This trend is mirrored in Ealing. Since 2009, we have had a 64% cut in core government funding meaning for every £1 we used to receive, we now get just 36p. This amounts to a loss of £143million to the council. These cuts have of course impacted parks too, with the grounds maintenance budget reduced by over a third (35%) of what it was in 2012.

Post pandemic, central and local government strategy to implement not just an economic recovery, but a 'green' recovery is encouraging. It reflects the importance of biodiversity in supporting a productive economy and a more resilient and healthy society and planet.

1.2 The Ealing Biodiversity Action Plan

1.2.1 Vision

- **To conserve and enhance habitats that create better, and more interconnected places for wildlife across Ealing**
- **To increase awareness of biodiversity and encourage more people to connect with nature and by doing so take positive actions that benefit biodiversity in Ealing**

1.2.2 Overview and structure

The Ealing BAP fulfils our 'Biodiversity Duty' as set out in the Natural Environment and Rural Communities Act 2006 that requires 'Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

Beyond a simple duty, the BAP is the strategic framework and material document that works hand and hand with local, London and national priorities, policies and legislations to achieve best practice and outcomes for biodiversity in the borough.

The Ealing BAP covers the whole borough, from parks, public and private green infrastructure and spaces, to buildings of all types and transport networks. It provides strategic and practical direction for conserving and enhancing biodiversity for council departments and developers, but also provides guidance for the wider community too.

This document covering the period from 2022 to 2027, is an update to the Ealing BAP 1999. The BAP has been revised with the aim of reaching a wide readership and includes information and actions that reflect the social and ecological changes since its commencement. The BAP outlines the current status and priorities for habitats and species and sets out action plans to protect and improve biodiversity across the borough. The document content can be used by a range of audiences, including council departments, an individual, organisation or developer seeking further guidance, whether you are already interested in nature or with little idea of what to do.

We have revised the structure of the BAP so that some habitats which previously had their own plan, now sit within a wider habitat definition, based around major land uses. In this update, 'Parks and Open Spaces' category now encompasses the 1999 habitats: Acid Grassland, Allotments, Amenity Grassland, Hedgerows, Neutral and Marshy Grassland, Scrub and the Arable Land, Health land and Education Land which is maintained by the council. The 'Wetlands and Waterways' section encompasses the 1999 habitats: Ponds, Reed Beds, Rivers, Streams and Canals. 'Woodland' habitat remains as a single habitat type. The 'Built Environment' category includes the 1999 habitats: Private Gardens, Railway Land and Arable Land, Health Land and Education Land that is *not* maintained by the council. In addition, the 'Built Environment' habitat is new to the BAP and includes all infrastructure, i.e. buildings, streets and highway network and open mosaic habitats on previously developed land. There will inevitably be overlaps between plans, where a habitat type is present in different plans, for example wetlands and ponds are found in parks and the built environment. As such, all the Habitat Action Plans (HAPs) should be referred to for a full overview.

The Species Action Plans (SAPs) in this update were chosen for their national and local priority and significance. Some of SAPs are for species that are not nationally rare (e.g. Barn Owl, Kingfisher) but they are important within Ealing and help secure the buy-in of the local community who are emotionally and historically invested in them. The greater the sense of connection and appreciation of local nature there is, the more likely we are to be able to inspire people to take positive actions to protect it. The SAPs differ from the 1999 list and some were not included in this update as they are not threatened species (Mute Swan), they are not typically found in urban areas (Swallows), or the actions for other species or habitats in this plan will already positively impact them (Song Thrush, Fungi, Dyers Greenweed and Wild Service trees).

The Ealing BAP is a partnership document both in the making and delivery. We consulted with internal and external stakeholders, including local experts, conservation and community groups, land managers and different services within the council. All these contributors, in addition to residents, the voluntary sector, private, health and social housing landlords and owners, schools, local businesses and developers are all vital in contributing actions to protect biodiversity as the council cannot deliver this strategy alone.

1.2.3 Monitoring

Ealing Biodiversity Partnership

The BAP actions will be explored, reviewed and promoted through the council and supported by the Ealing Biodiversity Partnership (EBP). The EBP will be made up of council departments, organisations, groups and individuals that are involved in and interested in promoting the BAP objectives, with sub-groups for areas of interest and expertise (Strategy, Ecology and Community groups). Ealing Council are the decision-makers for land they own. Members of the Partnership will advise and collaborate with EC in decision-making and to progress the BAP vision. We will expand EBP participation in line with growing awareness and involvement from the wider community.

The EBP will meet to review the BAP on an annual basis and sub-groups may meet at intervals throughout the year to progress actions. What we know and understand about each habitat in the borough will change and evolve as new information or opportunity arises. As the BAP progresses, the actions here may be amended and updated where appropriate. The new Environment Bill makes it a statutory requirement for local authorities to create Local Nature Recovery Strategies (LNRS). The progress and ongoing review of the BAP will feed into the formation of a LNRS. The BAP may work alongside or be superseded by the LNRS at the end of this BAP's lifetime.

Ecological data collection

A key part of monitoring progress relies on collecting data (on habitats and species, green infrastructure and biodiversity enhancements), which will then be added to the council's Ecological Network Map. Data such as this can be used to inform current and future planning policies and decision-making regarding development applications, particularly those on or near to designated sites or sites with protected or important species and habitats. Up to date data ensures that the ecological baseline is robustly understood, and the impacts are quantified and assessed thoroughly.

We have commissioned the Ecology Consultancy to survey all the council's Sites of Interest for Nature Conservation, but we also need to collect habitat and species data in as many places as possible in order to create a wider picture of our ecological network. All

the HAPs and SAPs include actions to carry out further surveys and to promote training and opportunities for people to participate in citizen science surveys, in particular for priority habitats and species.

Recording wildlife has never been so popular. There are numerous conservation and ecological organisations who run their own awareness weeks, survey events and year-round survey campaigns. With the advent of smartphones, wildlife recording apps, simple online ID guides, and even bird song ID apps, everyone can contribute their wildlife sightings.

But how can we ensure that the data you record gets shared with Ealing and help us build our Ecological Network Map? The council has a Service Level Agreement with Greenspace Information for Greater London (GiGL), Greater London's environmental records centre. Under the Agreement, GiGL provides the council with data and maps, such as distribution and abundance of green spaces, key habitat types and species in the borough. Individuals and organisations can send data direct to GiGL. GiGL can also access data sets from a number of sources, including Local Environmental Records Centres, iRecord and many of the London Natural History Society data sets (with agreements in process to access more).

For individuals, we recommend you use and submit data to iRecord (free app or online). iRecord makes it easier for wildlife sightings to be collated, checked by experts and made available to support research and decision-making at local and national levels – and is accessible to GiGL. While we will continue to encourage submissions to local and national recording schemes, it is worth checking whether these schemes' data is accessible to GiGL. If it's not, please make sure you share it!

1.2.4 Funding

Budget cuts have seen the Parks Service adapt their funding strategy to deliver parks improvement projects primarily through external grants and Section 106 (S106). Under S106 contributions can be sought from developers to mitigate the impact of unacceptable development to make it acceptable in planning terms and provide funding for community, environmental and social infrastructure, including measures that improve biodiversity. Going forward it is envisaged that the planning obligations process will work alongside and integrate with the Biodiversity Net Gain (BNG) process. Where BNG cannot be achieved on the development sites, then losses must be offset by gains elsewhere or via statutory biodiversity credits. Application of the BNG process can be used to fund biodiversity enhancements across the borough.

Boroughs now have the power to raise a Community Infrastructure Levy (CIL) which will apply to most forms of development and is charged per sq.m (not just a few, large developments as S106 currently does). CIL could fund new and improvements to existing green infrastructure and spaces. The Council intends to develop a new local (Ealing LPA) CIL alongside the preparation of a new Local Plan.

Innovative solutions have also enabled parks to make efficiency savings on grounds maintenance and access more grants. For example, the grounds maintenance providers Greener Ealing Ltd are an in-house Local Authority Trading Company. This gives us greater flexibility in allocating resources where they are needed, rather than having a fixed schedule through an external contractor. Other solutions include working with partner organisations and empowering community groups to apply for funding for parks and open spaces projects, devolved management of sites (which may also make cost savings for grounds maintenance), linking management objectives to the local authority's statutory duties in order to maximise opportunities for co-funding and most recently setting up a charitable body, the Ealing Parks Foundation, which can access funds unavailable to local authorities.

An action across all the HAPs is to work with the Ealing Parks Foundation and EBP to create a list of potential and shovel ready projects, with detailed outcomes and costings. This enables us to select the right project for enabling biodiversity net gain, and to turnaround and submit bids quickly when they arise.

1.3 Ealing's Ecological Network

Ealing's green spaces and green infrastructure create an ecological network and play a vital role in providing places for wildlife to live and thrive. In the 2010 'Making Space for Nature' report (Lawton, 2010), Professor John Lawton called for the creation of a healthy ecological network operating across the landscape as a whole, not in isolated fragments. To create an ecological network that operates more naturally and effectively, we need more, bigger, better and joined-up sites.

Ealing has begun creating an Ecological Network Map, a spatial representation of biodiversity in the borough identifying green spaces and infrastructure, ecological features, habitat and species data, which can be updated with changes and enhancements as they occur. Some

parts of the network will be closely interlinked and of high wildlife value (generally designated sites), others less so but are nevertheless valuable for wildlife as part of the ecological network, to create connectivity (via green corridors and stepping-stones) or to cushion wildlife sites from harm (i.e. as buffers). The Ecological Network Map, along with policies and the BAP will work together to protect key areas of higher ecological value and identify opportunities to create, restore or enhance habitats and improve connectivity to the wider green space network.

In 1991 the London Ecology Unit published 'Nature Conservation in Ealing', an audit of sites of biodiversity value in the borough, which assessed key habitats including grassland (noting "some of the finest unimproved meadows in London"), ponds, wetlands and woodlands. Priority habitats identified in the publication are also detailed in the 1999 BAP and in this document's Habitat Action Plans (HAPs). Ealing is home to nationally and locally important flora and fauna including birds, 7 species of bats, reptiles, Stag beetles, and flora such as Black Poplar. Information and guidance for enhancing spaces for our most important species are found in the Species Action Plans (SAPs).

The largest and most connected areas of green space for biodiversity in the borough are the 340ha Brent River Park, a collection of predominantly public open spaces along 7km of the Brent Valley (includes Pitshanger Park, Perivale Park, Brent Lodge Park, Hanwell Meadows, Long Wood, Warren Farm, Elthorne Park and Elthorne Waterside), the 90ha Northolt and Greenford Countryside Park (includes Greenford Lagoons, Greenford Birch Wood, Marnham Fields, Smiths Farm Open Space, Rectory Park, Medlar Park and Northala Fields) and 80ha Horsenden Hill (East and West).

These sites and many of our public and some privately-owned green spaces are 'designated' or protected in recognition of their value in contributing significantly to the borough's biodiversity due their varied and important habitats and ecology.

Designated sites

Green Belt and Metropolitan Open Land

These are areas of strategic importance which have the highest level of protection from inappropriate development ("except in very special circumstances" (www.gov.uk, 2012) in planning policy and are a vital component of London's infrastructure. Much of the green space to the far west of the borough is designated as Green Belt to prevent urban sprawl.

Many of the larger open spaces of Ealing are designated as Metropolitan Open Land (820ha) including the important ecological networks of Horsenden Hill and Brent River Park and some of the larger public parks and community open spaces. These areas receive the same level of protection from inappropriate development as Green Belt.

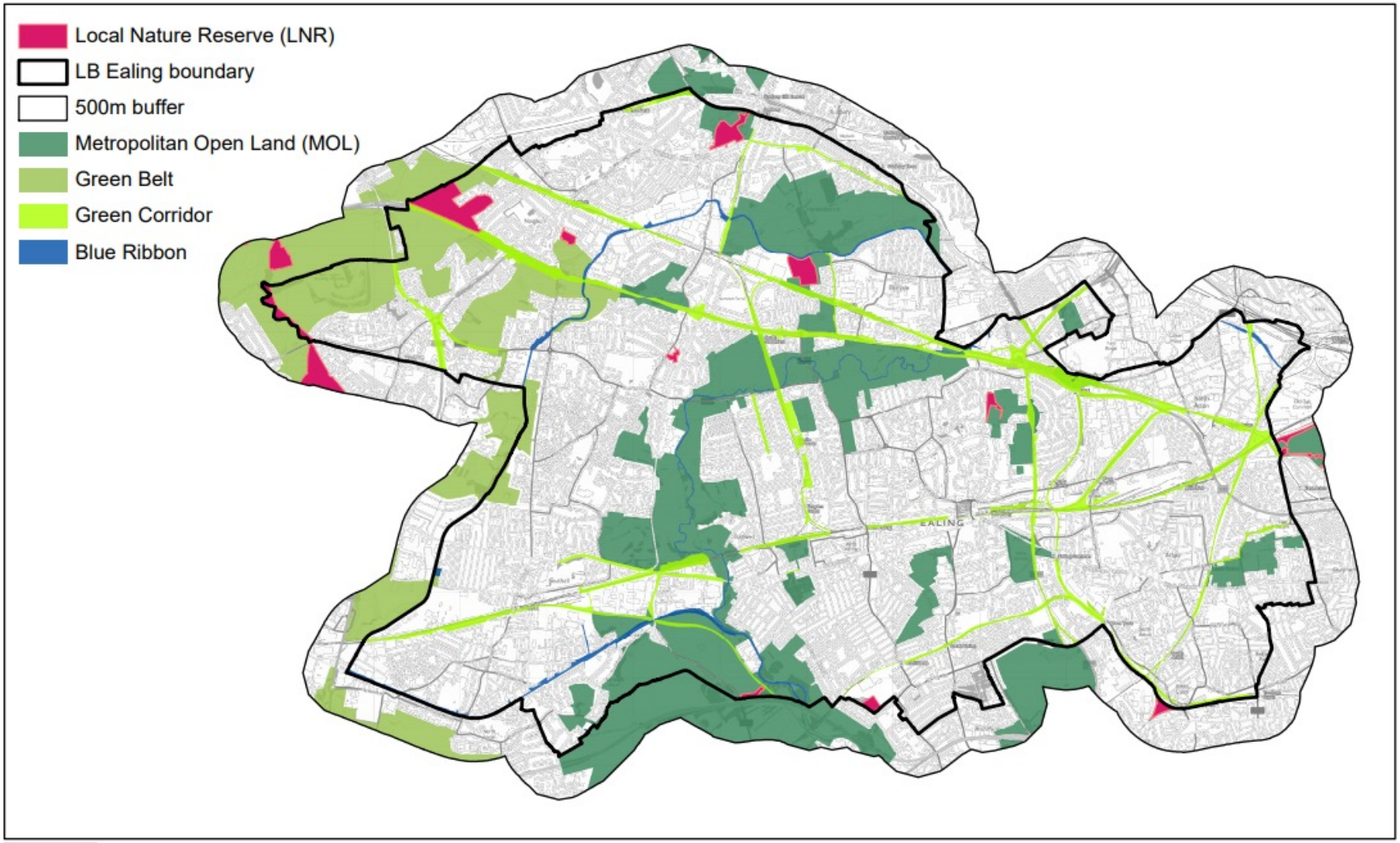
Local Nature Reserves (LNRs)

LNRs, a statutory designation, are places with wildlife or geological features that are of special interest locally and are recognised by the planning process giving them protection against proposals that would harm their value. Additional bylaws may also be applied to these sites. There are 10 LNRs in Ealing, 8 of which are owned and managed by the borough: Blondin Nature Area, Fox Wood, Grove Farm, Gunnersbury Triangle (London Wildlife Trust), Islip Manor Meadows, Litten Nature Reserve, Long Wood, Northolt Manor, Perivale Wood (The Selborne Society) and Yeading Brook Meadows.

Green Corridor and Blue Ribbon Network

Transport and waterway networks, which include railway lines and their embankments, major highways (such as the A40 and Uxbridge Road), walking and cycle routes, the Brent River and Grand Union Canal provide 308 ha of important green infrastructure connectivity for the movement of wildlife and links between networks of strategic open space in the borough. These are designated and protected in the Local Plan (Policy 5.3) as 'Green Corridor' and 'Blue Ribbon Network'. The relevant agency responsible for managing these networks have their own strategies in place to protect biodiversity.

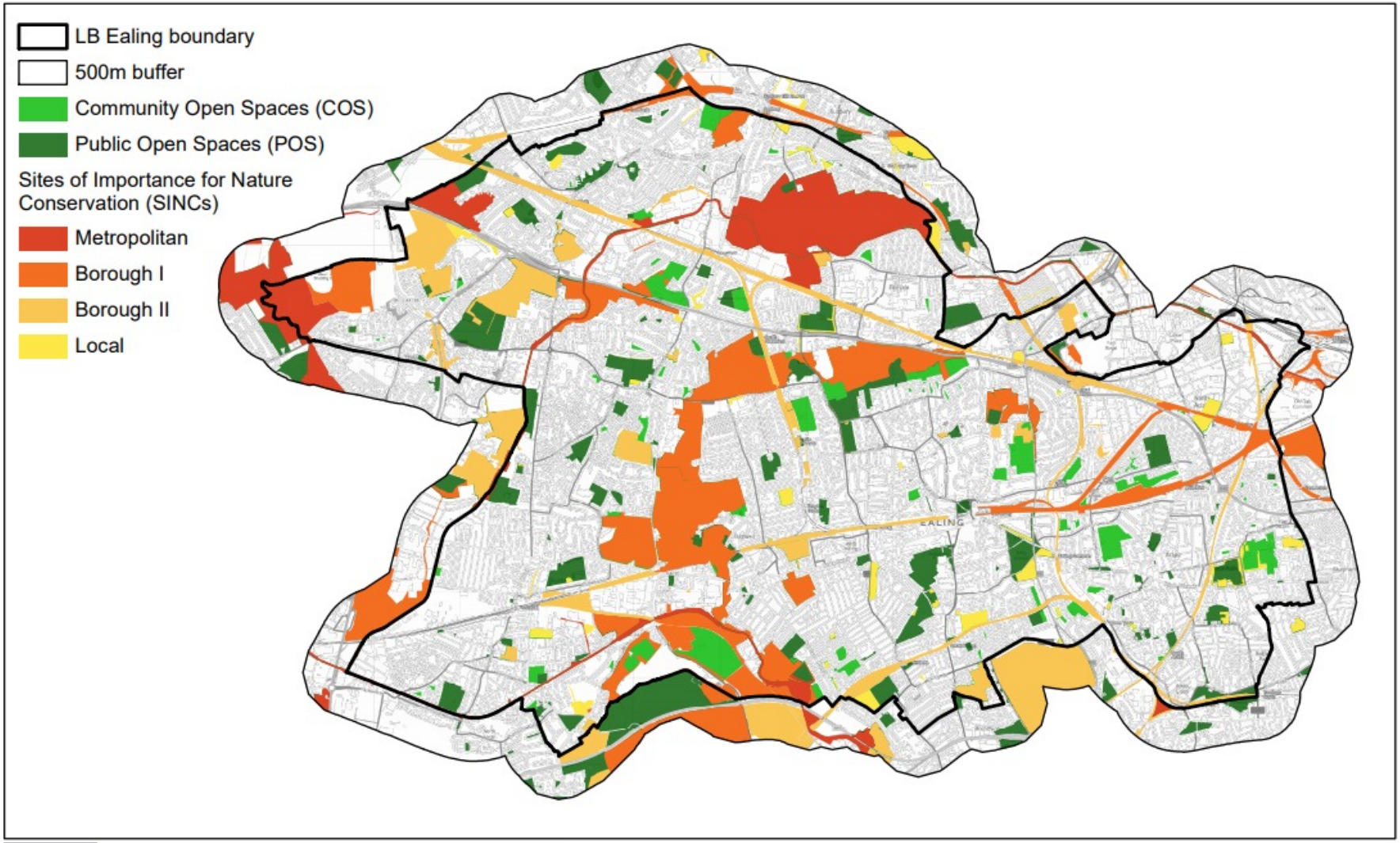
Ealing Designated Sites (excluding SINCs)



GiGL Greenspace Information for Greater London CIC
the capital's environmental records centre

Produced by GiGL July 2021

Ealing Sites of Importance for Nature Conservation (SINCs) and Open Spaces



GiGL Greenspace Information for Greater London CIC
the capital's environmental records centre

Produced by GiGL July 2021

Sites of Importance for Nature Conservation (SINCs)

SINCs are non-statutory designated sites, recognised by the planning process giving them protection against proposals that would harm their value. Whilst the majority of SINCs are owned by the council and actively managed by us for conserving nature, those privately owned vary in their actions for biodiversity. For example, SINC railway land is managed principally for safety, although management also includes considerations for biodiversity.

SINC are classified in a hierarchy of Metropolitan, Borough and Local Importance:

- Sites of Metropolitan Importance are recognised for their London-wide biodiversity importance and for the benefit they provide for everyone in Greater London. Ealing contains six sites: Islip Manor Meadows and Yeading Brook Meadows (also both LNRs), are known for their, species-rich grassland meadows; Horsenden Hill has species-rich grassland meadows, ponds with Great Crested Newts and ancient woodland; Perivale Wood features ancient woodland and old grassland; Gunnersbury Triangle is predominantly damp, secondary woodland with ponds and acid grassland areas, and London's Canals includes a variety of habitats in and along the Brent River and Grand Union Canal.
- Sites of Borough Importance are selected for their contribution to the borough's biodiversity and for enabling local communities to have access to a diversity of wildlife habitats and species in their local area. There are 2 grades for these sites based on their quality in terms of their wildlife and value to people.
- Sites of Local Importance help to redress any remaining local deficiencies in SINC provision and ensure people have access to green space locally.
- 'Areas of Deficiency in Access to Nature' identifies where people live over 1km from a Borough or Metropolitan SINC. Deficiencies in Ealing have been addressed by adding new Local grade sites to the SINC network in the south west and east of the borough. Although these do not impact the formal 'Areas of Deficiency in Access to Nature' being Local status, nonetheless they provide protected green spaces for nature and people close to home.

SINC sites adopted by the borough			
SINC grade	**Number of sites 1999**	**Number of sites 2013**	**Increase in sites**
Metropolitan	5	6	1
Borough I	17	21	4
Borough II	16	27	11
Local	23	48	25
Total	**61**	**102**	**41**

Figure 3: SINC sites adopted by the borough

Between 1984-5 natural habitats across all London boroughs were surveyed by the London Wildlife Trust to get a baseline of London's ecology. This provided the basis on which the London SINC network was established. The Greater London Authority commissioned a comprehensive London-wide re-survey in 2005, which led to review of SINCs during the 2007 - 2009 Local Plan consultation, with changes formally adopted in 2013. Metropolitan and Borough grade sites are primarily located down the centre and to the west of the borough, with Local sites spread more evenly.

The total SINC network in Dec 2013 comprised 1074 ha, more than doubling the area from the 2004 UDP. 41 sites were added to the SINC network, with many of these being Local grades.

Through the BAP, our aim is to ensure that Local Plan policies should be sufficiently robust to protect the SINC network, other designated and non-designated sites, as all green space has intrinsic value to biodiversity. The council has commissioned The Ecology Consultancy to undertake a full resurvey of all SINCs for the new Local Plan which will inform the Ecological Network Map. The review will also inform what actions are necessary to increase the quality and quantity of the SINC network and LNRs.

Tree Preservation Orders

Tree Preservation Orders (TPOs) are statutory orders made by local planning authorities to protect specific or groups of trees which are usually privately owned or in areas where the risk of loss to development means they need additional protection. They can be highly significant in

terms of the borough's biodiversity as they are often of considerable age, height and maturity. There are over 5,000 trees in Ealing with TPOs attached to them. The planning authority's written consent is required prior to any works on TPO trees.

1.4 Policy Framework

This section lists key policies but is not an exhaustive list.

1.4.1 National Policy

Environment Bill 2020 - GOV.UK (www.gov.uk) (2020)

The Bill contains new duties, tools and support to drive improvements for nature, such as:

- a 10% biodiversity net gain requirement, maintained for at least 30 years on new development
- a strengthened biodiversity duty on public authorities
- Local Nature Recovery Strategies
- Species Conservation Strategies and Protected Sites Strategies
- targeted measures to protect existing trees

Biodiversity Net Gain

The Biodiversity Net Gain (BNG) principle is already part of the National Planning Policy Framework. BNG is an approach to development that leaves biodiversity in a better state than before, minimising losses of biodiversity and helping to restore ecological networks. Where development occurs, the priority is to do everything possible to first avoid and then minimise impacts on biodiversity. As a last resort, losses that cannot be avoided must be compensated. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then biodiversity losses can be offset by gains elsewhere or via statutory biodiversity credits. The metric to measure biodiversity loss and gains is currently in final stages of development. The emerging Environment Bill will include a mandatory delivery of 10% BNG through development, which is expected to be implemented in 2023. Prior to the implementation of BNG through the Environment Bill and the adoption of the new Local Plan, Ealing draft local policy will specify a minimum 10% improvement.

Local Nature Recovery Strategy

The Bill will make it a statutory requirement for local authorities to create Local Nature Recovery Strategies (LNRS). The LNRS will complement the BAP and its actions, including that to develop the Ecological Network Map. The creation of the Map is both an action in the BAP and also a key early stage of creating the LNRS. The Ecological Network Map records existing biodiversity features, such as SINC, parks and open spaces, green infrastructure and the quality of habitats within them and will also be used to identify areas of deficiency in biodiversity that can be targeted for habitat enhancement, restoration or creation. The LNRS, national and local BAPs, and planning tools contribute to the creation of the national Nature Recovery Network. It echoes Lawton's principles for creating more, bigger, better and joined up networks, where a well-managed Nature Recovery Network creates and protects resilient ecosystems, benefiting wildlife, society and connecting people to nature.

Natural England: Building partnerships for Nature's recovery - GOV.UK (www.gov.uk) (2020)

National Planning Policy Framework (www.gov.uk) (2019) states that planning should contribute to conserving and enhancing the natural environment, habitats and biodiversity, including guidance document Natural environment - GOV.UK (www.gov.uk) 2016

'A Green Future: Our 25 Year Plan to Improve the Environment' (www.gov.uk) (2018)

National pollinator strategy: for bees and other pollinators in England - GOV.UK (www.gov.uk) (2014)

Biodiversity 2020: A strategy for England's wildlife and ecosystem services - GOV.UK (www.gov.uk) (2011)

Natural Environment and Rural Communities (NERC) Act (legislation.gov.uk) (2006)

UK BAP I JNCC - Adviser to Government on Nature Conservation (1994) (updated 2007)

1.4.2 Regional Policy

New London Plan I London City Hall (2021) Strategy document and policy framework for London, which identifies importance of coherent ecological networks, protection of SINC and priority species and habitats that sit outside of the SINC network, promoting green

infrastructure, 'urban greening' and biodiversity. The objectives of the London Plan should be incorporated and delivered as part of the Local Plan.

Urban Greening

The London Plan 2021 states that major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping, trees, biodiverse green roofs, green walls and nature-based sustainable drainage.

The Mayor has developed a generic Urban Greening Factor model to assist boroughs and developers in determining the appropriate provision of urban greening for new developments, using a scoring system for different types of landscaping features created in a new development.

London Environment Strategy | London City Hall (2018) includes action to make London cleaner, greener and ready for the future. The strategy includes policies to protect nature conservation sites, create priority habitats, conserve priority species and to ensure net gain in biodiversity.

London Infrastructure Plan 2050 | London City Hall (2017) actively seeks to create connectivity of green infrastructure.

All London Green Grid | London City Hall SPG (2012)

London's Biodiversity Action Plan – Greenspace Information for Greater London (gigl.org.uk) (2007)

Water Catchment Partnership Plans

- Caring for our environment | Canal & River Trust (canalrivertrust.org.uk)

  Content.tfl.gov.uk/lu-biodiversity-action-plan.pdf
- Brent Catchment River Improvement Plan (thames21.org.uk)

1.4.3 Local Policy

The Local Plan

The Local Plan is a collection of documents that sets out the council's vision, strategy and objectives for planning up to 2027, together with policies that will guide future decisions on planning applications. The London Plan is a material document for the Local Plan. The Local Plan is currently being reviewed and we expect a new Local Plan to be adopted in 2023.

In the current Local Plan, the Development Core Strategy DPD Chapter 5 and 6.3 details protection, enhancement and increased access to Ealing's green and open spaces, and ancillary ensuring that new development improves and adds to green space. The Development Management DPD policies giving further context for provision and types of green space, which include but are not limited to: 2.18 'Green Infrastructure: the network of open and green spaces', 5.10 'Urban Greening' and 5.11 'Green Roofs and Development Site Environs' (C Green roofs are strongly encouraged on all development where it would be appropriate in design, contextual and conservation terms. Green roofs should be provided on major development that falls within 100m of the following designations: Green Belt, Metropolitan Open Land, Green Corridor, Public Open Space, Community Open Space and Sites of Importance for Nature Conservation. E5.11.1 Green roofs serve two main functions, improving biodiversity and environmental quality, and providing amenity space. Where these functions conflict biodiversity should take precedence in the defined 100m buffer), 5.12 'Flood Risk Management', and 7.7D 'Open Space'.

Climate and Ecological Emergency Strategy 2021 - 2030 (2021)

In a bid to make the borough carbon neutral by 2030, the council has drafted a strategy focusing on key areas that we feel we can make the most difference, with one of these areas being Green Infrastructure.

Key targets for reducing carbon for Green Infrastructure include committing to operational improvements to reduce carbon emissions and mirrors the relevant HAP actions to improve and extend species-rich grassland and to increase tree canopy cover by planting more hedgerows and trees.

Future Ealing Corporate Plan 2018-2022

Future Ealing's goal is to make the borough a better place to live at a time of drastically reduced budgets. Ealing has identified 3 priorities: Genuinely affordable housing; Opportunities and living incomes; A healthy and great place, with maintaining the quality (and by implication, biodiversity) of greenspaces sitting under the third priority.

In order to achieve these priorities, the council has launched a Future Ealing crowdfunding programme that supports local people with big ideas who want to improve the local area and to do something good in the community. It provides match-funded, financial support to community-led ideas that help the recovery of local business, neighbourhoods and groups, and build more prosperous and vibrant local areas. This funding programme is the post-pandemic funding programme formerly known as Transform Your Space.

Ealing Health and Well-being Strategy 2016 – 2021

The Strategy defines priorities for creating and sustaining environments that support residents and communities to manage their health and build resilience. Access to parks and green spaces allows people to make healthy choices. Sign-posting residents to ways in which they can get active and volunteer in parks helps sustain and manage health and well-being.

Green Space Strategy 2012 – 2017

The 'Ealing Green Space Strategy provides a framework through which the Council and its partners can prioritise investment and actions in order to address deficiency in the provision and quality of open space in the borough. This strategy is scheduled to be reviewed and updated in in 2022/23.

Ealing Tree Strategy 2013 – 2018

Ealing Council's tree strategy sets out how trees are managed in the borough and how they affect all our lives. It has been prepared in answer to national, regional and local policy frameworks. This strategy is scheduled to be reviewed and updated in in 2022/23.

2. THE HABITAT ACTION PLANS

These plans set out actions and 'best practice' information to meet the Ealing's biodiversity **Vision:**

- **To conserve and enhance habitats that create better, and more interconnected places for wildlife across Ealing**
- **To increase awareness of biodiversity and encourage more people to connect with nature and by doing so take positive actions that benefit biodiversity in Ealing**

The Habitat Action Plans (HAPs) include more and specific outcomes than the Species Action Plans (SAPs) as achieving the HAP targets will also have a positive outcome for the species that depend on them. The 'best practice' and other tips and guidance in both HAPs and SAPs provide further information for council departments, developers, land managers, groups and individuals on actions and activities that benefit key species or assets.

Habitat Action Plans' Aims

- Protect and enhance biodiversity through the development and implementation of borough wide plans, policies and strategies
- Protect and enhance biodiversity through management of the environment directly or through engagement with other council services, developers, landowners / managers, community groups and residents
- Identify opportunities to enhance and create more spaces for nature and implement them, directly or through engagement with other council services, developers, landowners/ managers, community groups and residents
- Obtain and encourage collection of data to add to the ecological network map
- Raise awareness of the value of biodiversity through engagement activities and media, in order to create a connection to nature
- Increase positive actions and outcomes to protect and enhance biodiversity across the borough

2.1 Built Environment Action Plan

For the purposes of this plan, the Built Environment refers to (with London BAP Priorities identified in **bold**):

- **All buildings**
- Grounds and gardens of buildings that are not maintained by the council, including **private gardens**, schools', businesses' and some housing land
- **Open mosaic habitats on previously developed land**
- The transport network, including railway land, streets and other highways, some council and some privately owned

As previously mentioned there may be other priority habitats within the built environment, for example ponds in private gardens, or woodland on railway land. You can refer to the relevant HAP or SAP for more detailed information.

National and local priority species associated with the Built Environment

- **Grass Snake**
- **Slow Worm**
- **Common Lizard**
- **Common Toad**
- **Bats** (7 confirmed species in the borough)
- **Hedgehog**
- **House Sparrow**
- **Song Thrush**
- **Starling**
- **Herring Gull**
- Peregrine Falcon
- Swift
- **Pollinators**
- **Invertebrates** (e.g. Stagbeetle, butterflies & moths, dragonflies and damselflies)

Overview

The 'built environment' is the largest type of 'habitat' in Ealing, at approximately 68% of the borough (3757ha). While the fabric of streets and buildings themselves are biodiversity poor, there are places for nature to flourish.

Private gardens and grounds, street trees, planters, highway verges, railway embankments and urban greening measures such as green roofs, vertical planting, nesting sites integrated into building structures and Sustainable Drainage Systems (SuDS) all support species in an urban landscape. These urban greening measures and spaces create habitat connectivity through the built environment as stepping-stones or as corridors to other green infrastructure, as well as providing beneficial ecosystem services.

The council maintains most of the borough's highways, verges and street trees which allows us to manage these spaces and enhance biodiversity in a similar way as we do for parks and open spaces. However, much of the built environment is privately owned - private gardens alone total nearly a quarter of the borough (23.8% - 1320 ha (Greenspace Information for Greater London CIC on behalf of LB EAling, May 2017), an area larger than all the council's parks put together. This presents a significant opportunity for landowners and residents to increase biodiversity if they take measures to enhance buildings and gardens for nature, although it is of course more challenging to translate this potential into action on the ground. We will need to engage and communicate with residents, landowners (including schools, industry and private landlords) and developers to promote and stimulate actions to protect and rewild the urban environment, creating better and more spaces for nature.

As noted in the Introduction, there is increasing pressure on our environment as populations grow and the impact on green spaces and development continues. This BAP will build on existing planning policy requirements for planners and developers to appropriately consider biodiversity to ensure that existing features are conserved, and that enhancements and additional biodiversity features are created to create net gain where development occurs. Where these cannot be achieved on-site, the aim will be to enlarge, enhance and connect existing wildlife sites, and create new sites or green infrastructure. In a 2019 survey by GiGL of 23 Local Planning Authorities, 'training, biodiversity validation checklist and guidance material were among the most popular responses on what would be beneficial in relation to considering biodiversity in the early stages of the planning process'. The actions provide direction to respond to these issues and support the delivery of biodiversity enhancements across the borough.

Factors affecting the habitat

- Human and domestic animal impact, disturbance and predation of wildlife
- Impact on habitats by development, including loss and degradation of habitats, changes to hydrology, increased pollution and footfall
- Habitat loss and fragmentation
- Climate change and extreme weather patterns
- Competing demands for land use
- Lack of resources (skills, knowledge, workforce and funding) for management, restoration or enhancement projects, or enforcement of environmental regulations
- Presence and spread of Invasive Non Native Species (INNS)
- Use of pesticides and fertilisers

Case Study:
Rewilding streets, 'Rewilding Acton'

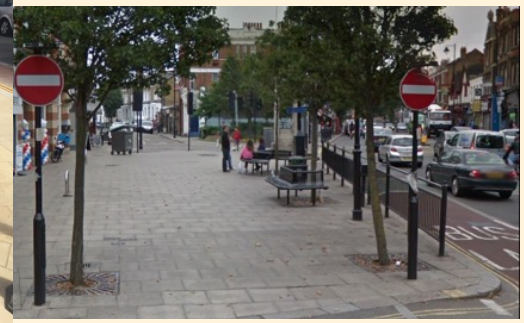
Rewilding Acton was set up by a small volunteer group of local residents and gardeners looking to create greener streets and more places for nature to thrive.

They set up a Just Giving Page to buy seeds, plants (with most being plants for pollinators), and compost. Socially distanced households worked in groups to sow wildflower seeds and plant up tree pits in Maldon Road in Acton. They water and weed the tree pits and are spreading their good work, inspiring more residents and local businesses to join their rewilding project.

Case Study:
Sustainable Drainage Systems and rain gardens

SuDS and rain gardens help manage surface water run-off and alleviate local flooding and transform roadside verges and pavements with attractive planting that is also beneficial to wildlife.

Before and after, Bowes Road, W3



Before and after, Hanwell Clocktower

Best Practice measures to enhance biodiversity in the built environment

General guidance just for developers and planners (Guidance for everyone is on the next page):

- Planners and developers treat a minimum 10% Biodiversity Net Gain (BNG) as integral to the design and planning process to ensure that existing features are conserved, and that enhancements and additional biodiversity features are created to create net gain where development occurs. Where these cannot be achieved on-site, the aim will be to enlarge, enhance and connect existing wildlife sites, and create new sites or green infrastructure to provide joined up and resilient ecological networks. Refer to the Guidance sections below for the ecological features and practices that can help achieve BNG.
- Appropriate assessment of biodiversity before undertaking maintenance or development and undertake post-establishment ecological surveying evidencing establishment of features and BNG, reporting results to Planning and GiGL
- Developers to meet the Building Research Establishment Environmental Assessment Methodology (BREEAM) certification criteria where appropriate.
- Developers to engage with appropriate stakeholders e.g. parks, Ealing Biodiversity Partnership in the planning process to achieve the best outcome for biodiversity
- Consider temporary green infrastructure in areas awaiting development (providing this does not damage open mosaic habitat) or during, such as green walls on hoarding, planters with nectar-rich flowers.
- Ensuring vital connectivity of new development landscaping with surrounding habitats for example utilising native hedgerows, dead hedging, long grass meadow areas and/or tree and shrub planting to create linear habitats that allow movement of species with uninterrupted cover from one ideal habitat to another
- Ecological features like ponds, scrapes and meadows should not exist as islands in the centre of highly managed landscape features such as closely mown lawns and hard landscaping. They need buffering wild vegetative areas connecting them to surrounding wilder habitat, such as long grass or linear habitat features on at least one side or edge
- Consider other factors from development that will impact on wildlife and habitats, including artificial lighting, wind tunnels, noise and shading.

Supporting general guidance documents for planners and developers:

- London City Hall general guidance for different features: Urban Greening for Biodiversity Net Gain: A Design Guide | London City Hall 2021
- CIEEM Biodiversity Net Gain Report and Audit template is a new framework for writing reports for projects that are aiming to achieve BNG and should be used to support planning applications CIEEM-BNG-Report-and-Audit-templates2.pdf July 2021
- Guidance document in particular for LPAs, with links for best practice management and ecological surveys for habitats and species prepared by GiGL Resource 2_front page_2 (gigl.org.uk)
- Guidance for Biodiversity (EcIA) validation checklist (draft CIEEM) EcIA-Checklist-Final-Nov-2019.pdf (kinstacdn.com)
- London Plan: Sustainable Design and Construction SPG London Plan: Sustainable Design and Construction SPG
- Links to papers and best practice guidance for habitats and species by CIEEM Good-Practice-Guide-April-2021-v6.pdf (cieem.net)
- General advice: LDA Design for Biodiversity 2753.03 Biodiversity FIN AW (gigl.org.uk)

Guidance for everyone to enhance the built environment:

i.e. Planners, developers, all landowners or managers, groups and residents

- Alerting the parks and trees teams (parks@ealing.gov.uk) with regards to and commenting on planning applications that impact biodiversity
- Create mosaic habitats and ecological features for different species in gardens, grounds and open spaces (more on what and how to create specific features listed below). Include BNG Management and Monitoring Plans to ensure establishment and longevity of features.

  For land managers/ developers: Ideas and how to guides to Make our city greener, healthier and wilder | London City Hall

  Grassland verges management for biodiversity: Managing_grassland_road_verges.pdf (plantlife.org.uk)

  Advice for Housing providers: Biodiversity Toolkit for Housing Providers (Botham et al. 2020)
- Create connectivity of habitats and ecological features, through linear features or buffering vegetation to link habitats or communities for movement of species. For example, planting around a pond extended to connect to wilder areas or other green infrastructure, hedgerows linking different habitats, hedgehog highways between enclosed gardens
- Biodiverse green roofs that meet the GRO Code 2014 in new development or retrofitted where feasible. Preference for Biodiverse, Semi Intensive and Intensive Green roofs over Extensive or Sedum blanket roofs.

  Best practice guidance: Green roof guidance GRO Code 2014
- Green vertical planting, such as living walls and climbers on and around buildings, window and balcony gardens/planting, using plants that enhance biodiversity

  Best practice guidance: https://www.thenbs.com/knowledge/the-nbs-guide-to-facade-greening-part-two
- Sustainable Drainage Schemes (SuDS) including rain gardens, planters, swales and blue/green roofs that maximise biodiversity benefits - for new developments, retrofitted where feasible and front gardens where paved.

  Best practice guidance: SuDS Sector Guidance | London City Hall

  Susdrain - The community for sustainable drainage

  For front gardens: What You Can Do - National Park City Front Gardens
- Create ponds or wetlands features

  Urban wetland design guide: 2021_Urban_Wetlands_FINAL[125594].pdf (zsl.org)

  Froglife pond creation and management: Just Add Water (froglife.org)

  Froglife How to make a hibernacula: Hibernacula.pdf (froglife.org)

  Garden Organic pond creation and management: Creating a pond | www.gardenorganic.org.uk
- Planting for pollinators and butterflies:

  The Wildlife Trusts: Plant flowers for bees and pollinators | The Wildlife Trusts

  Royal Horticultural Society: Plants for Pollinators advice and downloadable lists / RHS Gardening

  Butterfly Conservation - habitat creation and planting for butterflies: Habitat Creation (butterfly-conservation.org)
- Making homes for bees and insects:
  - How to build a bug mansion | The Wildlife Trusts
  - Build a bee hotel | Friends of the Earth
  - How to Build a Bug Hotel - Woodland Trust
  - How to build a log pile - Stag Beetles (ptes.org)
  - How to make a log shelter | The Wildlife Trusts

- Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers.

  London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

  The Wildlife Trust Gardening for wildlife Actions I The Wildlife Trusts

  Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

  Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf
- Installing on new development and retrofitting appropriate homes for wildlife. These could be integrated or attached to the fabric of buildings, or located in grounds and gardens, for example swift and bat bricks in buildings, erecting bird and bat boxes, building homes for insects, amphibians, reptiles and mammals (including bug hotels, log or stone piles, dead hedges, and hedgehog homes).

  Detailed best practice guidance and how to guides can be found in the SAPs(See SAPs Best practice and how to guides, including Reptiles and Amphibians, Bats, Hedgehog, House Sparrow and Swift and also under the above Gardening tips guidance
- Planting and maintaining trees, ideally native species. New tree planting follows the principle of selecting 'the right tree for the right place'. This method takes multiple factors into consideration, such as size, species, genetic source, planting density, location (including impact on existing habitat ecology), soil, benefit to wildlife (e.g. providing nectar, nuts or berries), and future proofing for resilience to pests, diseases and climate change.

  Best practice guidance: Forest Research Urban Tree Manual: 7111_FC_Urban_Tree_Manual_V15.pdf (forestresearch.gov.uk)

  Woodland Trust guide to native trees: twigged.pdf (woodlandtrust.org.uk)
- Planting native hedgerows to create linear habitat features and to supplement or replace boundaries

  How to make a hedge for wildlife I The Wildlife Trusts

  How to manage a hedgerow for wildlife I The Wildlife Trusts
- Artificial lighting design that does not adversely impact wildlife, particularly bats, following the Bat Conservation Trust guidance: Artificial Lighting Guidance
- Involving residents, volunteers and community groups in the creation, management and maintenance of habitats

Top 5 Tips for wildlife gardening

1. More green than grey. Plant more flower, shrubs and trees. They absorb CO2, cool city heat and alleviate flooding – see what to plant in the guidance.
2. Relax the gardening! Mow the lawn higher and less often, join 'No Mow May'. Leave undisturbed areas: longer grass, piles of logs and twigs, leaves or stones – they'll be food and homes for wildlife.
3. Talk to your neighbours. Create connectivity between gardens. Inspire, connect and collaborate!
4. Go organic & stop using pesticides and fertilisers. Use wildlife-friendly controls, comfrey tea, try composting.
5. Adding a pond of any size is one of the quickest and easiest ways to attract wildlife.

Tree planting target: 25% canopy cover

We have a substantial target to achieve 25% tree canopy cover by 2030 as set in the council's Climate and Ecological Emergency Strategy. Tree canopy cover in 2018 (on public and private land) was measured as 16.9% (Trees for Cities, 2018), around 940 ha. The 6% increase to 25% means expanding our canopy cover by over 330 ha, approximately a third of the total existing tree stock in Ealing – a tall order indeed!

Currently we have approximately 28,000 street trees, with 6550 standard-sized street trees planted in Ealing highways since 2016. While this appears to represent a sustained and considerable increase in tree canopy cover, we also have to take into account that some of the new trees will be replacing those felled due to disease or decay; new trees have a smaller canopies than a mature tree; and mature street trees are generally pruned in a 3 year cyclical basis to keep root growth in check as a strategy to reduce risk of claims against the council for building subsidence.

Finding new places for tree planting can be challenging. Southall Green and Southall Broadway are most deficient in canopy and street trees but there are high numbers of crossovers (lowered kerbs often accessing private driveways) in these wards, which makes it more difficult to find suitable places for planting. We cannot just plant all these trees in parks - where we do, they need to be in the right place so that it is not to the detriment of other important habitats or recreation uses.

The solution to meet the canopy cover target lies in not just planting trees on council land and streets, but extensively on private land and gardens too. Developers and residents need to be part of the solution to achieve this target. The HAP includes actions to campaign for and to encourage residents and landowners to plant more trees to help us meet the tree canopy target.

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Protect and enhance biodiversity in the Built Environment			
Action No.	**Aim: Protect and enhance biodiversity in the Built Environment through the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
BE1 All HAPs	The Local Plan and council strategic documents will uphold the BAP vision, aims and Habitat and Species Action Plans (HAPs and SAPs) through strengthened plan-making and decision-making policies and processes that require the protection, conservation and enhancement of biodiversity in Ealing. • The Local Plan will establish local Urban Greening Factor scores and factor values that support the best outcome for biodiversity where development occurs (see BE3) • The Local Plan will establish a minimum 10% biodiversity net gain (BNG) target, where development occurs (see BE3) • Development of the Local Plan will examine evidence and policy framework to establish whether a local biodiversity net gain (BNG) target (where development occurs) can exceed the 10% national target	2023	Ealing Council (EC) Planning and other EC directorates Ealing Biodiversity Partnership - strategic and ecology group (EBPse)
BE2 SAPs	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, BNG and urban greening as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures. • The CIEEM-BNG-Report-and-Audit-templates is strongly recommended for use to support applications that aim to achieve BNG • LPPGs that support best practice for biodiversity address (and include but are not limited to): biodiversity validation checklist for small and large development; small developments design; highways design; hard landscaping in private front gardens, urban greening measures including: SUDS, green roofs, bat and swift bricks, artificial lighting, vertical planting. • Meetings will be an opportunity to develop, review and update on processes and decision-making	2026 2021 2023 Min. 3 meetings p.a	EC Planning, Parks, other relevant EC EBPse
BE3 All HAPs	Planning will liaise with and require input from relevant departments and organisations on planning applications that impact biodiversity to implement the mitigation hierarchy i.e. BNG achieved on site, or as a last resort mitigated off-site, or via statutory biodiversity credits • Planners and developers must seek to implement BNG through best practice measures outlined in the BAP, HAPs and SAPs • Pending the establishment of a local targets for BNG and the UGF through a new Local Plan, planners and applicants must achieve minimum 10% BNG, in addition to meeting the London Plan UGF target scores	Ongoing	EC Planning, Parks, other relevant EC EBPse

Protect and enhance biodiversity in the Built Environment			
Action No.	**Aim: Protect and enhance biodiversity in the Built Environment through the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
BE4 All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, practices and enhancements. • Collect and share verifiable ecological data with EC / GiGL / iRecord • Use the Map to monitor and identify opportunities for delivering habitat connectivity, maintenance, restoration and enhancements for biodiversity and BNG • The Map provides the foundation for the preparation of a Local Nature Recovery Strategy	Initially 2023, then ongoing	EC Planning, Parks and other relevant EC Local Environmental Record Centres, GiGL, EBP, volunteers
BE5 All HAPs SAPs	Develop project list for habitat connectivity and enhancement projects with costings, plans and outcomes that can be tailored for delivering BNG and to support local groups' and council bids for funding opportunities as they arise. See WW, WD HAPs and SAPs for examples.	Initially 2022, then ongoing	EC Parks, Education, Highways, Housing and other relevant EC EBP, volunteers
BE6 All HAPs	Create an Ealing Biodiversity Partnership (EBP), linking local networks for the sharing, development and implementation of best practice for biodiversity and to review and feedback on BAP progress. • Sub-groups created for interest/involvement in strategy, ecology and community groups (EBPsec). See Appendix [LINK to EBP list in Appendix] for list and sub-groups • Meet annually to review BAP progress	2022	Education, Highways, Housing and other relevant EC EBP
Aim: Manage the Built Environment to conserve and improve biodiversity. Identify and implement enhancements			

Protect and enhance biodiversity in the Built Environment			
Action No.	**Aim: Protect and enhance biodiversity in the Built Environment through the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
BE7 POS9	Review all grass cutting regimes on council-maintained verges for best practice and extend or introduce 'no mow May' areas	Initially 2022, then ongoing	EC Parks, GEL, Highways, Housing
BE8	Review and continue to implement best practice management and maintenance of existing street tree stock as laid out in EC's Tree Strategy	2022 and ongoing	EC Parks (Trees) External contractors
BE9 All HAPs	New tree and hedgerow planting in the built environment contributes to target to increase in tree canopy from 16.9% to 25% (this includes street tree planting and trees on private land), with predominantly native species and principles of 'right tree, right place' • Identify areas for increasing stock, particularly in those areas deficient in canopy cover, with predominantly native species • A Festival of Trees will promote, celebrate, educate on trees and encourage residents to plant and care for trees and tree pits in private gardens, streets and parks	2030	EC Comms, Planning, Parks, Trees and other EC directorates Developers, landowners, managers, businesses, residents, schools, EBPcg, groups
BE10 POS17 All SAPs	Meet with Education, Highways, Housing, Public Health decision-makers to signpost them to the BAP, HAPs and SAPs best practice, including setting targets using p6-48 of the Biodiversity Toolkit for Housing Providers (Botham et al. 2020) Work with them to identify opportunities to improve management and enhancements for biodiversity and seek to implement these/ add to project list.	Initially 2022, then ongoing	EC Parks, Education, Highways, Housing, Public Health
BE11 POS17 All SAPs	Share the BAP with relevant external agencies and landowners to signpost them to the document, HAPs and SAPs to seek best practice and outcomes for biodiversity. Target further engagement with landowners on sites adjacent to SINC of highest ecological value or under greatest threat. Rangers and partners to scope appropriate site and feasibility to install additional bird boxes (or trays for Peregrines) for species in the birds (SAP5)	Initially 2022, then ongoing	EC Parks and other relevant EC EBPs Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers
Aim: Raise awareness of biodiversity in the borough to create a connection to nature and encourage positive actions to protect and enhance biodiversity			

Protect and enhance biodiversity in the Built Environment			
Action No.	**Aim: Protect and enhance biodiversity in the Built Environment through the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
BE12 All HAPs All SAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions. • Publicise information on the importance of HAPs and SAP species to biodiversity, including awareness weeks/campaigns • Disseminate top tips for maintaining and creating habitats and homes for SAP and other species • Support and celebrate community/ conservation interest group-led initiatives • Promotion of training and opportunities to participate in citizen science surveys, in particular for priority habitats and species, including encouraging data submissions to iRecord online / app, or GiGL (i.e. sharing verified data with EC/ GiGL)	Ongoing 20 training events promoted per year (across all HAPs and SAPs)	EC Comms, Parks and other relevant EC EBP ecology & community groups (EBPec), SRLs, Residents Associations, education and business networks
BE13 All HAPs	Record and increase volunteer participation in habitat and species conservation and enhancement projects and tasks • Increase engagement with biodiversity (management/improvement) tasks, citizen science (includes surveys and guided walks and talks), horticulture, litter collection and site management tasks year on year • Increase corporate social responsibility volunteering in the borough year on year • Engage 60 schools in biodiversity-themed activities in parks and/or improving schools' grounds for biodiversity • Engage Housing residents in on-site biodiversity-themed education and raising awareness sessions, and/or greening projects, with target for creating 10 'green champions' to lead on biodiversity improvements/ resident engagement on estates	2026	EC Comms, Parks, Education, Housing EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools, TfC
BE14 POS20 SAPs	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners/ managers and community groups • Create and increase range and number of micro-habitats for SAPs in gardens and grounds • Share SAP/ wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools

2.2 Parks and Open Spaces Action Plan

For the purposes of this Action Plan, parks and open spaces refer to the green spaces that are owned and in general managed by the council:

- Parks
- Public sports grounds and some golf courses (these are generally owned but not maintained by the council)
- Other green open spaces maintained by the council, such as grounds of council buildings, housing estates and small (pocket) parks
- Allotments
- Cemeteries

Priority habitats (**London** Priority habitats in **bold**) for Ealing parks and open spaces:

- **Parks and open spaces**
- **Meadows and pastures**
- **Acid grassland**
- **Open landscapes with ancient or veteran trees**
- Hedgerows
- **Woodland**
- **Rivers and streams**
- **Standing water (i.e. wetlands, ponds and SuDS)**
- **Reedbeds**

Actions for the latter four categories, will be addressed more specifically in the 'Woodlands' and 'Wetlands and waterways' and habitat action plans (HAPs). Actions to enhance biodiversity in these habitats are also applicable to parks and open spaces which contain these features.

National and local priority species associated with parks and open spaces

- **Grass Snake**
- **Slow Worm**
- **Common Lizard**
- **Common Toad**
- **Great Crested Newt**
- **Bats** (7 confirmed species in the borough)
- **Hedgehog**
- **Harvest Mouse**
- **House Sparrow**
- **Skylark**
- **Song Thrush**
- **Starling**
- Herring Gull
- Barn Owl
- Peregrine Falcon
- Swift
- **Linnet**
- **Wryneck**
- **Bullfinch**
- **Pollinators**
- **Invertebrates** (Stagbeetle, butterflies & moths, dragonflies and damselflies)
- Mistletoe
- Native black poplar

Overview and updates since 1999 BAP

The council maintains over 160 parks and open spaces (including some sports grounds and golf courses (613 ha), 6 cemeteries (not including 2 owned and managed by other boroughs) (32.6 ha), over 267 housing estates with 113 ha of grounds (including 107 verges) and 45 allotment sites (not including private) (47 hectares). Parks and open spaces provide places for recreation, relaxation and sport and contain mosaic habitat types that support a diverse range of species.

The Leisure Service oversees the management of the council's parks and open spaces, which are maintained by the grounds maintenance team Greener Ealing Ltd (GEL), a local authority trading company, and the parks and tree teams. Within the parks team are the cemeteries team, the landscape team, who deliver capital or improvement projects, and the park rangers who undertake conservation management and community engagement within parks and other open spaces. The tree team and some external contractors carry out routine and additional maintenance and landscaping works.

As outlined in the Ealing's Ecological Network section, many of these sites are designated as SINCs and LNRs in recognition of their biodiversity value, although all green space provides beneficial ecosystem services. We are fortunate to have not only a high percentage of parks and open space in the borough, but also that these include major green areas for crucial for biodiversity, connecting smaller parks into a larger ecological network, principally the Brent River Park and Northolt Greenford Countryside Park.

Parks and green spaces contain mosaic habitat, with many different types of vegetation and ecological features. 'Wetland and waterways' and 'Woodlands' have their own HAPs, so the following section gives some more detail on other important habitats in parks:

Grassland:

Grassland is any managed or natural area dominated by herbaceous or non-woody vegetation. Grassland absorbs and stores carbon in roots and soil and depending on the type can be extremely rich in plant and animal life.

Amenity grassland in our parks, playing fields and urban green spaces is generally mown regularly to accommodate high public use and recreation. Shorter grass can still benefit species, such as starlings and thrushes that feed on soil invertebrates, and hedgehogs which forage on shorter grass for their prey. Rough grassland is longer, less frequently mown grass. Grass left to grow longer allows plants to grow, flower and provide nectar and shelter for insects such as bees, butterflies and hoverflies and their larvae. Birds and mammals are supported by the additional seeds and invertebrates.

Our most biodiverse types of grassland are 'semi-natural' (not modified by cultivation or use of fertilisers) which are typically species-rich in native grasses and wildflowers. By 1984 wildflower meadows were recorded to have declined across the UK by 97%, which makes the protection of our species-rich grassland meadows crucial, alongside enhancing biodiversity of existing grassland through continued and improved management and maintenance regimes. The main broad types of semi-natural grasslands, in relation to the substrate they occur on are acid, calcareous and neutral grasslands. In Ealing we have small areas of acid grassland and notable, larger areas of neutral grassland.

Acid grassland is increasingly rare in the UK. Although in Ealing this habitat is fragmented, these small areas provide an important refuge for some species of plants and invertebrates, which are otherwise not found in the borough. The 1999 BAP states that acid grassland patches make up 2 ha in Ealing. Of sites recorded in 1999, all are small and isolated other than the largest areas on the West Middlesex Golf Course. Of the sites that have been surveyed in the current SINC review, there are 2.4 ha recorded and additional patches not recorded in 1999 are now found in Hanger Hill Park, Perivale Park Golf Course, Tentelow Meadow, Long Wood meadow and Bitterns Field. West Middlesex Golf Course continues to support the largest areas acid grassland habitat at 1.5 ha.

Neutral grassland is generally classified as herb-rich (or unimproved, i.e. untouched by drainage, ploughing or fertilisers) or as semi-improved grassland (some agricultural improvements made to it). These meadows have a high proportion of broad-leaved plant species which gives rise to many wildflowers in summer, providing breeding and feeding grounds for many insects, including bees and butterflies, and at Warren Farm, breeding site for ground-nesting Skylark birds. Birds and small mammals forage for insects and seeds in grassland and use it for shelter and cover. In turn these attract birds of prey. Traditionally they are lightly grazed and mown after the flowering plants have seeded and ideally the mown grass is then removed to keep soil fertility low and can make hay for cattle or be heaped to one side acting as refuges for other wildlife.

The 1999 BAP states that, "neutral grassland in Ealing occupies an area of approximately 300 hectares on 45 sites [9 of which are not maintained or owned by the council]. A slightly different definition used in the London Biodiversity Action Plan audits gives a figure of 240 hectares." The current SINC review will survey and map habitat types including grassland on SINC sites, but it will not cover all the 1999 list and is still in progress. Of sites surveyed, 130 ha of neutral grassland has been mapped, of which 28 ha is herb-rich and the remainder classified as semi-improved.

Case study: Making meadows

Ealing has preserved its existing neutral grassland habitats through applying cutting and clearing regimes on neutral grassland sites and using controlled grazing at Tentelow Meadows and Horsenden Hill as part of the Higher Level Stewardship scheme. The SINC surveys do not include detailed species records, but anecdotally there has been a marked increase of in invertebrates and associated neutral grassland biodiversity at Horsenden Hill, including an abundance of Dyers Greenweed, which was identified as an extremely rare London species in the 1999 SAPs. The BAP and actions acknowledge the need to collect more data to scientifically document the condition and species found in these priority habitats and changes over time.

Successful use of specific wildflower seed mixes on 3 sites: Perivale Park, Marnham Fields and previously arable land at Horsenden West now supports flocks of Linnets and Finches. The mix contains oil rich seeds: sunflowers, kale, oilseed rape, red and white millet, linseed, mustard and oil seed radish which support abundant insect life too. Wintering flocks of 30 to 100 Linnets were recorded at these sites, on a frequent basis for many months, showing that food sowing schemes can have dramatic benefits.

In addition to maintaining existing grassland meadows, we are creating new 'pictorial' wildflower meadows located in parks and housing estates and improving amenity grassland using more biodiverse maintenance regimes, with initiatives like 'No Mow May' and as described in 'grassland best practice' section. Over 23 ha of pictorial wildflower meadows have been added to parks and open spaces since 2016, including 3.55 ha on housing estates and 2.75 ha on highways verges. Not only do these provide valuable nectar for pollinating insects, but they also look spectacular. These colourful meadows include both native and non-native plants with most plants providing seeds, pollen and nectar for birds and pollinators. They are not as ecologically valuable as our 'naturally' occurring neutral grassland meadows, but they do provide biodiversity benefits (certainly an improvement from amenity grassland) and are highly successful at engaging audiences, providing that instant connection to nature. On some sites, interpretation panels have been installed, so people can explore the benefits and beauty of wildflowers in more detail and can be inspired to try letting lawns go wild or planting for pollinators at home.

Pictorial wildflower meadow

Trees and hedgerows:

There are tens of thousands of trees in our parks aside from woodland planting, with ages ranging from veteran trees of more than two or three hundred years old to new plantings. They may be single specimens, or grouped together as an avenue, orchard, copse or woodland. Trees provide important structure and shade in parks, as well as hosting complex microhabitats. Trees and biodiversity are discussed in more detail in the 'Woodland' HAP. Over 53,000 trees have been planted in parks since 2015 (includes some hedgerow planting), with an average of over 200 standard size trees planted by the tree service in parks each year.

Hedgerows are also part of our national heritage, traditionally enclosing fields and marking boundaries. They are important as natural corridors for both plants and animals to breed, shelter, feed and disperse along and help combat habitat fragmentation by making ecological connections between different habitat types, for example linking woodlands to grassland. A hedgerows managed for biodiversity will have diverse grasses and wildflowers at their base which support invertebrates such as butterflies and moths. Many still exist as a continuous line of dense shrubs but some ancient hedgerows have grown into lines of intermittent trees and scrub. In 1999, 12 km of hedgerow was estimated to be in the borough with nearly all the old or species-rich hedgerows found in the northern third of the borough. Since the last BAP we have planted approximately 8km more mixed native hedgerows across the borough.

Further biodiversity value in parks and open spaces is provided by other habitat types, such as scrub, woodlands (see HAP), different types of wetlands and waterways (see HAP), and planted beds of herbaceous plants, shrubs and features for wildlife, including around 500 bird and bat boxes, and many dead hedges and habitat piles. As the council manages these sites, we can also improve biodiversity through adapted maintenance regimes and enhancements - as far as resources, competing needs for space and preserving existing priority habitats allow.

Factors affecting the habitat

- Human and domestic animal impact, disturbance and predation of wildlife
- Impact on habitats by development, including loss and degradation of habitats, changes to hydrology, increased pollution and footfall
- Habitat loss and fragmentation leading to loss of connectivity
- Climate change and extreme weather patterns
- Competing demands for land use
- Lack of resources (skills, knowledge, workforce and funding) for management, restoration or enhancement projects, or enforcement of environmental regulations
- Presence and spread of Invasive Non Native Species (INNS)
- Use of pesticides and fertilisers

How we maintain and enhance biodiversity in our parks and open spaces (best practice)

In general:

- Comment on planning applications that impact biodiversity
- Maintain and restore habitats – see habitat best practice sections for 'grassland' and 'trees and hedgerows' below and other HAPs for more specific practices
- Managing sites to create ecological connectivity of habitats, through linear features or buffering vegetation to link habitats or communities for movement of species. For example, plants and longer grasses around a pond extended to connect to wilder areas, hedgerows and dead hedges that create linear linkages between habitats
- Introducing additional habitat types to add to the habitat mosaic, and transforming homogenous amenity open spaces through landscaping and planting, such as creating new wildflower meadows, planting community orchards and SuDS schemes
- Creating homes for wildlife, for example leaving standing and fallen dead wood, building loggeries and hibernacula, dead hedging, erecting bird and bat boxes (See SAPs Best practice and how to guides, including Reptiles and Amphibians, Bats, Hedgehog, House Sparrow and Swift)
- Monitoring and control of INNS
- Green waste policy and practice, including recycling green waste, composting on site, no use of peat products and minimal use of pesticides, where no other cultural or management control is effective
- Planting schemes that enhance biodiversity, including replacing traditional bedding in the borough by seeding and planting predominantly native plants, grasses, shrubs and trees that provide breeding sites and food-sources for birds, insects and pollinators
- Timing work schedules and access to avoid disturbing wildlife and maximise flowering and fruit-bearing
- Involving and supporting the numerous volunteers, Friends of parks, conservation and community groups in the creation of (and supporting funding bids for), management and maintenance of habitats, including horticulture, food-growing, conservation tasks and surveying habitats and species
- Supporting and working with groups dedicated to clearing litter: Litter Action Group for Ealing Residents (LAGER Can) (volunteering across the whole borough), the Greenwayers (principally the River Brent), Canal and Rivers Trust and Friends of Grand Union Canal (principally the Grand Union Canal)
- Interpretation to engage and inform site users
- Submitting selected parks and open spaces (currently 22) into the Green Flag Award London in Bloom Awards. These are benchmark international and national accreditation schemes that recognise and reward well managed parks against criteria, including biodiversity and environmental management

Grassland:

- Cutting regimes adapted to enhance biodiversity for all types of grassland, including:
  - higher cuts for amenity grass, which benefits many invertebrates such as worms, beetles, grasshoppers and spiders, living at or just below the soil surface
  - reduced cutting frequency of amenity grassland, including 'No Mow May' in many areas of our parks and open spaces – this allows more flowering of nectar-producing plants for pollinators
  - leaving areas uncut, or cutting on rotation to create longer grass and rough grassland areas and strips, such as field margins, verges, churchyards and under tree canopies –

invertebrate eggs, larvae and pupae can over-winter in uncut grass
  - early spring cut and collect for selected meadows to reduce grass sward
  - cut and collect of wildflower meadows after seeding
  - grass cuttings can be heaped to create refuges for invertebrates, slow worms and grass snakes
  - Managing key grassland habitats using intermittent grazing as part of Higher Level Stewardship scheme at Horsenden Hill and Tentelow Meadows
  - Managing scrub encroachment by cutting sections, and on rotation
- Managing grassland habitats for priority or locally important species, as outlined in the SAPs, for example letting thatch develop on rough grassland for small mammals, a vital food source for Barn owls and many other raptors
- Introducing yellow rattle into selected grassland, which reduces dominance of grasses and allows increased germination of wildflower seed
- Avoiding ploughing and reseeding of pastures and meadows, except for restoration to semi-natural grassland
- Introducing, where appropriate, a variety of meadow seed mixes, that include species-rich, native, annual and perennial mixes, pictorial mixes for pollinators, and specialised mixes for specific bird species
- Collection of wildflower seeds to increase supply of locally sourced seed for grassland restoration
- Mown paths to sympathetically guide public access
- Eliminating the use of artificial fertilisers and herbicides

Trees and hedgerows:

Woodland specific management practices are addressed in the 'Woodland' HAP and riparian trees under the 'Wetlands and Waterways' HAP.

- New tree planting using the principle of selecting 'the right tree for the right place'. This method takes multiple factors into consideration, such as size, species (predominantly native), genetic source, planting density, location (including impact on existing habitat ecology), soil, benefit to wildlife (e.g. providing nectar, nuts or berries), and future proofing for resilience to pests, diseases and climate change.
- Trees are inspected generally every 3 years. Pruning or canopy reduction works are only undertaken where essential for health and safety reasons
- Trees grow for their full lifecycle, including retaining veteran trees and leave standing dying or deadwood where appropriate. Felled large deadwood is left on site. Where chipping of branches and brash is required, wood chip is often retained on site
- Grass under tree canopies and around groups of trees is left uncut, reducing compaction of tree roots and creating sward diversity that benefits many invertebrates living at or just below the soil surface and the birds that feed on them
- An annual spray programme on all sites where Oak Processionary Moth nests found previous year using growth-regulating bio-pesticide that targets larvae, meaning they have less impact on non-target species
- Creating dead hedges from felled material. These linear features also connect habitats.
- Maintaining, restoring (hedge-laying), gapping up, extending and planting new hedgerows with a mix of native species, including berry and nectar-bearing species, for example, Alder buckthorn for the Brimstone butterfly

- Maintaining planted trees and hedges, involving volunteers and community groups, watering, mulching, fruit tree pruning
- Creating diversity in hedgerow vegetation, including allowing areas of hedgerow to extend into wider sections, varying height of cut, rotational cuts (i.e. every 2 – 3 years), leaving some standard trees in the hedgerow line and retaining undisturbed vegetation alongside as a buffer

Transforming parks case study: Re-landscaping Friars Gardens

Local residents approached the council with plans to transform a triangle of uninspiring mown grass and trees outside their homes to make the garden more useable and attractive to residents and visitors and include mosaic habitats and features to improve the wildlife value of the site too. The site plans involved local residents who helped develop designs for new planting, a community flower garden, mini meadow, orchard naturalistic play features, new seating, bins, and improved gates and paths to access and explore the garden. Local people set up a Friends of Friars Gardens group who continue to look after the site which is well used and loved in the neighbourhood

Before: amenity grass, a few trees and shrubs

Features to enhance biodiversity include:

- Varied features like rocks, meadows and planters increased the number of habitat types for a range of species
- Three mini-meadows add interest for residents and a habitat for insects to support their varied life cycles from feeding on flowers, to overwintering in the long grass and soil
- A compost heap allows the residents to store their garden waste and this is also a refuge for a range of species
- A wide range of flowers to help pollinators throughout the season
- 35 espalier fruit trees (apples and pears) planted all-round the boundary of the site which will provide fruit for residents and valuable habitat for a range of species
- A bug hotel provides habitat for insects complete with an explanatory sign. It was constructed with the help of residents

After: colourful plants and features that benefit wildlife

Community group case study: Ealing Wildlife Group

Ealing actively encourages community participation by individuals and groups in protecting and enhancing our parks and biodiversity across Ealing. A regular newsletter goes out to a list of over 550 volunteers to share ranger and other community and conservation groups' events and activities in parks (contact parks@ealing.gov.uk if you want to join this list). Community participation varies from conservation tasks, citizen science surveys, horticulture and litter-picking to devolved responsibilities for managing sites, by Friends of and conservation groups, Trusts, Allotment Associations and Community Interest Companies.

There are many groups who are involved in transforming and contributing to biodiversity improvements, but one of the most locally recognisable is Ealing Wildlife Group (EWG). Set up in 2016 on Facebook for sharing wildlife knowledge, sightings, photos and organising the occasional bat walk, by 2021, EWG is on several social media platforms (and have their own website) with over 4,500 members who continue to celebrate local wildlife and actively protect, educate and fundraise to benefit spaces for nature.

They arrange regular habitat creation events, fundraise and deliver wildlife projects, carry out wildlife surveys using a range of techniques, set up trail cams to captivate people and study wildlife, engage with the council, local landowners, businesses and developers to improve land and buildings for local biodiversity, run an annual photography exhibition and carry out numerous educational walk, talks and events. A few of their projects' highlights include:

Help an Ealing Owl project

With funding from the Tesco Bags of Help grant, EWG with the help of the park rangers put up 20 bespoke nest boxes for Barn, Tawny and Little Owls. The locally scarce Barn Owl is a UK priority species. EWG liaised with the council to change borough-wide grassland management regimes to create more rough grassland for better feeding habitats for owls and many other species. The boxes and habitat are monitored for hunting, resident, or breeding owls. The monitoring also covers important non-target species which may use the boxes like kestrels and stock doves. EWG is licensed to inspect the boxes along with a local licensed bird ringer, so they can ring any chicks found for ongoing population monitoring. We now have evidence that owls are using the boxes and in 2021 we have total of 10 Little owl chicks from three of the boxes. Interest was shown in the boxes by both Barn and Tawny owls and we hope they will occupy some boxes in future years.

Photo Sean McCormack

Coston's Nature Reserve

Ealing Wildlife Group (EWG) is taking the 4500sq m old disused allotment site at Costons Lane and turning it into a nature reserve & education centre. This will provide a vital space for children and adults to learn about and appreciate nature and will help save the space from being developed. EWG fundraised over £20,000 with contributions from members of the community, Ealing Council's 'Transform Your Space' program and Greystar developments.

The site will be managed for wildlife and for engaging and educating residents, schools and visitors, including:

- installing bird feeders, bird and bat boxes, bug and hedgehog homes, log piles for stagbeetles, and habitat features for frogs, toads, newts and reptiles such as slow worms
- Making a wetland and pond area
- Provide trails around the site and install hides to encourage observation and learning about wildlife
- Plant native plants and ornamental flowers for pollinators
- Host schools and scouts groups and have community open days
- Encourage citizen science by hosting 'bioblitzes', and help record species for organisations such as GiGL, Bat Conservation Trust, LWT, RSPB

Harvest Mouse reintroduction project

EWG launched a Rewilding Ealing initiative with their recent community fundraised project to reintroduce the threatened Harvest Mouse back to Ealing. A UK priority BAP species and Britain's smallest rodent, the Harvest Mouse has declined nationally due to agricultural intensification and loss of suitable habitat, including wetlands. The last known records in Ealing came from 1979, and extensive surveys by trained volunteers and the EWG team have failed to find any signs of harvest mouse presence in what now looks like suitable habitat due to changes in parks and grassland management. Partnering with several zoos and rewilding experts, EWG have already started releasing harvest mice back into the wild and will be doing so over the coming few years to hopefully restore this important missing link in our local ecosystems. The sites earmarked for future release in phase one of the project are Horsenden West, Paradise Fields, Carr Road reedbeds, Marnham Fields and Smith's Farm in the north of the borough.

Photo James Morton

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS1 All HAPs	The Local Plan and council strategic documents will uphold the BAP vision, aims and Habitat and Species Action Plans (HAPs and SAPs) through strengthened plan-making and decision-making policies and processes that require the protection, conservation and enhancement of biodiversity in Ealing. (See BE1 for detail)	2023	Ealing Council (EC) Planning and other EC directorates Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
POS2 All HAPs	Planning will liaise with and require input from relevant departments and organisations on planning applications that impact biodiversity to implement the mitigation hierarchy i.e. BNG achieved on site, or as a last resort mitigated off-site, or via statutory biodiversity credits • Planners and developers must seek to implement BNG through best practice measures outlined in the BAP, HAPs and SAPs • Pending the establishment of a local targets for BNG and the UGF through a new Local Plan, planners and applicants must achieve minimum 10% BNG, in addition to meeting the London Plan UGF target scores • Protect Skylark breeding grounds from impact from development at Warren Farm without prejudicing the outcome of the recently commissioned Ealing Sports Facility and Playing Pitch Strategic review (the brief of which acknowledges protection of Skylark habitat at Warren Farm). Due to the understandable sensitivity, a follow up review and action will be addended to the BAP in 2022	Ongoing 2022	EC Planning, Parks, other relevant EC EBPse
POS3 WW3 WD3	Use SINC review to assess feasibility and actions required to: • propose additional Local grade sites, particularly in areas of deficiency in access to nature • upgrade Local sites to Borough SINC, particularly in areas of deficiency in access to nature (e.g. Acton Park, Southall Park, Southfield Recreation Ground, Lammas Park, Walpole Park) • attain LNR status for SINC sites of highest ecological value, i.e. SINC Metropolitan and Grade 1 Importance, with Horsenden Hill as a priority	2022	EC Parks

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS4 All HAPs All SAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, priority species, features, management practices and enhancements. • Collect verifiable ecological data from, and support survey programs by EC, experienced volunteers, ecology experts and Local Environmental Record Centres (including data from SINC reviews, management plans, BTO bird monitoring and ringing projects, T21 Eel and Riverfly Monitoring, surveys and bioblitz's on various sites). Data to be shared with EC / GiGL / iRecord • Seek to commission habitat condition surveys for key ecological sites, prioritising SINC Sites of Metropolitan Importance (SMI) and Grade 1 (subject to funding) • Use the Map to monitor and identify opportunities for delivering habitat connectivity, maintenance, restoration and enhancements for biodiversity and BNG • The Map provides the foundation for the preparation of a Local Nature Recovery Strategy	2023, then ongoing	EC Planning, Parks and other relevant EC Local Environmental Record Centres GiGL, EBP, volunteers
POS5 All HAPs SAPs	Develop project list for habitat connectivity and enhancement projects with costings, plans and outcomes that can be tailored for delivering BNG and to support local groups' and council bids for funding opportunities as they arise. See WW, WD HAPs and SAPs for examples	2022, then ongoing	EC Parks, Education, Highways, Housing and other relevant EC EBP, volunteers
POS6 All HAPs	Create an Ealing Biodiversity Partnership (EBP), linking local networks for the sharing, development and implementation of best practice for biodiversity and to review and feedback on BAP progress. Sub-groups created for interest/involvement in strategy, ecology and community groups (EBPsec). See Appendix [LINK to EBP list in Appendix] for list and sub-groups. Meet annually to review BAP progress	2022	EC Planning, Parks Education, Highways, Housing and other relevant EC EBP
Aim: Manage parks and open spaces to conserve and improve biodiversity. Identify and implement enhancements			

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS7 WW7 WD8	Create new or update historic management plans: • SINC SMI, Local Nature Reserves (LNR) and ancient woodland (AW) sites as priority: Blondin Park (LNR), Fox Wood (LNR, AW), Grove Farm (LNR, AW), Gunnersbury Triangle (SMI, LNR), Horsenden Hill (SMI, AW), Islip Manor Meadows (SMI, LNR), Litten Nature Reserve (LNR), Long Wood (LNR, AW), Northolt Manor (LNR), Osterley Island (SMI London Canals, AW), Perivale Wood (SMI, LNR, AW), Tentelow Wood and meadows (AW), Yeading Brook Fields (SMI, LNR) – Plans will use spatial mapping, surveys, existing and historic management plans and SINC surveys to document and update both ecological features and management practices/tasks. Mapping includes main habitat types and condition, species, hydrology, access, and other notable ecological features and species e.g. veteran trees, INNS, disease, bird boxes, ancient woodland indicator spp. etc. – Plans will provide clear and brief, time-bound habitat management tasks e.g. coppice on 10-year rotation, annual (Sept) cut and clear neutral grassland meadow, pond vegetation management on 3-year rotation etc. – Plans will incorporate community involvement in surveys and management tasks – Plans will feed into the Ecological Network Map – Review plans prior to new BAP • Integrated Weed Management Plan • Council-maintained SINC Borough Grade 1 sites as next priority • Upon renewal, leases for Golf courses will include clauses to ensure management of grounds and buildings follow best practice for biodiversity given in the BAP, HAPs and SAPs	2023 for priority sites, then ongoing 2022 2026 Prior to renewal	EC Parks LWT, Selbourne Society, CRT EBP ecology & community groups (EBPec) EC Parks, Greener Ealing Ltd (GEL)

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS8	Implement habitat management, maintenance and restoration tasks in partnership with key agencies and community / conservation groups where possible (specific habitat targets given under POS9-15), following: • best practice principles (in general, no specific targets) outlined in the HAPs • grounds maintenance schedules • Integrated Weed Management Plan • SINC review recommendations • new or updated historic management plans • Species Action Plans • new tree and hedgerow planting follows 'Right tree, right place' principles • Higher Level Stewardship prescriptions • Green Flag management plans • Other site management plans e.g Catchment, partnership, leases etc.	Ongoing	EC Parks, GEL EBPec Relevant partners
POS9	Review grassland grounds maintenance to incorporate best practice principles and identify opportunities to improve biodiversity of minimum 5 hectares grassland through: • Review all amenity grass areas with the aim to: – increase areas left uncut for 'no mow May' (BE8) – extend some uncut 'No Mow May' areas into June or for longer flowering – change amenity to permanent, seasonal or cut on rotation rough grassland or cut and collect – raise height of cut on some areas – increase areas of pictorial wildflower meadows or specific seed-mix for Finches • Review all rough grassland areas with the aim to: – extend and create habitat connectivity (e.g. buffering, adjacent and connecting ponds and wetlands, hedges, field margins, trees, extended rough grassland strips) – increase uncut areas or areas cut on rotation	2021, ongoing	EC Parks, GEL EBPec

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
	• Review all neutral herb-rich and semi-improved grassland management and maintenance practices with the aim to: – manage scrub encroachment to maintain neutral grassland – implement measures (e.g. additional early spring cut, native seed mix, yellow rattle sowing) on selected sites (surveyed/ known to be species-poor) to improve neutral grassland biodiversity (before and after survey could document changes) – create meadow working groups to assist with raking and clearing of meadow cuts on small sites that are cut but not cleared mechanically (e.g. Haslemere, Wildberry)		
POS10 All HAPs	Review maintenance for trees and (conservation and formal) hedgerows to incorporate and implement best practice, including: • Review tree maintenance in parks, wetland and waterways (WW9), and woodland (WD10) to implement best practice where feasible. Where funding required, add to project list (POS5). • Review all hedge cutting regimes, conservation hedges as priority, to implement best practice • Increase areas of rough grassland margins adjacent to hedgerows • Continue hedge-laying program at Horsenden Hill • Hedge-laying of mature hedgerow i.e. with top heavy growth and sparse base at other sites (subject to adequate funding/ training); Islip Manor Meadows recommended in SINC review	2021, ongoing	EC Parks, GEL EBPec
POS11 SAP6	Review all shrub planting and maintenance to incorporate best practice principles • Review all shrub pruning regimes for maximising biodiversity, including frequency, height, flowering and fruiting • Review all formal shrub bed planting with a view to replacing declining ornamental shrubs with natives and perennial planting that are attractive to wildlife and pollinators – target 0.5 ha gardens improved for pollinators and other biodiversity benefits	2026	EC Parks, GEL EBPec

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS12 WW11 WD10 SAP1	Maintain and increase deadwood and habitat piles, including: • leaving standing deadwood (where not a danger) and creating/ adding to dead hedging during woodland and park conservation tasks • log piles, loggeries, or woodchip heaps in all parks • hibernacula at all suitable sites with or adjacent to wetlands or waterways • permanent, unturned (especially June – Sept) compost heaps, leaves and dead vegetation, or grass clipping heaps in sunny areas bordering dense cover, woodland edge and long grass at all feasible sites • rock piles at all suitable sites (needs appropriate location or interpretation to not attract fly-tipping, removal or misunderstanding)	2026	EC Parks EBPec
POS13 All HAPs SAP7	Tree and hedgerow planting (including natural regeneration) in parks and open spaces contribute to target to increase in tree canopy in the borough to 25% by 2030, using predominantly native species and principles of 'right tree, right place', including: • Increase mixed native hedgerow by minimum 3km • Propagating 100 and planting Native Black Poplars with local community projects • Propagating and planting of Mistletoe • Maintain Horsenden tree nursery and review feasibility of creating more tree nursery sites for care and propagation of trees and hedging plants	2030 for canopy target 2026 2021	EC Parks and other relevant departments EBPec
POS14 WW12 WD11	Continue with INNS control program to reduce their prevalence • Current POS/WW priorities are Giant Hogweed and Japanese Knotweed, then Himalayan Balsam • WD priority is Cherry Laurel, Snowberry, then Spanish Bluebell, particularly in Ancient Woodland • Mapping areas and treatment • Dealing with other INNS as feasible, or appropriate	Ongoing	EC Parks, GEL EBPec Other relevant agencies

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS15 WD13	Maintain and monitor nest and roosting boxes for bats and birds (currently approx. 500) • prioritise monitoring and maintenance of 30 owl and raptor nest boxes, recruiting volunteers to support (WD16) • add nest and roosting boxes for bats and birds (where feasible and funding)	Ongoing	EC Parks EBPec
POS16	Review of practices and CPD training for parks and grounds maintenance staff that support best practice management for biodiversity	Ongoing	EC Parks, GEL
POS17 BE3, 10, 11 All SAPs	Share the BAP with relevant external agencies and landowners to signpost them to the document, HAPs and SAPs to seek best practice and outcomes for biodiversity, including: GM managers to meet with all golf course managers to review opportunities for improved maintenance to achieve best outcomes for biodiversity Target further engagement with landowners on sites adjacent to SINC of highest ecological value or under greatest threat.	Initially 2021, then ongoing	EC Parks and other relevant EC EBPse Catchment Partnerships, private landowners, Network Rail, TfL, golf course managers
Aim: Raise awareness of biodiversity in the borough to create a connection to nature and encourage positive actions to protect and enhance biodiversity			

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS18 All HAPs and SAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions. • Publicise information on the importance of HAPs and SAP species to biodiversity, including awareness weeks/campaigns • Disseminating top tips for maintaining and creating habitats and homes for SAP and other species • Support and celebrate community/ conservation interest group-led initiatives • Ealing Wildlife Group (EWG) Photography Exhibition runs as an annual event • Promotion of training and opportunities to participate in citizen science surveys, in particular for priority habitats and species, including encouraging data submissions to iRecord online / app or GiGL (i.e. sharing verified data with EC/ GiGL) • Expand circulation of Parks' volunteering events and activities newsletter to wider network of residents, community and conservation groups, Residents Associations, schools and business networks (currently emailed every other week). Includes information on: – upcoming volunteering events in parks (conservation and litter picks), – educational events e.g. wildlife walks and citizen science (wildlife surveys, awareness weeks, and training events) – and other relevant events / activities and short courses in parks	Ongoing 20 training events promoted per year (across all HAPs and SAPs)	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
POS19 All HAPs	Record and increase (volunteer and other) participation in habitat and species conservation, education and enhancement projects or events led by rangers, community and conservation groups • Expand circulation of parks' newsletter • Increase engagement with biodiversity (management/enhancement) tasks, citizen science (includes surveys, walks and talks), horticulture, litter collection year on year • Recruit and train (directly or through groups) volunteers to carry out nest box monitoring, hedge-laying, or lead biodiversity-related guided walks and education/engagement activities (including bat walks (SAP2) • Increase corporate social responsibility volunteering in the borough year on year • Engage 60 schools in biodiversity-themed activities in parks and/or improving schools' grounds for biodiversity • Engage Housing residents in on-site biodiversity-themed education and raising awareness sessions, and/or greening projects, with target for 10 'green champions' to lead on biodiversity improvements/ resident engagement on estates	2026	EC Comms, Parks, Education EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools

Protect and enhance biodiversity of parks and open spaces			
Action No.	**Aim: Protect and enhance biodiversity of parks and open spaces in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
POS20 BE15	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners/managers and community groups • Create and increase range and number of micro-habitats in plots and gardens e.g. slow worm refuges, dead hedges, wildlife ponds (general survey of allotments by tenants/ site managers/ rangers as measure) • Share wildlife sightings with tenants, and encourage use of iRecord online /app	2022	EC Comms, Parks EAP EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools
POS21	Support Friends of parks and community/ conservation interest groups and initiatives to maintain and enhance habitats, including • Share community/ conservation groups' news and events via Parks newsletter and other comms • Signposting groups to join the West London Friends Network Forum to network and share best practice • Support creation of new Friends of parks groups - create two new groups	Ongoing 2026	EC Comms, Parks EBP

2.3 Wetlands and Waterways Action Plan

Wetlands and waterways **priority** habitats in Ealing:

- **Rivers and Streams**
- **Canals**
- **Ponds**, swales, scrapes and similar areas of **standing open water** – some may be seasonal in nature, drying out in summer
- **Reedbeds**
- Wet marginal vegetation and ditches associated with the above

National and local priority species associated with Wetlands and Waterways

- **Fish species (Chub, Dace)**
- **European eel**
- **Grass Snake**
- **Common Toad**
- **Great Crested Newt**
- **Bats** (7 confirmed species in the borough)
- **Harvest Mouse**
- **Water Vole**
- Barn Owl
- Swift
- Kingfisher
- **Reed Bunting**
- **Herring Gull**
- **Pollinators**
- **Invertebrates** (dragonflies and damselflies)
- Native black poplar

Overview and updates since 1999 BAP

Ealing has a relatively large amount of wetland and waterways compared with some other London boroughs. These provide habitat for a wide range of plants, fish including protected eels (which migrate in notably high numbers up the Lower Brent), invertebrates, birds, mammals, amphibians, reptiles and other species.

Over the last decade, Ealing has created and enhanced wetland and waterways' biodiversity through projects that engage local community groups and conservation organisations. In the last 10 years we have implemented more than 20 wetland and waterway restoration and creation projects, from major wetland creation projects to smaller scale SuDS and wildlife ponds.

There more than 90 ponds, SuDS and wetlands areas in public open space across the borough with a total area of around 50,000 square metres. The quantity of ponds on private land is unknown, but this plan will aim to encourage people to create and maintain their own wildlife ponds. Wetlands and their mosaic of standing water, reedbeds and wet grassland habitats are not only valuable for wildlife and flood alleviation, but are also natural filters, helping to remove pollutants from the water and act as 'carbon sinks', drawing down carbon and sequestering it so it can't escape back into our atmosphere. These habitats support a wide variety of species, with two thirds of all freshwater species being supported by standing water, including all our amphibians, dragonflies and many other aquatic insects and plants.

Many ponds are very old and remnants of a once much larger number from the past when they were highly valued as drinking places for farm animals. Over time ponds and reedbeds can become filled with sediment and shaded by trees and vegetation, reducing their wildlife value. Rangers and volunteers undertake regular management to reduce shading and excess vegetation from smaller ponds and reedbeds, but management of the larger reedbeds are more resource-heavy and can require mechanical intervention.

Waterways (rivers, streams and canals) provide valuable wildlife corridors, enabling the movement of aquatic species travelling through water and terrestrial species that travel along the banks. The river corridor (or riparian zone) and floodplain is an active part of a healthy river system providing important habitat features and river functions for wildlife and wider ecosystem services to communities, such as reducing flood risk.

The Environment Agency is generally responsible for rivers and Canal and River Trust for the canal network. Waterways are essential to the health of our natural environment, yet many of London's rivers are polluted, and it means that key species like eels and barbels (a freshwater fish) struggle to survive.

The Environment Agency (EA) oversees water quality issues, including monitoring and regulation. Water companies have a responsibility to prevent pollution incidents and mitigate the impacts when pollution occurs. Local authorities have responsibility for the enforcement of building regulations, correction of misconnections, proper maintenance of the road drainage network, and the reduction of run-off by promoting sustainable

drainage through the planning process. Catchment Management Partnerships (relevant to Ealing are the Brent Catchment Partnership and Crane Valley Partnership) have been established to actively involve communities in improving local water quality.

Misconnections are a major cause of poor water quality and can be very harmful to local wildlife. This is where a property's wastewater is wrongly connected into rainwater downpipes meaning toilet waste and waste water from dishwashers, washing machines and sinks can discharge into local waterways. Plumbing misconnections are usually easy to fix and are the responsibility of the property owner. ConnectRight has further advice on spotting a misconnection and finding a WaterSafe plumber to fix it.

The Zoological Society of London and charity Thames 21 run Outfall Safaris, citizen science pollution monitoring events and their data and that of the Environment Agency has been used to map where pollution has been reported. If you see river pollution, report it to the Environment Agency (EA) **0800 807060** *and* Thames Water **0800 316 9800** if you suspect it is sewage. Give all the details you have. If you are calling the EA for an update, you will need the reference number given when first reported and call 03708 506 506. The London Waterkeeper has useful information on spotting and reporting pollution.

Key wetland and waterway sites in the borough:

- The Brent River has enormous potential as wildlife habitat but currently suffers from some significant adverse effects arising from physical modifications, shading from bankside trees, litter accumulation and water quality that impact biodiversity within the channel and problems with non-native invasive species on its banks. Notable BAP species including kingfishers and bats and European eels are found associated with the river. Where the river is least modified, gravel riffles and pools sustain restorative river processes.

Figure 6: Rangers and Thames 21 volunteers installing large wood flow deflectors in the River Brent

Work has been undertaken in partnership with Thames 21 (T21) and London Wildlife Trust (LWT) to reduce shading and install large wood flow deflectors, pre-planted coir rolls and berms that slow the river flow, reduce erosion of the riverbank and create new habitats for invertebrates, fish, and aquatic plants. There is scope for further habitat and water quality improvement works to further restore river processes that will support a range of species, which requires specialist resources and funding.

- Costons Brook is formed from a number streams and drainage channels in Greenford and Northolt which now flow almost entirely underground in pipes and culverts before emerging in Perivale Park

where it joins the River Brent. Water quality has been severely impacted by pollution from urban run-off and misconnections on its route. The section running through Perivale Park is impounded in its upper half by a large mains pipe crossing below the channel, below which there are attractive diverse habitats before it joins the main River Brent and throughout the park it has benefitted from recent work to reduce shading from bankside scrub.

- Yeading Brook flows along the borough boundary with Hillingdon for 1km in Yeading. Water quality here is relatively good and in places there is good aquatic and bankside habitat. Recent conservation work has reduced shading and implemented enhancements to in-channel features which have added diversity to the flow and riverbed to benefit fish and aquatic invertebrates.
- The Grand Union Canal (Paddington Branch) enters the borough at Perivale and flows approx. 5.5 miles through Greenford, Southall (where it joins with the GUC main branch) before continuing to Hanwell to merge with the River Brent. Water quality is generally good and there is a significant population of freshwater fish present in places. The canal banks are largely constructed from vertical revetment walls and these do not allow easy passage of aquatic invertebrates, or mammals in or out of the canal. However, where natural banks and marginal reeds are found, the more stable water level of the canal compared with rivers may suit water voles and these have previously been recorded in several canal-side locations. Where the historic meander loop of the original river Brent forms a back channel at Osterley Island, a high level of natural physical diversity provides valuable refuge for fish, aquatic invertebrates and other water dependent birds.
- Greenford Lagoons, provide 1500 square metres of open water and wetland habitats dominated by reeds. This serves to temporarily hold surface water in an area prone to flooding and discharges it into the Coston's Brook. Large area of reeds provide feeding and nesting habitat for particular bird species (reed warblers, reed buntings, etc). There is scope to improve the reed bed habitat through vegetation management and de-silting, but this would take a considerable amount of funding.
- Carr Road wetland is an area of about 2000 square metres of wetland between Oldfield Allotment and the Grand Union Canal in Northolt. Some changes to the hydrology of the site have occurred in recent years and the site now appears to dry out significantly during the summer.
- Perivale Park wetlands, created in 2019-20 - see The Greenford to Gurnell (3G) project case study. Ponds have been planted with marginal vegetation, which will establish into diverse reedbeds and are already supporting wide variety of birdlife and invertebrates.

Factors affecting the habitat

- Human and domestic animal impact causing footfall erosion (e.g. on banks and bank tops), disturbance and predation of wildlife
- Impact on in-channel habitats by existing and new development, including hard reinforcement and widening of river bed and banks, changes to hydrology and pollution
- Habitat loss and fragmentation along channel length (e.g. where culverts exist) or laterally (due to bank engineering)
- Competing demands for land use on river corridor and flood plain habitats for housing and industrial development, agriculture, and recreation
- Water quality affected by pollution incidents, missed connections of foul water drainage systems and urban run-off
- Climate change and extreme weather patterns
- Lack of resources (skills, knowledge, workforce and funding) for management, restoration or enhancement projects, or enforcement of environmental regulations
- Spread of Invasive Non Native Species (INNS), including Giant Hogweed, Japanese Knotweed, Himalayan Balsam, Crassula, floating pennywort, Signal and Turkish crayfish, Chinese mitten crab, and American mink
- Use of fertilisers and pesticides
- Some shading and leaf fall are beneficial to river ecology, but excessive amounts can adversely affect aquatic and marginal species when dominant or over extensive
- Littering causes harm to aquatic and terrestrial wildlife, and builds up in vegetation traps in waterways

How we maintain and enhance biodiversity in our wetlands and waterways (best practice)

- Creating connectivity of habitats for species along waterways, to other wetlands and waterways and/or to other key habitats. For example, creating eel-passes to enable movement upstream to breed, carrying out restoration or management works to create appropriate linear marginal and aquatic vegetation, or linkages between suitable habitats such as standing water (breed), grassland (feed) and dead wood (home) habitats for amphibians
- Monitoring and controlling spread of bankside bramble scrub or other invasive species (including INNS) where they threaten to compete with marginal and aquatic vegetation. For example, we have significantly reduced Giant Hogweed infestations through mechanical (digging out/ cutting off seed heads) and where necessary chemical treatment, taking care to follow procedures to prevent damage to waterways
- Periodic coppicing or pollarding of willows and similar tree species growing adjacent to ponds or watercourses to reduce the effects of excessive shading and leaf-fall into the water.
- Flow diversity measures such as use of berms, backwaters and selective retention of fallen trees where these present no risk to infrastructure or increased flooding to enhance habitat diversity and river processes by deflecting the flow, creating deep pools, shallow gravely riffles, consolidating areas of bank to trap silt and act as new habitat for marginal plants.
- Removal, where appropriate and subject to funding, of historic and obsolete straightening measures and reinforcement such as bankside 'toe boarding', so that marginal habitats regenerate, providing important nursery and refuge areas.
- Creation of new ponds and wetland areas with suitable marginal and aquatic vegetation. These have multiple benefits such as improving water quality, surface water management and flood risk mitigation, in addition to providing valuable wildlife habitat.
- Periodic cutting or removal (ideally approx. 20% per year) of emergent vegetation, such as reeds, in ponds to maintain areas of open water.
- Occasional excavation (generally subject to securing funding) or re-profiling of heavily silted-up standing water to remove excessive sediment and to create a profile with a range of water depths and bankside profiles suitable for aquatic plants and animals
- Encourage involvement in local river and/or wetland maintenance events, working in partnership with community and conservation groups, such as Friends of groups, canoeing clubs, Froglife, Canal and Rivers Trust (CRT), Thames 21, London Wildlife Trust, Brent River and Canal Society
- Interpretation to engage and inform site users
- Removal of litter, involving community and conservation groups, including CRT, LAGER Can (Litter Action Group for Ealing Residents – borough-wide), the Greenwayers (River Brent) and Friends of Grand Union Canal.
- Action groups, including ZSL Outfall Safaris and surveys of key species (Thames Catchment Eel and CVP/ T21 Riverfly Monitoring schemes) monitor water quality
- Reporting pollution incidents to the Environment Agency (EA) 0800 807060 and Thames Water 0800 316 9800 if you suspect it is sewage. Give all the details you have. If you are calling the EA for an update you will need the reference number given when first reported and call 03708 506506. The London Waterkeeper has useful information on spotting and reporting pollution
- Working with council departments, other local authorities, external Catchment Partnerships, organisations, and agencies to address environmental issues and enhancements strategically e.g. project work with Highways to address surface water and flood risk management; as a stakeholder in Crane Valley Partnership and Brent Catchment Partnership Catchment working to deliver their Catchment Plans. Plans include information on recent and current river improvement projects across the upper and lower Brent plus how to get involved in local river activities in your area.

Case Study: Lammas Park Ponds, Swales and Meadows

In 2016, a pond and channels were created to redirect and store water from a surcharging surface water sewer which was flooding part of the park and blocking a path. In 2017, three additional ponds were added to store ground water, further enhancing biodiversity. The ponds are all linked together by swales with check dams and stepping-stones separating them and providing crossing points. Eventually the ponds will also be connected to a nearby road junction which is prone to flooding. To enhance the wildlife value of the ponds and add interest the surrounding area has been converted to meadow. The whole feature is currently 146m long. Cost: Around £50K (current scheme)

A future phase of the project planned when funding is obtained will see the complex being further extended to create a flood storage area, once complete the whole feature will be 500m long which is almost the full length of the park.

Ultimately the project will fulfil four roles: store ground water, collect surcharged drainage water, collect water from the adjacent road and provide future flood storage capacity.

Benefits include:

- Provides a wide variety of SuDS elements
- The site has a range of wetland and meadow habitat types that greatly enhance local biodiversity
- Encourages interaction and play with the natural environment and inspires curiosity in the water cycle
- Reducing the amount of surface water runoff running into drainage system and allowing more water goes back into water table
- Helping to clean water discharge

Before

After

Pond and swales in summer (above right, below right) and in winter (below left)

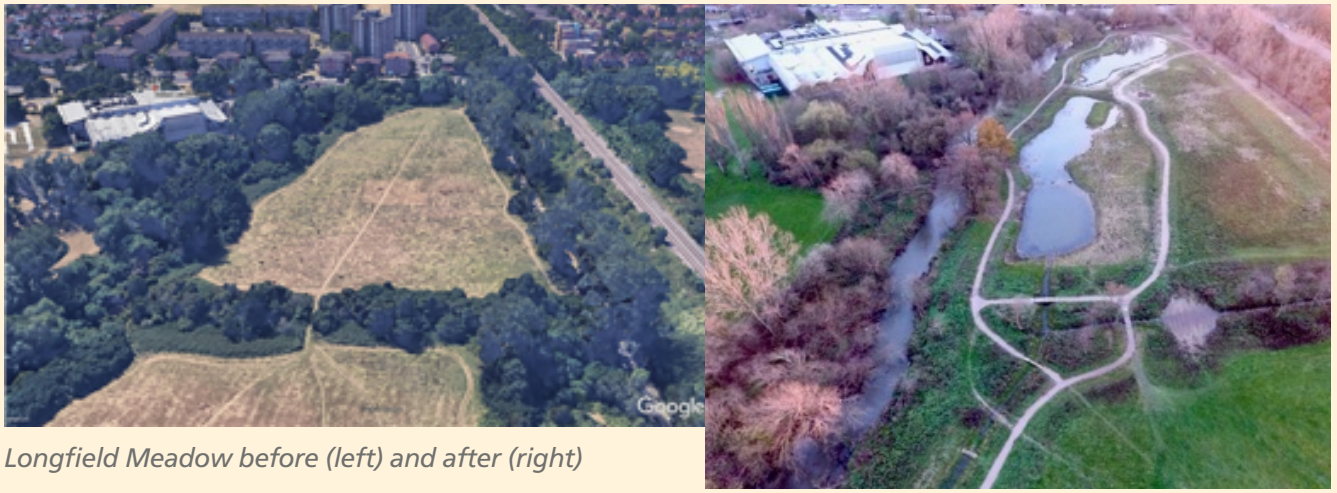
Before

After

Case study: Greenford to Gurnell (3G) project

Ealing Council and Thames 21 secured £375,000 of funding from the Mayor of London (matched by the council) to transform underused and disconnected green space of Perivale Park located along the River Brent into a beautiful and ecologically valuable space. Around 9,000 sq m of Sustainable Drainage Scheme (SuDS) wetland scrapes and ponds were created with marginal aquatic planting and native wildflower and grassland mixes sown around perimeters. River restoration works included using large wood to deflect the flow, toe-boarding removal, installation of coir roll planted with marginal aquatic vegetation, along with 1.44 km of river frontage created with reduced shading. In the park, around 7000 trees were planted, along with a new community orchard and food growing garden with 2km of new access walking and cycle paths around the site and along the river.

The local community was engaged throughout the planning and delivery of the project. Two community groups were set up as a result of the project. The Greenwayers carry out monthly, river-based litter picks – they received specialist training and successfully applied for funding for all their equipment needs. The Friends of Perivale Park group regularly survey wildlife and post on their superb blog (Perivale Park London), litter pick, maintain the community garden areas and put on engagement events for local people to connect with and enjoy the park.



Longfield Meadow before (left) and after (right)

Photos (above left and right): Liz Scarff

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW1 All HAPs	The Local Plan and council strategic documents will uphold the BAP vision, aims and Habitat and Species Action Plans (HAPs and SAPs) through strengthened plan-making and decision-making policies and processes that require the protection, conservation and enhancement of biodiversity in Ealing. (See BE1 for detail)	2023	Ealing Council (EC) Planning and other EC directorates Ealing Biodiversity Partnership - strategic and ecology group (EBPse)
WW2 All HAPs	Planning will liaise with and require input from relevant departments and organisations on planning applications that impact biodiversity to implement the mitigation hierarchy i.e. BNG achieved on site, or as a last resort mitigated off-site, or via statutory biodiversity credits • Planners and developers must seek to implement BNG through best practice measures outlined in the BAP, HAPs and SAPs • Pending the establishment of a local targets for BNG and the UGF through a new Local Plan, planners and applicants must achieve minimum 10% BNG, in addition to meeting the London Plan UGF target scores	Ongoing	EC Planning, Parks, other relevant EC EBPse
WW3 POS3 WD3	Use SINC review to assess feasibility and actions required to: • propose additional Local grade sites, particularly in areas of deficiency in access to nature • upgrade Local sites to Borough SINC, particularly in areas of deficiency in access to nature • attain LNR status for SINC sites of highest ecological value i.e. SINC Metropolitan and Grade 1 Importance, with Horsenden Hill as a priority	2022	EC Parks EBPse
WW4 All HAPs All SAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from, and support survey programs by EC, experienced volunteers, ecology experts and Local Environmental Record Centres (including data from SINC reviews, management plans, BTO bird monitoring and ringing projects, T21 Eel and Riverfly Monitoring, surveys and bioblitz's on various sites). Data to be shared with EC / GiGL / iRecord • Survey for presence of GCN in suitable habitat: Islip Manor Meadows, Yeading Brook Meadows, Hanwell meadows, Glade Lane • Monitor sightings for toad migration hotspots • Work with Partnership members to use the Map to monitor and identify opportunities for delivering habitat connectivity, maintenance, restoration and enhancements for biodiversity and BNG	2023, then ongoing	EC Planning, Parks and other relevant EC GiGL, BCP, CVP, EBP, volunteers

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW5 All HAPs	Develop project list for habitat connectivity and enhancement projects with costings, plans and outcomes that can be tailored for delivering BNG and to support local groups' and council bids for funding opportunities as they arise. For example, but by no means a complete list: • Creation of wetlands and flood management projects (target 10,000m3 of additional surface water) which may be in partnership with Planning, Highways, EA, Thames Water & TFL, including SUDS, pollution trapping and filtering. • River Brent: improved access, interpretation, riverbank restoration and pollarding program of works • Islip Manor Meadows ponds restoration • Works on land adjacent to Grand Union Canal for Water Vole and/or Beaver introduction	2022, then ongoing	EC Parks, Education, Highways, Housing and other relevant EC EBP
WW6 All HAPs	Create an Ealing Biodiversity Partnership (EBP), linking local networks for the sharing, development and implementation of best practice for biodiversity and to review and feedback on BAP progress EBP engagement will include working with and supporting Catchment Partnerships and their plans and supporting agencies, organisations and community groups involved in management of wetland and waterways in Ealing and neighbouring boroughs	2022	EC Parks and other relevant EC EBP
Aim: manage wetlands and waterways to conserve and improve biodiversity. Identify and implement enhancements			
WW7 POS7	Create new or update historic management plans for: SINC Sites of Metropolitan Importance (SMI), Local Nature Reserves (LNR) and ancient woodland (AW) sites as priority incorporating condition survey, SINC review and any other survey data (See POS7 for detail)	2023 for priority sites, then ongoing	EC Parks LWT, Selbourne Society, CRT, Catchment Partnerships EBP ecology & community groups (EBPec)

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW8 POS8	Implement habitat management, maintenance and restoration tasks, following: • best practice principles (in general, no specific targets) outlined in the HAPs • grounds maintenance schedules • Catchment Partnership plans • Integrated Weed Management Plan • SINC review recommendations • new or updated historic management plans • Species Action Plans [Link] • new tree and hedgerow planting follows 'Right tree, right place' principles • Higher Level Stewardship prescriptions • Green Flag management plans • Other site management plans e.g Catchment, partnership, leases etc.	Ongoing	EC Parks, GEL EBPec Relevant agencies, e.g. CVP, BCP, CRT
WW9 SAP3,5	Review all riparian habitat maintenance to incorporate and implement best practice principles, in partnership with key agencies and community /conservation groups where possible • Scope the riparian habitat for low light levels to create prioritised list for thinning or pollarding trees and scrub • Undertake the thinning and pollarding of vegetation and trees where feasible by rangers and volunteers • Scope extent and cost of works that require mechanical or large-scale intervention to bring riparian trees back under management, including old pollards taken down to approx. 2m so that they can feasibly be maintained in rotation over the long term • Scope extent and cost of other works for improving biodiversity of riparian habitat (such as adding vegetation rafts, removing toe-boarding, and other flow diversity measures) to undertake where feasible, or (where funding required) added to project list • Work with EWG and other relevant partners to scope feasibility and cost of initial and ongoing measures required for Water Vole and/or Beaver reintroduction	Ongoing	EC Parks, GEL EBPec Relevant agencies (e.g. BCP, CRT, Thames 21)

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW10	Review all pond and reed bed maintenance to incorporate and implement best practice principles, in partnership with key agencies and community /conservation groups where possible: • undertake clearance (including thinning, coppicing or pollarding) of vegetation (in and around) ponds on rotation as required • undertake reed cutting/removal where feasible by rangers and volunteers (approx. 20% per year on rotation recommended) • scope extent and cost of works that require mechanical intervention to bring ponds or reedbeds back under management • Planting reeds in new wetlands to increase reedbed habitat. Target site: Perivale Park wetlands • Scope extent and cost of works to mitigate impact (from erosion, silting of water and disturbance of wildlife) of human and dog presence, prioritising sites under greatest threat. For example, signage and comms. to inform and educate site users including directing dogs on leads during wildlife breeding season, managing impact on banks and around ponds using dead-hedging and/or fencing, creating 'dog steps' or 'beaches' e.g. using natural gravels to provide entry points that reduce bank erosion and excess silt from entering rivers / ponds	Ongoing	EC Parks, GEL EBPecg
WW11 POS12	Implement additional measures to improve habitat to aid movement and breeding of species associated with wetlands or waterways: • Extend and create habitat connectivity (e.g. buffering, adjacent and connecting ponds and wetlands to other suitable habitat) through linear features such as native hedging, dead hedging and vegetated areas • Maintain and increase deadwood and habitat piles (SAP1). Log piles, rock piles and amphibian hibernacula created alongside water bodies, woodlands and hedgerows in all suitable sites with or adjacent to wetlands or waterways • Monitor and maintain 4 existing and install 4 new kingfisher nest boxes, including associated earth bank and site line works (SAP5)	Ongoing	EC Parks, GEL EBPec
WW12 POS14 WD11	Continue with INNS control program in partnership with other boroughs and partners to reduce their prevalence (POS14) WW priority is Giant Hogweed and Japanese Knotweed, particularly along the ecologically valuable riparian habitat of the River Brent, Coston's Brook and Yeading Brook Mapping areas and treatment Monitor other invasive terrestrial and aquatic species and implement control measures (ref: London Invasive Species Initiative) as necessity and resources allow Work with other boroughs and partners to monitor and control INNS (control of American Mink will be key if considering re-introduction of Water Vole -SAP3)	Ongoing	EC Parks, GEL EBPec BCP (and members)

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW13 All HAPs SAP7	Where appropriate in the wetlands and waterways habitat, new tree planting contributes to target to increase in tree canopy to 25% by 2030, using principle of 'right tree, right place', including: • Propagating 100 and planting Native Black Poplars in suitable damp sites and woodlands, as local community/conservation group-led projects	2030 for canopy target 2026	EC Parks EBPec
WW15	Carry out river and canal clean ups	minimum of 15 per year	EC Parks, GEL EBPc (community groups) including: CRT, Greenwayers, LAGER Can, waterway communities
Communication and Engagement Actions: Raise awareness of biodiversity in the borough to create a connection to nature and encourage positive actions to protect and enhance biodiversity			
WW16 All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • publicise information on the importance of wetlands and waterways, associated SAPs and other species to biodiversity, including awareness weeks/campaigns • disseminating top tips for maintaining and creating wetland and wildlife pond habitats that benefit related SAP and other species • support and celebrate community/ conservation interest group-led initiatives, including work with/led by BCP, BRCS, canoe clubs, corporate groups, CRT, CVP, EWG, Friends of parks/waterways groups, Froglife, Greenwayers, LAGER Can, LWT, schools, TCV, Thames 21 • signpost public reporting of pollution incidents and information on measures that residents, commercial businesses, and other landowners can take to reduce pollution incidents • promotion of training and opportunities to participate in citizen science surveys, including encouraging data submissions to iRecord online / app or GiGL (i.e. sharing verified data with EC/ GiGL), such as CVP/ BCP/ZSL Outfall Safaris, Eel and Riverfly monitoring; T21 Leading Action for Healthy Rivers, Vital Signs of Healthy Rivers and Community-based Natural Flood Management; LWT Dragonfly Detectives	Ongoing 20 training events promoted per year (across all HAPs and SAPs)	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks

Protect and enhance biodiversity of wetlands and waterways			
Action No.	**Aim: Protect and enhance biodiversity of wetlands and waterways in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WW17 All HAPs	Record and increase (volunteer and other) participation in habitat and species conservation, education and enhancement projects and tasks led by rangers, community and conservation groups • increase engagement with wetland and waterways management and enhancement tasks, citizen science (includes surveys, walks and talks), and litter collection year on year (POS19 expands further on audience targets)	2026	EC Comms, Parks, Education EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools

2.4 Woodland Action Plan

UK and London Priority and other woodland habitats in Ealing:

- **Mixed deciduous woodland**
- Secondary (including damp and linear) woodland
- Newly planted woodland
- Veteran trees
- **Traditional** and linear **orchards**

National and local priority species associated with Woodland

- **Grass Snake**
- **Slow Worm**
- **Common Lizard**
- **Common Toad**
- **Bats** (7 confirmed species in the borough)
- **Hedgehog**
- **Harvest Mouse**
- **House Sparrow**
- **Song Thrush**
- **Starling**
- Barn Owl
- **Bullfinch**
- **Cuckoo**
- **Spotted Flycatcher**
- **Pollinators**
- **Invertebrates** (Stagbeetle, butterflies & moths)
- Mistletoe
- Native black poplar

Overview and updates since 1999

Woodland is one the most powerful allies in the fight to mitigate climate change as the living trees, deadwood, the surrounding soils and associated vegetation lock up atmospheric carbon in the woodland ecosystem. Woodlands help to reduce air and noise pollution, prevent flooding, soil erosion and cool temperatures.

Woodlands aren't just groups of trees! A well-managed woodland will have different layers of vegetation, from ground flora, deadwood, to shrub and high canopy layers, and will have varied habitats and tree ages, species and structures, that support a wide range of wildlife. Effective woodland management is key to enhancing biodiversity and mitigating biodiversity threats and this often involves a mix of approaches, which are explored further in best practice for woodland management section.

Ealing has several ancient (at least four hundred years old) semi-natural woodlands. Ancient woodlands are our richest and most complex terrestrial habitat and therefore particularly valuable for nature conservation and biodiversity as the plant and tree species have descended and adapted from the original native woodland. There are seven ancient woodland sites in Ealing, all containing veteran trees: Fox Wood, Grove Farm, Horsenden Wood, Long Wood, Osterley Island (at Elthorne Waterside), Perivale Wood, Tentelow Wood and possibly Hanger Hill Wood.

Other types of woodland in Ealing: semi-natural, secondary (i.e. it has not been wooded continuously throughout history), damp, linear, newly planted woodland and orchards are not as species rich as ancient woodland as it takes hundreds of years before a woodland obtains its full complement of species or biodiversity. Nonetheless, all woodland will contain valuable habitats and support a wide diversity of species which will enrich over time, and provide valuable ecosystem services – even a young mixed native species woodland can lock up over 400 tonnes of carbon per hectare (www.wildlifetrusts.org, 2020).

Linear woodland can be found on railway and river embankments in the borough. The management of river-side trees is addressed in the 'Wetlands and Waterways' HAP. Railway embankments are managed by the relevant agency. While they have their own strategies to protect biodiversity, their main remit is to provide safe and efficient transport networks. All trees on railway land have Tree Protection Orders (TPOs), requiring that the council is contacted prior to any works taking place, subject to exemptions under TPO regulations, for example 'dead or dangerous' trees.

Ancient and veteran trees are old trees that may be associated with woodlands, wood pasture and parkland, on old boundaries, traditional orchard habitats or stand alone. Veteran trees are in the mature stage of their life and contain important wildlife features such as holes, deadwood and wounds which support a diverse range of other species, such as birds, bats, small mammals, fungi, lichen, mosses, beetles and saproxylic invertebrates. Veteran trees are located in our ancient woodlands and dotted around some parks, for example at Lime Trees Park, Pitshanger Park and Brent Lodge River Park, and veteran trees from traditional orchards can be found in Brent meadows and Horsenden Farm.

All woodlands that are SINCs were surveyed in the 2018

which included many, but not all areas of woodland in the borough. The survey recorded 161.01ha of woodland (156.63ha of native broadleaf woodland and 4.38ha of non-native), an increase from the 1999 BAP total woodland area estimated at 70ha and the 1999 increase target of 83ha. Site specific woodland management actions to enhance biodiversity (such as control of INNS, reintroduction of coppicing and glade creation) were identified in the SINC review reports and these recommendations will be taken forward in the action plan as resources allow.

New woodland and community participation

Ealing has an excellent track record of working with residents, schools, community groups and organisations to deliver tree planting projects. For example, we have been working with the charity Trees for Cities since 2010 and in 2016 entered into a formal strategic partnership. Since 2010, over 70,000 trees have been planted with Trees for Cities creating new community woodlands and orchards, and planting stretches of hedgerows throughout the borough.

Ealing has also increased the tree canopy involving community groups planting traditional and linear community orchards, making use of under-utilised and species-poor grassland, and introducing diversity by combining tree and meadow habitats. Orchards provide nectar for pollinating insects, creating important pollinator highways and are an ideal host for the hemiparasitic mistletoe which is extremely rare in Ealing. Approximately 500 trees have been planted to create orchards since 2015.

Case Study: The Hanwell and Norwood Green Orchard Trail (HANGOT)

HANGOT, set up in 2015, raised funds to plant and care for over 150 fruit trees over 2.5 miles and in 12 locations between the Brentford and Southall borders. The fruit is free for all to pick and enjoy. Along with regular community-led maintenance of the trees, their work has diversified into site conservation and enhancement work, including hay cuts for the wildflower meadows, creation of a pond, erecting bird boxes, installing play features in keeping with the natural environment and planting hedgerows, Native Black Poplars and flower bulbs.

Case Study: Restoring Long Wood

This is an ancient woodland site with areas of high ecological value, with mature woodland dominated by oaks, but also had areas colonised by similar aged sycamores leading to a lack of structural and species diversity.

To restore the woodland, sycamores were heavily thinned, and coppicing of hazel was reintroduced. This allowed light into newly created glades, stimulating growth of the ground flora and understorey. Glades also created spaces for successional planting or natural regeneration of native trees. The planted trees were selected to provide diversity in age and native species and to provide resilience to future tree health problems, such as Ash die-back. Bracken was regularly cut back by volunteers around tree whips, which was inhibiting development of tree seedlings.

The site is now home to a spectacular display of native bluebells (an ancient woodland indicator much of which was previously hidden in the seedbank) and structural diversity has been reintroduced to enhance biodiversity.

Long Wood Bluebells Photo by James Morton

The background of new tree plantings and larger mature species shows the diversity of tree structure and ages

Factors affecting the habitat

- Human and domestic animal impact, including erosion of ground flora, disturbance and predation of wildlife
- Decline in traditional ways of managing woodlands. The lack of coppicing for example means trees are no longer at different stages of growth, glades are not created and the structural diversity and consequently biodiversity of the woodland decreases.
- Presence and spread of tree pests and diseases, including Oak Processionary Moth and Ash die-back
- Impact on habitats by development, including loss and degradation of habitats, changes to hydrology, increased pollution and footfall
- Habitat loss and fragmentation leading to loss of connectivity
- Competing demands for land use on habitats
- Climate change and extreme weather patterns
- Lack of resources (skills, knowledge, workforce, regulatory consents and funding) for management, restoration or enhancement projects
- Litter causing harm to wildlife
- Presence and spread of Invasive Non Native Species (Cherry Laurel, Spanish bluebells)
- Use of pesticides and fertilisers

How we maintain and enhance biodiversity in woodland (best practice)

- New tree planting follows the principle of planting and allowing natural regeneration of 'the right tree for the right place'. This method takes multiple factors into consideration, such as size, species, genetic source, planting density, location (including impact on existing habitat ecology), soil, benefit to wildlife (e.g. providing nectar, nuts or berries), and future proofing for resilience to pests, diseases (such as Ash dieback) and climate change.
- Maintain and enhance habitat connectivity between woodland and other habitats for example by maintaining buffers of grassland, scrub and rough grasslands around woodlands and orchards, allowing natural regeneration of woodland, planting hedgerows with wide margins that offer good cover and suitable food resources to connect to other pocket woodlands and habitat types
- Retaining veteran trees
- Selective pruning or thinning of trees to remove poor, diseased or overcrowded branches or trees, encouraging those remaining to grow stronger. Thinning can also be used to manage neglected woodland where dense shading has reduced the growth of woodland wildflowers and shrubs or to reduce dominance of non-native species such as Sycamore.
- Maintain natural clearings or creating glades (for example by selective felling, rotational coppicing or scrub control), access rides and marginal habitats along woodland edges. This establishes a transitional habitat and varied structure where the mix of sunlight, exposure and some shelter combine to create a high level of species diversity.
- Support (and maintain) a diversity of tree, understorey, shrub and ground species, cover and structure that provide food sources throughout the year. For example, *Ivy Hedera helix, Clematis vitalba* and honey suckle *Lonicera periclymenum* should be left on trees as climbing plants aid movement by arboreal species and are used as nesting material and a food source (flowers, nectar, seeds, berries).
- Leaving deadwood (standing and fallen) to decay naturally in situ or creating loggeries, brash or log piles, and dead hedges that provide shelter and food for hundreds of types of animals, fungus, lichen and moss.
- Coppicing on rotation (a system of periodically cutting a tree - often hazel, sweet chestnut, sycamore, hornbeam - down to ground level, introducing light to stimulate ground flora growth). This creates diverse woodland structure and materials can be used for furniture, tools, horticulture, hedge-laying and other crafts (see Long Wood and Horsenden Hill case studies)
- Using dead hedging/brash and deadwood as wildlife corridors, to delineate paths, directing access and managing human impact on ground flora and piled on or around newly coppiced growth to prevent damage by grazing
- Installation and monitoring of bird and bat boxes and refugia for small mammals
- Areas of low or non-intervention – not all woodland needs to be under active management. Discrete areas where understorey such as brambles, bracken and ivy dominate, offering undisturbed habitats as well as create edge and transitional habitat within the woodland.
- Maintain new woodland planting to assist establishment e.g. mulching and watering and planting appropriate understorey flora to increase biodiversity
- Monitoring tree stock for pests and diseases such as Oak Processionary Moth (OPM) and Ash dieback, for mitigation where appropriate or feasible
- Control or removal of non-native invasive species, including OPM, Cherry laurel, Snowberry
- Monitoring woodland hydrology to manage changes effectively. For example, shallow areas/ scrapes and earth berms could create permanent or ephemeral ponds, or wet/damp areas that allow the establishment of a greater diversity of ground flora.
- Managing impact on ground flora from human and dog presence, for example by using dead-hedging to delineate paths and direct access
- Encourage involvement in orchard and woodland maintenance events and working in partnership with community and conservation groups, such as HANGOT, Friends of Horsenden Hill, Friends of Litten Nature Reserve, London Wildlife Trust, The Selbourne Society, etc.
- Interpretation to engage and inform site users

Case Study: Horsenden Hill

Horsenden Hill and meadows in a place of historical and geological interest that is very popular with visitors – its 360° summit views, bustling Farm and walks through attractive meadows and woodlands, including the Gruffalo trail, make it a well-loved attraction in Ealing. It is also a very important site for biodiversity with mosaic habitats of high ecological value. These habitats include Ancient, secondary and regenerating woodland, historic hedgelines, ponds and species-rich neutral grassland all of which support a range of species including SAP Great Crested Newts and brown hairstreak butterfly. Recent adaptations to grassland management have been implemented to encourage other SAP species such as Barn owls.

Veteran tree. Photo by Chantal Anita

Horsenden Hill is managed collaboratively by the council, Friends of Horsenden Hill, Horsenden Farm Community Interest Company (a collective of social enterprises), and a large network of volunteers from the Friends, third sector organisations and businesses. Their activities include regular conservation and gardening volunteering, community events such as Apple Days, Woodland Craft Fayres, and a farmers' market shop with produce grown at Horsenden Farm. These help raise funds for site improvements such as the refurbishment of the volunteer centre (Hayloft) and creation of the Horsenden Farm Sensory Garden.

There are regular guided walks on the site history, habitats and wildlife, and many educational events are combined with conservation work, such as traditional hedge-laying, woodland management and orchard pruning. Education through volunteering and the on-site Forest School builds skills and creates future advocates for nature.

Treading lightly on the land: Grazing cattle in the meadows. Photo by Nicola Goddard

Conservation work on site specifically addresses actions for HAPs and SAPs. For example, a successful project in partnership with Froglife has restored several ponds and installed an interpretation trail and sculpture on the Common Toad. The ponds have recently been surveyed under licence and all are home to the rare SAP Great Crested Newts. Other joint ranger community engagement activities include installing and monitoring owl boxes, lizard habitat creation, new woodland planting, coppicing, planting mistletoe seed, and creation of the Horsenden tree nursery, growing on UK native saplings for future borough-wide woodland and hedge creation.

Sustainable social enterprise exists not only through food growing, but also in woodland management. The woodlands are managed to create diversity in age and structure with selective tree felling and coppicing, improving biodiversity and stock resilience. Much of the felled wood is removed using a working horse, a low impact method for extraction and ideal for conservation sites. The wood is then used to make furniture, fence posts and other items to sell and support the sustainable management of the site. A proportion is left on site as standing deadwood, for log piles, or used for dead hedging – these create important habitats in particular for invertebrates and fungi.

A small herd of rare breed cattle, co-managed by the community, selectively graze on both Horsenden Hill and the neighbouring Perivale Wood and meadows during summer, maintaining wildflower diversity, such as the London-rare Dyers Greenweed. They also graze small pockets of woodland on rotation, helping to sustainably thin scrub encroachment, and improving light levels for woodland flora to thrive.

Logging using a working horse. Photo by Lynda O'Hare

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Protect and enhance biodiversity of woodlands			
Action No.	**Aim: Protect and enhance biodiversity in woodlands in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WD1 All HAPs	The Local Plan and council strategic documents will uphold the BAP vision, aims and Habitat and Species Action Plans (HAPs and SAPs) through strengthened plan-making and decision-making policies and processes that require the protection, conservation and enhancement of biodiversity in Ealing. (See BE1 for detail)	2023	Ealing Council (EC) Planning and other EC directorates Ealing Biodiversity Partnership - strategic and ecology group (EBPse)
WD2 All HAPs	Planning will liaise with and require input from relevant departments and organisations on planning applications that impact biodiversity to implement the mitigation hierarchy i.e. BNG achieved on site, or as a last resort mitigated off-site, or via statutory biodiversity credits • Planners and developers must seek to implement BNG through best practice measures outlined in the BAP, HAPs and SAPs • Pending the establishment of a local targets for BNG and the UGF through a new Local Plan, planners and applicants must achieve minimum 10% BNG, in addition to meeting the London Plan UGF target scores	Ongoing	EC Planning, Parks, other relevant EC EBPse
WD3 POS3 WW3	Use SINC review to assess feasibility and actions required to: • propose additional Local grade sites, particularly in areas of deficiency in access to nature • upgrade Local sites to Borough SINC, particularly in areas of deficiency in access to nature • attain LNR status for SINC sites of highest ecological value (including Ancient Woodland sites) i.e. SINC Metropolitan and Grade 1 Importance, with Horsenden Hill as a priority	2022	EC Parks EBPse
WD4 All HAPs	Develop and maintain Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, enhancements and management practices. • Collect verifiable ecological data from, and support survey programs by EC, experienced volunteers, ecology experts and Local Environmental Record Centres (including data from SINC reviews, management plans, BTO bird monitoring and ringing projects, woodland condition, surveys and bioblitz's). Data to be shared with EC / GiGL / iRecord • Review of all potential ancient woodland so far not identified on the national Ancient Woodland Inventory (to work alongside WD7) • Use the Map to monitor and identify opportunities for delivering habitat connectivity, maintenance, restoration and enhancements for biodiversity and BNG	2023, then ongoing	EC Planning, GIS Parks and other relevant EC EBP, volunteers GIGL, LWT, Woodland Trust

Protect and enhance biodiversity of woodlands			
Action No.	**Aim: Protect and enhance biodiversity in woodlands in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WD5 All HAPs	Develop project list for habitat connectivity and enhancement projects with costings, plans and outcomes that can be tailored for delivering BNG and to support local groups' and council bids for funding opportunities as they arise. For example, but by no means a complete list: • Yeading Brook meadows improved riverside access and damp woodlands and meadows restoration • Grove Farm woodland restoration • Greenford Birchwood woodland restoration	2022, then ongoing	EC Parks, and other relevant EC EBP
WD6 All HAPs	Create an Ealing Biodiversity Partnership (EBP), linking local networks for the sharing, development and implementation of best practice for biodiversity and to review and feedback on BAP progress. EBP engagement will include working with and supporting agencies, organisations and community groups involved in management of woodlands in Ealing and neighbouring boroughs	2022	EC Parks, and other relevant EC EBP
Aim: Manage woodlands to conserve and improve biodiversity. Identify and implement enhancements			
WD7	Monitor ecological condition of woodland sites. Using Sylva Woodland condition (whole site &/or 10m transect) survey or similar (Sylva Woodland Condition Survey Supporting Information 2017 (sylva.org.uk) • prioritise surveys for Ancient woodland (AW) and SINC Sites of Metropolitan Importance (SMI): Fox Wood (AW), Grove Farm (AW), Gunnersbury Triangle (SMI), Horsenden Hill (SMI, AW), Hanger Hill Wood (possibly AW), Islip Manor Meadows (SMI), Long Wood (AW), Osterley Island (AW, SMI London Canals), Perivale Wood (SMI, AW), Tentelow Wood (AW), Yeading Brook Fields (SMI) • Set up training to volunteers / woodland working groups to undertake surveys • Monitor woodland condition with resurvey prior to new BAP	Winter 2022-3 for priority sites	EC Parks, Trees LWT Selbourne Society EBPec (ecology and community groups) Volunteers

Protect and enhance biodiversity of woodlands			
Action No.	**Aim: Protect and enhance biodiversity in woodlands in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WD8 POS7	Create new or update historic management plans for: • SINC Sites of Metropolitan Importance, Local Nature Reserves (LNR) and Ancient woodland sites as priority, incorporating condition survey, SINC review and any other survey data (See POS7 for detail)	2023 for priority sites, then ongoing	EC Parks LWT, Selbourne Society, EBPec
WD9 POS8	Implement woodland management, maintenance and restoration tasks, following: • best practice principles (in general, no specific targets) outlined in the HAPs • grounds maintenance schedules • Local / London Tree strategies • Integrated Weed Management Plan • SINC review recommendations • new or updated historic woodland management plans • Species Action Plans • new tree planting follows 'Right tree, right place' principles • Higher Level Stewardship prescriptions • Green Flag management plans • Other site management plans e.g. partnership, leases, Forest School etc.	Ongoing	EC Parks LWT Selbourne Society EBPec, volunteers, Forest School providers

Protect and enhance biodiversity of woodlands			
Action No.	**Aim: Protect and enhance biodiversity in woodlands in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WD10 POS12	Review all woodland, orchard and hedgerow habitat maintenance to incorporate and implement best practice principles, in partnership with key agencies and community /conservation groups where possible, including: • Use existing knowledge base and findings from woodland condition surveys to scope and prioritise works required to manage and maintain woodland • Undertake management and maintenance works of woodland and orchard where feasible by rangers and volunteers (to include, but not limited to selective thinning, coppicing, glade and ride creation/maintenance, habitat connectivity creation/ maintenance) • Extend and create habitat connectivity (e.g. buffering, adjacent and connecting woodlands, hedgerows and orchards to other suitable habitat) through linear features such as native hedging, dead hedging and vegetated areas (POS9,10,12) • Undertake management and maintenance works of hedgerows (see POS10 for detail) • Maintain and increase deadwood and habitat piles (POS12, SAP1). Log piles, rock piles and amphibian hibernacula created in or alongside woodlands, hedgerows and orchards in all suitable sites • Scope extent and cost of works that require mechanical or large-scale intervention to add to project list (POS5)		EC Parks LWT, Selbourne Society, EBPec, including Ealing Transition, Forest School providers, Friends of Litten Nature Reserve, Friends of Horsenden Hill, HANGOT, Southall Orchard Project
WD11 POS14 WW12	Continue with INNS control program to reduce their prevalence (POS14) • WD priority is Cherry Laurel, Snowberry, then Spanish Bluebell, particularly in Ancient Woodland • Mapping areas and treatment • Dealing with other INNS as feasible, or appropriate	Ongoing	EC Parks, GEL EBPec
WD12 All HAPs	New tree and hedgerow planting, and natural regeneration contributes to target to increase in tree canopy to 25% by 2030, using predominantly native species and principles of 'right tree, right place'. This method takes multiple factors into consideration, such as size, species, genetic source, planting density, location (including impact on existing habitat ecology), soil, benefit to wildlife (e.g. providing nectar, nuts or berries), and future proofing for resilience to pests, diseases and climate change. • target for increasing priority woodland habitats: mixed broadleaf woodland and wood pasture through planting and natural regeneration by 5 ha • Target for increasing orchard planting by 1ha (across parks, open spaces, schools' and Housing estate grounds) • Increase mixed native hedgerow by minimum 3km	2030	EC Parks EBPec volunteers

Protect and enhance biodiversity of woodlands			
Action No.	**Aim: Protect and enhance biodiversity in woodlands in the development and implementation of borough wide plans, policies and strategies**	**Time target**	**Lead and Partners**
WD13 POS15	Maintain and monitor nest and roosting boxes for bats and birds (currently approx. 500) (POS15) • prioritise monitoring and maintenance of 30 owl and raptor nest boxes, recruiting volunteers to support (WD16) • add nest and roosting boxes for bats and birds (where feasible and funding)	Ongoing	EC Parks EBPec
WD14	Sustainable management and maintenance of Forest School sites (5 sites in 2021, expanding to 6 by 2026) • All sites to have a management plan • Monitor sites for sustainable use and mitigate impact	2026 2022 and ongoing	EC Parks Forest school providers
Aim: Raise awareness of biodiversity in the borough to create a connection to nature and encourage positive actions to protect and enhance biodiversity			
WD15 All HAPs All SAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions. • publicise information on the importance of woodlands, associated SAPs and other species to biodiversity, including awareness weeks/campaigns • promotion of training and opportunities to participate in woodland, tree, orchard and hedgerow management tasks • promotion of training and opportunities to participate in citizen science, nest box monitoring and woodland surveys, including encouraging data submissions to iRecord online / app or GiGL (i.e. sharing verified data with EC/ GiGL) • support and celebrate community/ conservation interest group-led initiatives, including work with/led by corporate groups, Ealing Transition, EWG, Forest School providers, Friends of Litten Nature Reserve, Friends of Horsenden Hill, HANGOT, Hobbayne Charity, LAGER Can, LWT, The Selbourne Society, Southall Orchard Project, TCV	Ongoing 20 training events promoted per year across all HAPs and SAPs	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
WD16 All HAPs	Record and increase (volunteer and other) participation in habitat and species conservation, education and enhancement projects and tasks led by rangers, community and conservation groups • increase engagement with woodland, tree, orchard and hedgerow management and enhancement tasks, citizen science (includes surveys, walks and talks), site management and litter collection year on year (POS19 expands further on audience targets) • recruit and train woodland and hedgerow working groups/volunteers at key sites on woodland habitat management and maintenance tasks, such as woodland surveys, hedge-laying and bird box monitoring and maintenance	2026	EC Comms, Parks, Education EBPec, Businesses and BIDS groups, SRLs, Residents Associations, schools

3. THE SPECIES ACTION PLANS

These plans set out actions and 'best practice' information to meet the Ealing's biodiversity **Vision:**

- **To conserve and enhance habitats that create better, and more interconnected places for wildlife across Ealing**
- **To increase awareness of biodiversity and encourage more people to connect with nature and by doing so take positive actions that benefit biodiversity in Ealing**

The Species Action Plans (SAPs) in this BAP update were selected for their national, London and local priority and significance, and as 'umbrella' species, in that actions we take to conserve and protect these species will have a positive knock on effect for other species and our environment too.

The 'best practice' sections (also in the Habitat Action Plans - HAPs) and how to guides in the SAPs provide further information for council departments, developers, land managers, groups and individuals on actions and activities that benefit key species or assets.

Species Action Plans' Aims

- Establish presence of species in Ealing and key sites of importance by seeking reports of sightings and surveying for signs of presence.
- Obtain and encourage collection of survey data to iRecord (via app or online) / directly to GiGL, to add to the Ecological Network Map
- Reverse the decline of this species locally, actively seeking to protect and increase populations and connectivity of populations with suitable habitat
- Raise awareness of the value of these species to biodiversity and the habitat features they need to survive
- Engagement, education activities and media will create a connection to nature and inspire positive actions to protect and conserve these species

3.1 Reptiles and Amphibians

Ealing is home to several species of native reptile and amphibian, some UK BAP priority species and one of European conservation importance, the Great Crested Newt. Many of the Habitat Action Plans (HAPs) will directly or indirectly benefit this group, most importantly parks and open spaces, grassland, woodland and freshwater habitats (standing water, and rivers, streams and canals).

Species which are unconfirmed as resident in Ealing, but are confirmed in neighbouring boroughs include:

- Adder (Vipera berus)
- Palmate Newt (Lissotriton helveticus)

Grass Snake *(Natrix helvetica)*

Species description

The grass snake in the UK was formerly thought to be a distinct subspecies from its European counterpart (Natrix natrix) but has recently been elevated to a distinct species in its own right (Kindler et al, 2017), the barred grass snake (N. helvetica).

Grass snakes are non-venomous and totally harmless to humans. Our largest native reptile, with adults growing on average between 90-150cm in length. Females are bigger than males, with upper records of 180cm reported. Growing up to 240g in weight, grass snakes can live 15-25 years.

Olive green to grey in colour, they have a distinctive collar of pale yellow and black markings around the back of the head, which is most obvious in juveniles or freshly shed adults. They often have black banding or bars spaced evenly along the flanks running the length of the body, though these are variable between individuals. The underside is chequered with black markings on a pale background, and the pattern is unique to each individual.

Conservation status

- Protected in the UK under the Wildlife and Countryside Act, 1981
- Priority Species under the UK Post-2010 Biodiversity Framework

Ecology

Most commonly associated with freshwater habitats, grass snakes can also be found in dry grassland, woodland edge and gardens, but prefer to have a pond or water source nearby. They feed largely on amphibians, occasional fish, small mammals and less frequently small birds. Juveniles will occasionally feed on invertebrates too.

Grass snakes are often observed basking at the water's edge on bare ground or on log piles near suitable habitat. When startled they will take off into vegetation or into the water, and are very strong swimmers. If handled, they play dead contorting their bodies and going limp. Often they will secrete a foul smelling musk from their anal glands, an effective defense mechanism to put predators off eating them.

Grass snakes hibernate from about October to March or April, depending on the weather. Once emerged from hibernation, generally underground, they will bask for several days near the hibernation site before dispersing.

Mating takes place in April and May. Female grass snakes lay 10-30 rubbery shelled oblong eggs in decaying vegetation in June or July, commonly in compost heaps in urban environments like gardens and allotments. The heat of the decaying vegetation helps to incubate the eggs, which hatch later in summer.

Distribution

National: Widespread in England and Wales, but absent from Scotland, Northern Ireland, the Isles of Scilly and most of the Channel Islands.

London & Ealing: Several reliable sites with large populations in London including Hampstead Heath, Richmond Park, London Wetlands Centre and various other wetlands and nature reserves.

In Ealing, there have been occasional reports from residents of grass snakes along the canal towards Brentford and on allotment sites historically. There is a need for wariness in the accuracy of some of these reports however, as slow worms in compost heaps are commonly mistaken for snakes. Some sightings or reports from Ealing Wildlife Group (EWG) and the rangers as follows:

- Billet's Hart allotment tenants reported sightings to EWG in July 2018 and April 2020
- A shed skin just outside the periphery of the Borough in Hillingdon was reported to and confirmed by EWG in September 2019
- Historic reports from the canalside around the Osterley Lock and weir and woodland
- Other reports from Marnham Field also known as 'Bonkers', edges of Brentside School Playing Field, Brent Valley Golf Course, Framfield Allotments in 2017-2019
- A shed skin was found by an ecologist surveying a translocated slow worm population at Glade Lane Canalside Park several years ago
- One of the ranger team saw a grass snake at Osterley Cricket Ground, Tentelow Wood about 6 years ago
- A member of the public reported they killed one by the pond in Southall Park, approx. 11yrs ago

Factors affecting the species

- Loss of suitable habitat to development, drainage of land and lack of targeted management of wetland habitats
- Habitat fragmentation leading to loss of connectivity resulting in isolated, vulnerable and non-sustainable populations
- Pollution of freshwater habitats impacting prey availability
- Collection for pet trade and deliberate persecution by humans
- Accidental disturbance of breeding sites by humans (e.g. turning compost heaps)
- Lack of suitable breeding sites in suitable locations due to lack of targeted habitat management or overgrowth of waterside vegetation
- Damage to bank profiles, underwater vegetation and sediment in freshwater habitats due to dogs in ponds, making them less suitable or directly harming aquatic biodiversity

Current Action

National: No specific actions, but general aquatic habitat management by national and regional nature reserves

London & Ealing: No specific actions, but general aquatic habitat management by local nature reserves

Further information

- Grass Snake (Natrix helvetica) - Woodland Trust
- Creating grass snake egg-laying heaps flier 2019 (arguk.org)
- 36_grass_snakes_&_hedges_leaflet.pdf (hedgelink.org.uk)

Slow Worm *(Anguis fragilis)*

Species description

Despite appearances, the slow worm is not a snake but a legless lizard. Distinguishable by the fact it has eyelids and can blink, whereas snakes have fixed eyes that cannot blink. Like other lizards it can also shed its tail as a defence mechanism, a process called autotomy.

Slow worms are smooth, shiny, elongated reptiles with brown, grey or occasionally gold hues. Females tend to have darker sides and a thin dark line down the centre of the back. Adult males in some regional populations can have blue spots along their flanks. Juvenile slow worms tend to be gold and black and metallic looking.

Slow worms have rounded heads and blunt ended tails, growing to 40-50cm in length and weighing 20-100g depending on age. They can live up to 20 years in the wild, but captive specimens have been recorded living to 50 years!

Conservation status

- Protected in the UK under the Wildlife and Countryside Act, 1981
- Priority Species under the UK Post-2010 Biodiversity Framework

Ecology

Slow worms typically inhabit tussocky grassland, woodland edge and heathland, but mature gardens and allotments in urban areas are also favourable locations for colonies to form. Railway embankments with grassy, open sunny spaces as well as woodland edge habitat are also important habitats in urban areas.

They feed on invertebrates, with slugs and snails featuring heavily in their diet, hence being referred to frequently as a 'gardener's friend'. They can often be found around compost heaps in gardens and allotments, basking in nearby sunny areas or enjoying the heat a compost heap or plastic bin will generate. Unlike other reptiles, they prefer to hide under warm objects than basking out in the open, so can commonly be found under logs, plastic sheeting, tin or other manmade objects that attract heat. Unfortunately, they are very prone to predation from cats, and high density cat populations in urban areas are frequently responsible for wiping out isolated urban slow worm populations over time.

Slow worms are ovoviviparous or live bearing, incubating their eggs internally and giving birth to tiny live miniatures of the adults in summer. The young are immediately independent and disperse in suitable habitat to find food and shelter. They hibernate underground in winter, usually emerging around March or April and mating in May.

Distribution

National: Found throughout the country, except for most Scottish islands, Northern Ireland and most of the Channel Islands.

London & Ealing: Relatively common and the most widespread reptile in London, where suitable habitat occurs. In Ealing, many gardens and allotment sites have slow worm residents, as well as other more natural open spaces in our parks and woodlands.

Known slow worm sites including those reported to Ealing Wildlife Group as follows:

- Horsenden Hill
- Perivale Wood
- Windmill Lane allotments, Greenford
- Billet's Hart allotments, Hanwell
- Framfield allotments, Hanwell
- High Lane allotments, Hanwell
- Laurie Road, Hanwell
- Railway sidings along Felix Road, West Ealing
- Ascott allotments, South Ealing
- Marnham Fields

- Glade Lane Canalside Park
- Dormers Wells Moated Manor
- Bittern's Field
- Rear of Cardinal Wiseman School, Greenford

Factors affecting the species

- Loss of natural habitat due to development, intensive management (e.g. mechanical mowing of grass verges and field habitats particularly at sensitive times like when females are gravid) or lack of targeted management (e.g. shading out of suitable mosaic habitat by growing trees)
- Use of pesticides and other chemicals
- Loss of allotment sites or brownfield sites to development
- Direct persecution or destruction by people fearing they are snakes or somehow harmful
- Indirect harm by people tidying up or performing gardening tasks (e.g. turning compost heaps, strimming etc)
- Habitat segmentation and loss of connectivity leading to aging, isolated populations
- Predation by domestic cats

Current Action

National: None, but national and regional land management for nature will include specific habitat management and features to encourage slow worms

London & Ealing: None, but local land management for nature will include specific habitat management and features to encourage slow worms

Further information

Slow Worm (Anguis fragilis) - British Reptiles - Woodland Trust

Common Lizard *(Zootoca vivipara)*

Species description

Common lizards are quite variable in colour, usually brown to grey with rows of darker spots or stripes down the back and sides. Juvenile specimens tend to be plainer with less dark markings, often bronze in colour. Throat tends to be pale whitish and underside reddish to yellow or orange. Males have spotted undersides, while females have paler, plain bellies.

Unlike their confusion species, the smooth newt, lizards have a scaly appearance and long toes. They grow to 10-15cm in length on average.

Conservation status

- Protected in the UK under the Wildlife and Countryside Act, 1981
- Priority Species under the UK Post-2010 Biodiversity Framework

Ecology

The common lizard thrives in open grassland, woodland edge and heath where it can find appropriate sunny places to bask and feed on invertebrates, insects primarily. It is also known as the viviparous lizard due to its trait of giving birth to live young rather than laying eggs like many other reptiles do. Technically it has a reproductive mode termed ovoviviparous, as it incubates the eggs internally which then hatch and are birthed as miniatures of the adults.

Adults emerge from hibernation underground or in sheltered locations in Spring, mate in April or May and give birth to up to about ten young in July or August. Almost black in colour when first born and turning bronze later, the young are immediately independent though will still be found basking in favoured spots with all ages including their parents.

They go back into hibernation around October or November depending on weather conditions. As the most Northerly ranging reptile in the world, common lizards are very cold tolerant but wet winters are a threat to survival, particularly if hibernacula become flooded.

As a defence mechanism, common lizards (and slow worms) practice autotomy, the act of shedding their tail if caught or threatened by a predator. The tail continues to move, distracting the predator while the lizard flees to safety. The tail will regrow again but is usually not as well patterned as the original.

Distribution

National: The common lizard is the most widespread and common of our three native lizards in Britain. It occurs across all countries of the UK and is the only native reptile on the island of Ireland.

London & Ealing: London distribution is patchy, with some boroughs better recorded than others. Several reports have come in to EWG on common lizard sightings over the past few years, though may need to be treated with caution as terrestrial newts are commonly mistaken for lizards. Reported sites have included:

- Private garden in Northolt, backing onto Islip Manor Park
- William Hobbayne Centre garden in Hanwell near Billet's Hart allotments
- Confirmed juvenile with photo by one of the ranger team at a task day, Home Mead, Horsenden Hill, 2015
- Very reliable description and report of common lizard in summer 2020 at Northala Fields on the rock gabions of one of the mounds

Factors affecting the species

- Loss of natural habitat due to development, intensive management (e.g. mechanical mowing of grass verges and field habitats particularly at sensitive times like when females are gravid) or lack of management (e.g. shading out of suitable mosaic habitat by growing trees)
- Use of pesticides and other chemicals
- Loss of allotment sites or brownfield sites to development
- Collection or direct harm by people
- Habitat segmentation and loss of connectivity leading to aging, contracting or isolated populations
- Predation by domestic cats

Current Action

National: None, but national and regional nature reserve management benefits the species.

London & Ealing: None, but local nature reserve management benefits the species.

Further information

Common Lizard (Zootoca vivipara) - Woodland Trust

Common Toad *(Bufo bufo)*

Species description

The common toad has warty, olive brown skin usually with some darker markings and a lighter underside. Unlike the common frog it has short legs and therefore tends to walk or crawl rather than hop.

It has striking copper eyes and a visibly lump behind each eye called a parotid gland which can secrete a foul tasting, milky substance as a deterrent to predators. The common toad grows to about 8-13cm with females larger than males, and a maximum weight of about 80g.

Conservation status

- Protected in the UK under the Wildlife and Countryside Act, 1981
- Priority Species under the UK Post-2010 Biodiversity Framework

Ecology

Common toads inhabit a wide variety of habitats from gardens, woodland, hedgerows, grassland and can generally tolerate drier sites than common frogs, surprisingly far from any obvious ponds or water bodies. They are crepuscular or nocturnal, tending to spend the day hidden under logs, stones or vegetation and emerging when it is cooler or more damp. Diet is made up of invertebrates including insects and slugs.

They prefer to breed in deeper water than frogs. Unlike frogs that deposit their eggs in clumps, common toads lay double stranded strings of spawn woven through aquatic vegetation, often several weeks later than common frogs. Toad tadpoles are darker, almost black in colour, when compared to the gold flecked tadpoles of common frogs.

Distribution

National: Widespread across England, Scotland and Wales, but absent from the island of Ireland. Distribution is patchy however and local extinctions are common. Worryingly, the common toad is said to have declined in the UK by 68% in the past 30 years (Froglife, 2016), with toads particularly affected in London and the southeast.

London & Ealing: Common toads are recorded in every borough of London with some boroughs appearing to have healthier populations than others. Ealing appears to be one of the boroughs with very few records according to GiGL submissions. This may reflect under recording rather than absence however.

Reports of common toads are submitted to EWG on a semi-regular basis and reported by rangers. These include confirmed sightings at Perivale Wood, Horsenden Hill, Hanger Hill Park, Brent Lodge Park, Brent Valley Golf Course ponds, Glade Lane Canalside Park, Northala Fields, the canal towpath in Hanwell, Boles Meadow, various gardens in Hanwell and Northfields as well as several allotment sites.

Factors affecting the species

- Local declines and even extinctions are most commonly caused by habitat fragmentation
- Road traffic is an annual threat during breeding migrations as common toads will travel up to 1km to and from their ancestral ponds
- New road developments are a particular threat if they form a new barrier to breeding grounds for toads to navigate
- Destruction, degradation or loss of ancestral ponds used for breeding. This can be due to natural silting up and succession or human factors
- Climate change may also be having an impact on global amphibian populations through altered temperatures and increased exposure to UV radiation
- Disease transmission between populations and non-native or invasive species also threaten global amphibian populations. Chytridiomycosis and Ranavirus in particular are a concern in the UK
- Damage to bank profiles, underwater vegetation and sediment in freshwater habitats due to dogs in ponds, making them less suitable or directly harming aquatic biodiversity

Current Action

National: Various nature focused and reptile/amphibian focused organisations promoting toad conservation on national and regional levels (e.g. ARG UK, Froglife)

London & Ealing: The charity Froglife has initiated a London based Tails of Amphibian Discovery (T.O.A.D) project to help the common toad.

Five sites in Ealing were selected to be part of the Ealing TOAD trail; Walpole Park, Glade Lane Canalside Park, Trumpers Field at Hanwell Meadows, Dormers Wells Moated Manor and Horsenden Hill.

Further information

- Common toad | The Amphibian and Reptile Conservation Trust (arc-trust.org)
- Common Toad (froglife.org)
- Advice for planners & engineers (froglife.org)

Great Crested Newt *(Triturus cristatus)*

Species description

The Great Crested Newt (GCN) is our largest newt species reaching from 14cm to 17cm in length. They are dark grey brown in colour with lots of darker patches making them appear blackish overall. They also have lots of tiny warty, white spots covering their skin. The undersides and tips of the toes in GCN are orange to yellow with large black spots covering the belly in both sexes.

Males have an impressive undulating crest running the length of their backs which gives them their name. But it should be noted that other newt species also have a crest; a common source of misidentification when it comes to GCN. The crest is far more pronounced in the breeding season but lies flat against their bodies making it almost invisible when they are on land or taken out of water. Females lack a crest but do have an orange yellow stripe running along the lower edge of their tails. Males have a distinctive white flash along the midline of their tail.

Conservation status

- Protected in the UK under the Wildlife and Countryside Act, 1981.
- Priority Species under the UK Post-2010 Biodiversity Framework.
- Listed as a European Protected Species under Annex IV of the European Habitats Directive.

Ecology

GCN ideally require a mosaic of specific habitat features to thrive. Large ponds of 50 to 250 square metres with a dense floating aquatic vegetation covering up to two thirds of the water surface are favoured for breeding. They rely on nearby woodland, scrub and rough grassland to thrive in their terrestrial stages and to hibernate, usually amongst tree roots and dead hedges, at the base of walls or under stones, or in underground burrows of other small creatures.

Adult newts feed on invertebrates on land and the larval newts feed on a variety of aquatic life including invertebrates, frog or toad tadpoles, small fish and even larval newts of their own and other species.

Their terrestrial and aquatic stages depend on age and time of year, with adults hibernating on land. They migrate up to 1km to breeding ponds in Spring, then return to land once breeding has ended. Larval newts emerge from ponds in late summer or early Autumn, becoming terrestrial and hibernating later in the year. Some larval newts may overwinter in the pond if they haven't fully developed that season. They reach sexual maturity and return to their natal pond to breed usually in their third year.

Distribution

National: Widespread across lowland England and Wales, with highest concentrations in the Southeast of England. Certain counties such as Suffolk are strongholds.

London & Ealing: GCN are scarce and localised in London occurring in approximately half of the capital's boroughs in appropriate habitat.

In Ealing, we have one known population at Horsenden Hill and Horsenden West that appears to be thriving, having been surveyed by EWG and a licensed ecologist member of the group. Seemingly suitable habitat also occurs at Islip Manor Meadows and Yeading Brook Meadows and will be the focus of future surveys to establish presence.

Factors affecting the species

- Habitat fragmentation caused by development leading to reduction in population size, isolation of smaller populations over time and creation of barriers to newt movement between sites
- Loss of suitable breeding ponds from drainage or deliberate infilling
- Loss of terrestrial habitat for foraging and hibernation by human activity
- Introduction of fish to breeding ponds which consume larvae
- Release of non-native or invasive species that compete with or eat newts
- Reduction in the amount of submerged vegetation required for breeding
- Pollution of water bodies, or eutrophication leading to declines in water quality
- Pond deterioration through neglect or misuse – excessive removal of vegetation during breeding season, overgrazing or mowing of surrounding vegetation, natural silting, overshadowing by trees or reclamation of derelict land
- Climate change may also be having an impact on global amphibian populations through altered temperatures and increased exposure to UV radiation
- Disease transmission between populations and non-native or invasive species also threaten global amphibian populations. Chytridiomycosis caused by the fungus Batrachochytrium salamandrivorans is a newly emerging disease concern for newts in the UK
- Damage to bank profiles, underwater vegetation and sediment in freshwater habitats due to dogs in ponds, making them less suitable or directly harming aquatic biodiversity

Current Action

National: GCN are a priority species affecting planning and development nationwide, with mitigation and/or new habitat creation required for any development which could potentially disturb viable populations.

London & Ealing: A combined approach by the Council park ranger team, Froglife, Ealing Wildlife Group and Friends of Horsenden Hill in recent years has seen habitat restoration and maintenance work being done to keep the breeding ponds at Horsenden in suitable condition for GCN to thrive.

EWG and a licensed ecologist member have surveyed breeding ponds at the Horsenden sites in recent years to establish presence and numbers, with more surveys planned for elsewhere in the borough. Numbers at Horsenden suggest a viable and thriving population

Further information

- Great Crested Newt (Triturus cristatus) - Freshwater Habitats TrustFreshwater Habitats Trust
- Great crested newts: protection and licences - GOV.UK (www.gov.uk)

Common Frog *(Rana temporaria)* & Smooth Newt *(Lissotriton vulgaris)*

Many of the efforts outlined above and in the HAPs will indirectly benefit both of these adaptable species.

Emphasis should be placed on provision of ponds and small water bodies across the Borough to provide connectivity to amphibian populations, and the wider biodiversity benefit that will result.

Smooth Newts and Common Frogs are common garden inhabitants, so local residents should be encouraged to consider fish-free garden ponds, container water gardens, log piles and other amphibian friendly practices (no slug pellets, no pesticides, allowing some long grass etc) to maintain viable, connected populations of these species across the Borough even in urban areas.

Further information

- Amphibians & Reptiles Atlas – Greenspace Information for Greater London (gigl.org.uk)
- downloads.gigl.org.uk/website/Reptile Habitat Management Handbook.pdf
- Reptiles: surveys and mitigation for development projects - GOV.UK (www.gov.uk)

Best Practice measures to create habitats for reptiles and amphibians

General guidance for developers, planners, landowners, and managers

- Ponds, scrapes, lakes and damp meadow areas with wilder areas bordering them and connecting to wilder surrounding habitat are vital to reptiles and amphibians.
- Connecting (development) landscaping with surrounding habitats is critical. Incorporate linear features such as native hedging, dead hedging and long grass meadow areas to create connectivity in landscaped areas and connecting with other suitable and wilder habitats
- A mosaic habitat or grassland and woodland surrounding water bodies supports amphibians and many other priority BAP species
- Creation and maintenance of large, deep ponds in landscaping design and management plans not only to encourage amphibians but also an abundance of biodiversity that site users will enjoy
- Ponds of any size attract wildlife, with a ramp or free access via a gently sloping side to help mammal species who will drink from it. They are more beneficial if they have long grass and linear habitat features connecting to wilder habitat on at least one edge and do not exist as ecological islands in the center of highly managed landscape features such as closely mown lawns.
- Log piles, rock piles and amphibian hibernacula should be placed alongside water bodies and hedgerows in landscaping plans
- Create sacrificial compost heaps that are not turned, (June – Sept in particular), dead vegetation piles and assigned areas for grass clippings
- Limit or abolish the use of pesticides and herbicides in landscape management plans

Top tips for residents

1. Build a wildlife pond in your garden with varying depths and shallow sides planted with native aquatic and marginal plants
2. Create rock piles and dead vegetation heaps such as log piles, unturned (June-Sept in particular) compost heaps, or grass clipping piles in a variety of locations for use as basking areas, refugia and hibernation locations
3. Minimise or avoid using pesticides and chemicals in the garden and allotments, in particular slug pellets
4. Leave areas of the garden to go wild; relaxing mowing of the lawn in areas for example, allowing native wildflowers (often referred to as 'weeds') to grow and planting native hedging where possible
5. Build a hibernaculum where toads, frogs, newts and reptiles can hibernate safely underground safely in winter
6. Submit sightings of amphibians and reptiles to iRecord online or via app, (verified data can be submitted directly to GiGL). You can place tin sheets or carpet tiles in grassy areas, embankments and other suitable habitat, monitoring occasionally on warm days for the presence of common lizards and slow worms
7. Set up or take part in local toad patrols at migration crossing hot spots to help toads survive road crossings and drains
8. Volunteer in parks (parks@ealing.gov.uk) and support or volunteer with local conservation groups and initiatives to help enhance our habitats for wildlife
9. Try to avoid damage from human disturbance. For example, take care when turning compost heaps, or walking over / removing ground sheeting that could be covering slow worms; avoid compacting the banks and damaging marginal and aquatic vegetation. Avoid moving amphibian spawn or aquatic plants from one pond or waterbody to another
10. Try to avoid predation or damage from domestic animal disturbance by keeping dogs out of ponds during breeding season, which will really help amphibians and lots of other wildlife and keep cats away from known reptile and other vulnerable wildlife colonies

How to guides

Creating ponds and wildlife-friendly features for reptiles and amphibians

Urban wetland design guide: 2021_Urban Wetlands_FINAL[125594].pdf (zsl.org)

Pond creation and management: Just Add Water (froglife.org)

Creating a pond I www.gardenorganic.org.uk

How to make a hibernacula: Hibernacula.pdf (froglife.org)

How to build a log pile - Stag Beetles (ptes.org)

How to make a log shelter I The Wildlife Trusts

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions I The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Reptiles and Amphibians			
SAP1	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures.	2026 2022	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support continued survey of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Monitor sightings for toad migration hotspots • Survey for presence of GCN in suitable habitat: Islip Manor Meadows; Yeading Brook Meadows; Hanwell meadows; Glade Lane • Use the Map to monitor and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG	2023, then ongoing	EC Planning, Parks and other relevant EC GIGL, EBP, volunteers

Species Action Plan for Reptiles and Amphibians			
SAP1	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs POS8	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including: Maintain and increase deadwood and habitat piles (POS12): • leaving standing deadwood (where not a danger) and creating/ adding to dead hedging during woodland and park conservation tasks • log piles, loggeries, or woodchip heaps in all parks • permanent, unturned (especially June – Sept) compost heaps, leaves and dead vegetation or grass clipping heaps in sunny areas bordering dense cover, woodland edge and long grass at all feasible sites • rock piles at all appropriate sites (appropriate location or interpretation to not attract fly-tipping, removal or misunderstanding) • In known or suspected common lizard locations, maintain open sunny aspects with large, heat retentive surfaces for lizards to bask above the vegetation line (e.g. tree trunks, rocks and rubble, open gravel areas, log piles) • Review feasibility for SAP translocation programmes at existing or newly created sites (for example where a population may be threatened by development, or through partnerships, such as the Harvest Mice reintroduction project) (POS5)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners
All SAPs BE3, 10, 11 POS17	Share BAP with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAPs and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP, external agencies, landowners/managers

Species Action Plan for Reptiles and Amphibians			
SAP1	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • produce and publish information on reptiles and amphibians, including T.O.A.D. trails in Ealing parks, identification, as frogs and toads, and lizards and common newts can be confused; and educational messaging around harmless nature of grass snakes and slow worms • Educate local residents on the importance of local freshwater habitats and the potential impact of human and dog activity on waterside vegetation, aquatic habitats and the biodiversity that relies on these vulnerable habitats • disseminating top tips on creating reptile and amphibian-friendly spaces • support creation of community-led local toad patrols in toad migration hotspots, to help toads across roads and out of drains in the breeding season • promotion of training and opportunities to participate in citizen science surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners and community groups • Create and increase range and number of micro-habitats in plots and gardens for SAPs • Share wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

3.2 Bats

We have seven confirmed species to date in the Borough, three of these being UK BAP priority species*:

- Common Pipistrelle *(Pipistrellus pipistrellus)*
- Soprano Pipistrelle* *(Pipistrellus pygmaeus)*
- Nathusius' Pipistrelle *(Pipistrellus nathusii)*
- Noctule* *(Nyctalus noctula)*
- Leisler's *(Nyctalus leisleri)*
- Daubenton's *(Myotis daubentonii)*
- Brown Long Eared* *(Plecotus auritus)*

* UK BAP Priority Species | JNCC - Adviser to Government on Nature Conservation

For the purposes of this document, bats will be grouped together as many of the aims, conservation and mitigation measures will be similar across species. Where species specific information or preferences are relevant, these will be highlighted as such. Bat species and abundance are important indicators for ecological health, relying on unfragmented, varied and invertebrate rich habitats.

Species descriptions, distribution & ecology:

Common Pipistrelle *(Pipistrellus pipistrellus)*

Our smallest bat with a weight of about 4-6 grams and a wingspan of 19-25cm, it is small enough to fit into a matchbox. Fur is uniform brown and the face and ears are dark brown/black. Flight is fast and erratic with lots of twists and turns.

Habitat: Often seen feeding in woodland, parks, over water, along hedgerows and even over gardens in almost every part of London.

Food: Eats small flying insects such as midges and mosquitoes. Catches and eats its food on the wing.

Roost preference: Mostly roosts in houses, under eaves and soffit boards which means their roosts are found more often than other species.

Where to look: Common across Greater London.

In Ealing: common in many green spaces across the borough including urban parks and gardens. In fact it's the most likely bat species you will see flying over gardens on summer evenings. Walpole Park, Pitshanger Park, Northala Fields, Long Wood, Hanwell Meadows, Acton Park and Brent Lodge Park are reliable spots for this species.

Soprano Pipistrelle *(Pipistrellus pygmaeus)*

Similar to common pipistrelle, but with a slightly bigger wingspan of 18-28cm. The facial skin is also paler. Flight is erratic with twists and turns.

Habitat: Prefers riparian habitats but also seen at parks, woodland edges and in gardens.

Food: Eats small flying insects such as midges, lacewings, mayflies and mosquitoes. Feeds along water bodies.

Roost preference: Mostly roosts in houses, under eaves and soffit boards which means their roosts are found more often than other species. Can form large maternity roosts.

Where to look: Common across Greater London, especially around water bodies.

In Ealing: almost as common as its cousin the common pipistrelle, Sopranos are found in many of our public parks and green spaces but in higher numbers near water. Pitshanger Park, Walpole Park, the Hanwell Viaduct, Northala Fields, the Grand Union Canal, Paradise Fields and Brent Lodge Park have good numbers.

Nathusius' Pipistrelle *(Pipistrellus nathusii)*

Slightly larger than common and soprano pipistrelle but still a small bat. Weighs 6-15 grams with a wingspan of 22-25 cm. Fur is shaggy and slightly paler on the belly. Flight is fast and direct.

A migratory species, with some tagged individuals found breeding in west London in summer and showing up hibernating each winter back in Eastern Europe.

Habitat: Found in woodland and around lakes and rivers. Though to use the Thames Valley and tributaries as migration routes in and out of the UK on migration.

Food: Feeds over the water on aquatic insects such as midges, caddis flies and lacewings. Uses aerial hawking to catch its prey.

Roost preference: Not much is known. If you think you have a Nathusius' pipistrelle roost please get in contact.

Where to look: Can be found around large lakes. Richmond park and Bedfont Lakes are good places to find Nathusius' pipistrelle.

In Ealing: static bat detector studies have shown that the Brent river valley is an important corridor or commuting route for Nathusius' pipistrelles. EWG surveys have picked up this species at Pitshanger Park, Perivale Park and wetlands, Brent Lodge Park and following the course of the Brent down to the canal at Hanwell.

Noctule *(Nyctalus noctula)*

One of the largest bats found in Britain. It is often the first to emerge from its roost, sometimes before sunset. Weighing 18 to 40 grams, with a wingspan of 32 to 40cm, it has sleek golden fur and broad brown ears. Flight is fast and direct with steep dives.

Habitat: Woodland, parkland and water bodies.

Food: Feeds on large moths, beetles and mayflies.

Roost preference: Roosts in trees, in woodpecker or rot holes. Also found in bat boxes.

Where to look: Good sites for seeing noctule are Hampstead Heath, Berwick ponds in Havering, over the Thames in Teddington, Oxleas Wood in Greenwich, and even in Hyde and Regents Park in central London.

In Ealing: regularly detected over open expanses of parkland including Pitshanger Park, Perivale Park, Belvue Park and Brent Lodge Park with occasional records over more urban green spaces like Walpole Park.

Leisler's *(Nyctalus leisleri)*

A smaller cousin of the noctule and weighs 12 to 20 grams and has a wingspan of 26 to 32cm.

Habitat: Woodland, grassland, farm and parkland.

Food: Feeds on flies, moths, caddisflies and beetles.

Roost preference: It roosts in holes in trees, as well as in buildings and bat boxes.

Where to look: Good places to see this bat are Battersea Park and London Wetlands Centre.

In Ealing: only a handful of confirmed records including at Belvue Park in Northolt and Hanwell Meadows.

Daubenton's *(Myotis daubentonii)*

Medium sized bat weighing 7 to 12 grams and with a wing span of 24 to 27cm. It was often called the water bat in the past because of its distinctive habit of flying level about 10cm above the surface of water bodies.

Habitat: Associated with still or slow flowing water. Also found along woodland edges.

Food: Scoops small flies such as caddis flies and midges from the water's surface using its tail membrane and feet.

Roost preference: Found roosting in trees and bridges.

Where to look: Can be seen mainly in west London sites like Wimbledon Common; the Grand Union Canal in Hillingdon and Bushy Park, but can also be found on sites like Hampstead Heath and Beech Hill Lake in Barnet.

In Ealing: not detected as often as habitat availability might suggest, with only occasional confirmed records on the Grand Union Canal near Hanwell Meadows and Elthorne Rough. Just outside the borough a large colony can be easily observed on the lakes and ponds at Osterley Park.

Brown Long Eared *(Plecotus auritus)*

As the name suggests, the brown long-eared bat has remarkably large ears which are nearly as long as its body. It is a medium sized bat weighing 6 to 12 grams and has a wingspan of 23 to 28cm.

Habitat: Deciduous and coniferous woodland.

Food: Feeds on moths, flies and beetles. Prey is caught by gleaning off vegetation or by aerial hawking. Prey is often eaten at a feeding perch.

Roost preference: This is the bat that is most frequently found roosting inside roof spaces where it likes the ridge beams of older properties. Also found in bat boxes.

Where to look: A woodland specialist this bat can be found in and around woods. It can be a hard bat to find as it is light sensitive and tends to emerge very late, keeping very close to trees when hunting and travelling and has a quiet call on a bat detector. Considered scarce in London.

In Ealing: a single BLE bat was found hibernating within the Hanwell Viaduct several years ago during a licensed roost survey. EWG surveys have picked them up on occasion in the dense vegetation along the viaduct as well as at Boles Meadow adjacent to Brent Lodge Park. Establishing where this species is roosting in Ealing would be beneficial to securing its protection as a resident species.

Other species recorded in London include:

- Natterer's *(Myotis nattereri)*
- Serotine *(Eptesicus serotinus)*
- Brandt's *(Myotis brandtii)*
- Whiskered *(Myotis mystacinus)*

Conservation status

All bat species in the UK are protected under both UK and historically EU law

- Bern Convention, Appendix III
- EC Habitats Directive, Annex IV
- Bonn Convention, Appendix II
- Conservation (Natural Habitats) Regulations 1994, Regulation 38
- Wildlife and Countryside Act 1981, Schedules 5 and 6
- UK Biodiversity Action Plan Species – Brown Long Eared , Noctule & Soprano Pipistrelle

Factors affecting the species

- Roost site loss or disturbance
  Seasonal roosting sites and hibernation roosts can be damaged, destroyed or made unsuitable by deliberate human intervention or failure to maintain structures over time. Depending on species, roost sites include buildings (roof spaces and vertical tiles), tree cavities, bridges as well as underground structures such as cellars, ice houses or tunnels. Deliberate avoidance or ignorance of appropriate planning consultations for bats in renovation works (e.g. loft conversions, roof works) may lead to loss of important roost sites.
- Loss of maternity roost sites
  Maternity roosts are extremely important as in some species a large proportion of the total local population's adult females may come together to raise young at a single site. Loss of, or damage to such a site can have catastrophic impacts on local bat populations for this reason, and recovery may be hindered for many years due to bats' long lifespan (15-30 years depending on species) and slow reproductive rate. Local extinction of scarce species is even possible if a major maternity roost is destroyed.
- Loss or degradation of feeding habitat
  Changes in land use or management can alter the composition and abundance of invertebrates bats are feeding on during their active periods. Similarly pesticides and other chemicals can drastically affect invertebrate numbers as well as causing direct toxicity to bats when feeding on affected prey.
- Disruption and disturbance to commuting routes
  Bats need appropriate habitat and corridors to move between feeding and various roosting sites throughout the year. Any factors which impact such commuting routes can have detrimental impacts on bat population viability. Such factors include fragmentation of wildlife corridor habitat leaving open spaces bats are reluctant to cross, obstacles from the built environment placed in their way and artificial light pollution. Even so-called 'bat friendly' lighting can be too much of an obstacle for certain light sensitive bat species
- Climate change
  Bats are thermophilic or heat loving creatures and require stable temperatures over the breeding season to keep warm as well as to have plentiful supplies of invertebrate food. They conversely require a stable low temperature over winter to survive their hibernation period. Fluctuations in temperature and changes in seasonality associated with climate change can have detrimental effects, both in speeding up their metabolism over winter causing them to consume energy reserves faster emerging from hibernation with fewer energy reserves, or to struggle to find enough food during the breeding season. These changing conditions may start to place additional pressures on bat populations and account for changes in population trends seen in certain species in recent years.

Current Action

National: Various monitoring programmes are coordinated by the Bat Conservation Trust and local bat groups including the National Bat Monitoring Programme (NBMP), as well as roost and habitat specific surveys.

London & Ealing: Ealing Wildlife Group regularly survey bats on public bat walks and in their volunteers' spare time. They have connections with London Bat Group and Bat Conservation Trust and are building data on Ealing bats to share with relevant conservation bodies and GiGL.

Further information

- Home - Bat Conservation Trust (bats.org.uk)
- The London Bat Group | A Bat Conservation Trust Partner Group (londonbats.org.uk)

Best Practice measures to protect and create habitats for bats

General guidance for developers, planners, landowners, and managers

- Refer to Bat Conservation Trust guidance, including on surveys, artificial lighting and mitigation
- Carry out and adhere to correct and timely ecological assessments in any proposed development plan to include a full bat survey on two occasions throughout the year
- Factor in and mitigate for disturbance to bats, fragmentation of habitats and habitat features and obstruction of bat flight corridors in all development proposals and designs
- Factor in and mitigate for disruption to bats (especially light sensitive species), obstructing of flight paths and detriment to nocturnal invertebrate activity caused by artificial lighting around developments (see Artificial Lighting Guidance)
- Incorporate natural linear features and insect rich habitats in landscape design and management plans, including native tree lines, hedgerows, dead hedging which connect the landscaping scheme to the surrounding natural environment, along with freshwater features and planting for pollinator borders
- Incorporate bespoke bat bricks and/or bat roosting boxes into new building developments
- Minimise or stop the use of pesticides in landscape management plans

Top tips for residents

1. Always seek advice from Bat Conservation Trust if bats are suspected to be roosting in a site proposed for development or renovation, or for bats found grounded, ill or injured
2. In gardens, encourage invertebrates and insect abundance by incorporating dead wood habitats, freshwater habitats (e.g. a wildlife pond of any size) and plants for pollinators, especially night scented or flowering species such as Honeysuckle, Evening Primrose, Night Scented Stock
3. Minimise or stop the use of pesticides and chemicals in gardens and allotments
4. Put up bat boxes on homes and in gardens to encourage bats and replace roost sites lost to developments and home renovation works
5. Donate, or if you have the expertise, build a Bat Box Plans DIY | Build a Bat Box - The RSPB for parks (parks@ealing.gov.uk) , schools or Housing estates
6. Try to avoid predation by keeping cats indoors at dawn and dusk when bats are coming to and from roost sites, and are easily predated if they have close access to such sites
7. Report sightings of bat species (Echo Meter Touch 2 device will aid verification of species) via iRecord online or via app
8. Volunteer in parks (parks@ealing.gov.uk) and support or volunteer with local conservation groups and initiatives to help enhance our habitats for wildlife
9. Get involved with local bat conservation and spread the word on the importance of bats as key biodiversity indicator species. If you are willing to commit to training, learn key information about bats, and spend time volunteering, you could train to become a bat walk leader with Ealing Wildlife Group (hello@ealingwildlifegroup.com)

How to guides

Creating ponds and wildlife-friendly features

Pond creation and management: Just Add Water (froglife.org)

Creating a pond | www.gardenorganic.org.uk

Planting and habitat creation for pollinators

Plant flowers for bees and pollinators | The Wildlife Trusts

Plants for Pollinators advice and downloadable lists / RHS Gardening

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Bats			
SAP2	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures, including factoring in: – timely ecological and environmental impact surveys that also consider impact of development on connectivity issues and surrounding bat habitats – impact of artificial lighting – mitigation of impacts by incorporating natural linear features and insect rich habitats in landscape design and management plans – mitigation of impacts with integrated bat bricks and external bat boxes	2026 2022	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support continued survey of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Where feasible (subject to funding and resources) use tagging and tracking studies to identify and survey maternal and hibernation roost sites • Use the Map to monitor populations, roots (if known) and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG	2023, then ongoing	EC Planning, Parks and other relevant EC GIGL, EBP, volunteers

Species Action Plan for Bats			
SAP2	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs POS8 POS9-15	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including linear features, connectivity of appropriate habitat and invertebrate-rich habitats: • Review grassland and verge grounds maintenance to incorporate best practice and identify opportunities to improve biodiversity of minimum 5 hectares grassland (POS9) • Review all hedgerow (conservation and formal) maintenance to incorporate best practice, including cutting regimes and hedge-laying mature hedgerow i.e. with top heavy growth and sparse base (POS10) • Review all shrub planting, pruning and maintenance to incorporate best practice principles with target 0.5 ha gardens improved for pollinators (POS11) • Prioritise the existence of standing deadwood features in the environment such as leaving dead tree monoliths in tree removal work (POS12) • Tree and hedgerow planting with target to increase mixed native hedgerow by minimum 3km (POS13) • Increase the number of bat boxes by providing artificial roost sites across the borough (POS15) • Consider feasibility for creating an underground bat hibernaculum to mitigate for the loss of or changing suitability of existing hibernation roost sites (POS5)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners
All SAPs BE3, 10, 11 POS17	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP

Species Action Plan for Bats			
SAP2	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • produce and publish information on bats, including educational messaging to alleviate public misconceptions about bats and secure their status as culturally valued animals by educating the community on bat biology and their status as key indicator species • disseminating top tips for everyone to create bat-friendly environments • promotion of training and opportunities to participate in citizen science surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL), also with Bat Conservation Trust • Every other year recruitment drive and training to join the EWG volunteer Bat Pack (lead bat walks and surveys)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners and community groups Create and increase range and number of micro-habitats in plots and gardens for SAPs Share wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

3.3 Water voles *(Arvicola amphibius)*

Species description

Our largest vole species, reaching up to 22cm long and 150-300g in weight. It has chestnut-brown fur with a blunt, rounded nose, small ears almost hidden in the fur of the head, and a dark furry tail. Swims buoyantly as if floating on the water, and often detected by a characteristic 'plop' sound as it leaps into the water when startled or suspects a predator is nearby.

Can be confused with brown rats which also frequent aquatic environments but swim much lower in the water with only their pointed head protruding. Rats are bigger, are grey-brown in colour and have much more prominent ears, a pointed nose and a long, scaly, paler tail.

Conservation status

- Water voles are protected under the Wildlife and Countryside Act 1981 Schedule 5, section 9(4) (as amended 1998).
- It is an offence to intentionally:
  - Damage or destroy or obstruct access to any structure or place which water voles use for shelter or protection
  - Disturb water voles while they are using such a place.

Ecology

A semi-aquatic mammal, relatively tied to waterside habitats across most of its range nationally. A few exceptional populations are fossorial, living in burrow systems in grassland. Ponds, canals, ditches, reedbeds and slow flowing streams or rivers with a varied and well established bankside vegetation structure are ideal habitats. Water voles live in burrows within the banks next to water, with some burrow entrances at the waterline and some below to aid predator avoidance.

Water voles feed on a wide variety of plant species with a preference for sedges and grasses. A typical sign of water vole presence is a small pile of cut vegetation with a characteristic 45 degree angle cut in the stems. Latrine sites are also a useful sign to establish water vole presence with accumulations of blunt or round ended, odourless droppings approximately 8-12mm long and 4-5mm wide. They are usually greenish, reflecting the vegetation the water vole feed on. Latrines are generally outside burrows at the edge of the water and are used for establishing territory. Brown rat droppings are larger, with a pointed end and often a foul odour.

Water voles are relatively sedentary, with small individual home ranges. This means that fragmentation of suitable habitat can lead to isolated populations that are more prone to dying out due to habitat degradation, shading out of bankside vegetation by trees, genetic depression, disturbance or predation.

Distribution

National: Water voles are a red listed endangered species of highest conservation concern. They are considered to be the fastest declining mammal in Britain. They are widely distributed but highly localised and very prone to local extinctions due to a variety of pressures.

London & Ealing: Water voles have declined drastically in London as is the situation nationally. Remaining hotspots for water voles in London are around the marshes of the Thames Gateway extending into both Kent and South Essex. To the West, the river Crane catchment in Hounslow and Richmond is the main stronghold along with the Colne Valley further west.

In September 2009 Ealing Council commissioned the Wildfowl and Wetlands Trust (WWT Consulting) to survey for water voles across the borough to establish presence or absence of water vole in suitable habitat.

One site, Carr Road (1), was confirmed to have water voles present with both latrine and feeding signs evident. Three other sites were suspected to have water voles present with characteristic feeding signs observed. These were Paradise Fields and the canalside opposite at Horsenden West (2) , Dormers Wells Moated Manor (3) and Trumpers Field (4).

Although there are historic records of water voles on the river Brent, the section of the Brent in Ealing is less than ideal habitat for various reasons. Water quality and over shading of the banks are an issue but more significantly, the Brent is prone to extreme flash flooding on a regular basis, not only due to rapid run off from the urban catchment when it rains heavily, but also when water is released from the Welsh Harp reservoir upstream in the neighbouring borough of Brent. For these reasons, it may be prudent to concentrate water vole restoration efforts in Ealing along the Grand Union Canal and other non riparian wetland habitats where they once thrived. Improvements to canalside habitat and vegetation structure and ensuring connectivity between isolated

islands of habitat would be the most impactful way to connect water vole habitats and create a resilient water vole population.

Factors affecting the species

- Loss and fragmentation of suitable riparian or riverside habitat limiting dispersal of voles
- Subsequent isolation of small island populations decreasing resilience to disturbance, habitat degradation, genetic depression or predation
- Disturbance of riparian habitats by human recreational activities (particularly angling, boating and exercising dogs on riparian edge habitat)
- Predation by non-native, invasive North American mink
- Pollution of watercourses
- Poisoning by rodenticides mainly used to control brown rats
- Reduced public sector funding and resources for riverside habitat management
- Damage to bank profiles, vegetation structure and direct disturbance by dogs in ponds, making them less suitable or directly harming water voles and their food source

Current Action

National: The National Water Vole Monitoring Programme (NWVMP) is being run by the People's Trust for Endangered Species (PTES) is currently running to establish distribution and abundance of remaining water vole populations.

London & Ealing:

- The river Crane and Colne valley both have water vole conservation projects ongoing. They have had fluctuating populations in recent years, the main threat continuing to be occasional mink appearances on both river catchments.
- The nearby borough of Kingston-upon-Thames has received funding and initiated a water vole reintroduction project with the help of rewilding and community conservation charity Citizen Zoo, with water voles set to be released onto the Hogsmill River in 2022. Current work is aimed at habitat improvements on suitable stretches of the river identified as release sites, as well as ongoing monitoring for the presence of mink.
- Since 2019 EWG members have been informally surveying the sites in Ealing identified as likely locations for water vole by the WWT in 2009. While some potential feeding signs have been observed at Paradise Fields and Carr Road, no latrines have been found to confirm the presence of the species. Neither have remote motion triggered camera traps placed out in likely locations for long periods shown any sign of water vole presence. A more concerted and formal effort will be needed to say for certain, but it is considered that water voles may now be absent from the borough.

  Unfortunately, considering the promise it held in 2009, the Carr Road location has dried significantly and is now composed almost entirely of dry reed bed in summer. It does hold some water in winter, but it is thought that changes to drainage infrastructure in the local area may have changed the hydrology of the site over that time.
- Beaver reintroduction project
  It's interesting to note that much of the habitat creation and management that would need to be implemented for any future water vole reintroduction project can be achieved sustainably with low cost and low ongoing human interventions by reintroduction of another native aquatic rodent, the Eurasian Beaver (Castor fiber). Beavers were wiped out in the UK approximately 400 years ago, but significant populations are again living free in Britain following releases, escapes and licensed reintroduction programmes over the past 20-25 years.

  At the time of writing, the UK government has announced it intends to grant the Beaver native and protected species status and will consider license applications to release them back into the wild to live free, rather than in enclosures as has been the case to date. The reason many conservationists have been working towards this goal is that Beavers are true ecosystem engineers, creating extremely biodiverse wetland habitats and therefore are of massive benefit to other wildlife, including birds, reptiles, amphibians, invertebrates, bats, water voles; many of the species in this Biodiversity Action Plan. They can also have beneficial flood mitigation effects by slowing the flow of water in river catchments, though whether they could cope with the flashing nature of the Brent is up for debate. The wetlands they create capture a lot of carbon meaning they are having a positive effect on climate

change too.

For these reasons, it may be worth looking at the feasibility of a beaver reintroduction project to later restore water voles to the ideal habitat their larger cousins will have created naturally. The newly formed London Beaver Working Group have stated that it is only a matter of time before free living beavers reach London, with the closest known population living wild in Medway, Kent. Their position is that getting beavers back in the capital sooner rather than later will not only benefit public education on restoring ecosystems and nature-based solutions to climate change and biodiversity loss, but also help some of our threatened species such as the water vole. And we will need to learn how to live alongside beavers in urban environments at some stage in the future, so why not start now during this time of catastrophic biodiversity loss? Ealing Wildlife Group are feeding into the London Beaver Working Group and have liaised with the council on the possibility of a beaver reintroduction project.

Further information

Survey water voles - People's Trust for Endangered Species (ptes.org)

Best Practice measures to protect and create habitats for water voles

General guidance for developers, planners, landowners, and managers

- Limit and prevent pollution and run off into waterways and disturbance of riparian and aquatic habitats
- Undertake tree management in riparian zones to manage overshading and encourage better plant biodiversity along rivers and canals
- Bankside softening by canals, using floating vegetation rafts
- Create large ponds and lakes in landscaping designs planted with a diverse selection of native aquatic vegetation
- Consider sponsorship of local water vole or beaver reintroduction projects
- Minimise or stop the use of pesticides in landscape management plans

Top tips for residents

1. Report waterway pollution incidents
2. Never pour paint, chemicals or engine oil down drains which can cause serious pollution of our freshwater habitats, but dispose of them properly at local council waste facilities
3. Try to avoid damage to waterside habitats by human or dog activity.
4. Volunteer in parks (parks@ealing.gov.uk) and support or volunteer with local conservation groups and initiatives to help maintain and enhance our river, canal and pond habitat for water voles and associated biodiversity

Report waterway pollution incidents to:

Environment Agency (EA) - 0800 807060. Give all the details you have. Make sure you ask for a reference number. If calling the EA for an update on a report dial 03708 506 506. Thames Water - 0800 316 9800.

The London Waterkeeper also has useful information: https://www.londonwaterkeeper.org.uk/reportpollution

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Water Voles			
SAP3	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures	2026	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support surveys of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Submit historic water vole records to GiGL and monitor sites for recurrence of water voles • Monitor for signs and encourage reports of mink sightings in the borough, initiating active monitoring and control if thought to be present • Use the Map to monitor and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG.	2023, then ongoing	EC Planning, Parks and other relevant EC GIGL, EBP, volunteers

Species Action Plan for Water Voles			
SAP3	**Species Action Plan**	**Time target**	**Lead and Partners**
BE8 POS8 WW9	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs (All SAPs) using best practice principles for HAPs and SAPs. Including: • Scope the riparian habitat in former water vole strongholds for low light levels to create prioritised list for thinning or pollarding trees and scrub • Undertake the thinning and pollarding of vegetation and trees where feasible by rangers and volunteers • Scope extent and cost of works that require mechanical or large scale intervention to bring riparian trees back under management, including old pollards taken down to approx. 2m so that they can feasibly be maintained in rotation over the long term • Scope extent and cost of other works for improving biodiversity of riparian habitat (such as adding vegetation rafts, removing toe-boarding, and other flow diversity measures) to undertake where feasible, or (where funding required) added to project list • Work with EWG and other relevant partners to scope feasibility and cost of initial and ongoing measures required for Water Vole and/or Beaver reintroduction (POS5)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners, CRT, CVP, BCP, EA
All SAPs BE3, 11, 12 POS17	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (i.e. Brent Catchment and Crane Valley Partnerships) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: educate local residents on the importance of local freshwater habitats, encouraging reporting of water pollution incidents and raising awareness of the potential impact of human and dog activity on waterside vegetation, aquatic habitats and the biodiversity that relies on these vulnerable habitats promotion of training and opportunities to participate in species surveys and encouraging data submissions to iRecord online / app (i.e. sharing verified data with EC/ GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks

3.4 Hedgehog *(Erinaceus europaeus)*

Species description

Instantly recognisable, our only spiny mammal and frequently voted Britain's favourite, the hedgehog is an insectivore similar to shrews and moles. The spines cover their back and sides and act as protection, with hedgehogs curling into a ball and erecting their spines to protect their head and soft underside from potential predators. Hedgehogs are a valuable environmental indicator species signalling unfragmented, varied and invertebrate rich, biodiverse habitats.

Adults typically 200-300mm in length, body weight varies according to season and age but adult ranges from 500-1500g.

Conservation status

- Hedgehogs are IUCN red listed, classed as vulnerable to extinction and protected under the Wildlife and Countryside Act 1981, Schedule 6
- UK Biodiversity Action Plan Species

Ecology

Hedgehogs are largely nocturnal, but will sometimes be seen at dawn and dusk, especially if being fed in gardens. It is commonly stated that a hedgehog out during the day must be unwell, and while that is often true it's not always the case. They favour a mosaic of habitats from woodland, grassland, farmland, hedgerows and scrub. In urban areas gardens provide varied habitat but need to be interconnected as a single garden will not provide everything a hedgehog needs.

Hedgehogs have large home ranges, frequently covering 1-3km in a single evening of foraging. This depends on food availability and season, with males covering more ground during the breeding season. This is relevant to explain their need for large areas of connected habitat, as well as the dangers of road traffic as a cause of mortality. Although the latter is an issue it's not thought to be a major cause for hedgehog decline. In fact road casualty observation can be a positive indicator of healthy hedgehog populations

Contrary to popular opinion, slugs and snails only make up a small proportion of their diet, with the majority being beetles, caterpillars, earthworms, insects and other invertebrates. They will visit gardens and become quite tame if fed by humans. Wet or dry cat food with a high meat content is the best option. Fish based cat food, dried mealworms and milk and bread are to be avoided as these can cause deficiencies or digestive upsets.

The young hoglets are born between May and September with up to 4-5 per litter and two litters per year is possible. Late litters are vulnerable and need to reach a weight of at least 600g to be able to survive over winter. Hedgehogs are one of our only true hibernating mammals, creating a large hibernaculum nest of dried leaves and vegetation in dense cover. They create smaller nests in suitable sites at other times of year, with compost heaps and bonfire piles being a tempting prospect in urban areas. Care should always be taken to check for hedgehogs before turning compost heaps or lighting bonfires.

Distribution

National: The latest 'State of Britain's Hedgehogs' report in 2018 by the PTES revealed that hedgehogs are widespread across the UK and locally common in some areas but still in decline overall. Urban populations appear to be faring better than rural ones.

London & Ealing: Hedgehog numbers in London reflect the national trends with overall downward trends, and some boroughs doing better than others.

Locally, Brent Lodge Park appears to be one of the borough's hedgehog hotspots with the most regular reported sightings. Hanwell in general appears to have a good population visiting gardens. The habitats provided throughout the Brent River Park meet many of their requirements but fragmentation of certain areas can be an issue. Other areas with regular sightings of hedgehogs in gardens or allotments reported to Ealing Wildlife Group include Northfields, Ealing Common, Greenford, Norwood Green and Pitshanger.

Factors affecting the species

- Loss and fragmentation of appropriate habitat to urban development
- Reduction in invertebrate food due to habitat degradation and use of pesticides
- In urban and specifically garden environments, secondary poisoning from slug pellets
- Removal of leaf litter, 'tidy' gardening and tendency towards fences and walls between gardens
- Drowning in garden ponds with steep sides and no escape route

- Loss of hedges in gardens causing a reduction in hibernation sites
- Lighting of bonfires and turning of compost heaps without checking for hedgehogs can cause direct harm
- Feeding of inappropriate foods which can lead to deficiencies, digestive disturbances or death
- Litter such as cans, plastic cups, yoghurt pots and drinks can ring holders can trap hedgehogs causing harm. Garden netting can also cause injury.
- Road traffic mortality
- Cattle grids in more rural locations often trap hedgehogs leaving them to die of starvation or dehydration

Current Action

National:

- PTES mammal surveys, 'Mammals on Roads' and 'Living with Mammals' have been providing hedgehog data nationally for many years.
- Hedgehog Street initiative is set up to encourage garden owners to act for local hedgehog conservation in various ways, including increasing connectivity of gardens.

London & Ealing:

- No specific actions currently apart from some local Hedgehog Street type initiatives by local residents.
- EWG have expressed a desire to lead a borough wide campaign encouraging local residents to take action for hedgehog conservation.

Further information

- State of Britain's Hedgehogs Report 2018 - People's Trust for Endangered Species (ptes.org)
- Home - Hedgehog Street

Best Practice measures to protect and create habitats for hedgehogs

General guidance for developers, planners, landowners, and managers

- Connecting (development) landscaping to avoid fragmentation with surrounding habitats is critical. Incorporate linear features of dense, natural cover such as native hedging, dead hedging and long grass meadow areas to create connectivity in landscaped areas and connecting with other suitable and wilder habitats
- Ponds of any size attract wildlife, and will need a ramp or free access via a gently sloping side for hedgehogs to escape if they fall in. They are more beneficial if they have long grass and linear habitat features connecting to wilder habitat on at least one edge and do not exist as ecological islands in the center of highly managed landscape features such as closely mown lawns.
- Minimise or stop the use of pesticides, in particular slug pellets, in landscape management plans

Top tips for residents

1. Practice hedgehog friendly gardening practices by leaving messy areas and fallen leaves, allowing lawns or sections of lawn to grow to long grass, and creating compost heaps and log piles
2. Hedgehog highways are critical to create connectivity between gardens and allow hedgehogs access to your garden. Create access by putting gaps or holes in solid fences or walls to allow hedgehogs to pass from one garden space to another. A hole the size of a traditional music CD/DVD is all that is needed
3. Make a garden pond of any size to attract hedgehogs to drink, ensuring that there is a ramp or free access via a gently sloping side for hedgehogs to escape if they fall in
4. Install a hedgehog house in a quiet, sheltered area to encourage hedgehogs to nest and breed
5. Plant gardens with species that attract a wide variety of insects and other invertebrates upon which hedgehogs and lots of other species feed
6. Minimise or avoid using pesticides and chemicals in the garden and allotments, in particular slug pellets
7. Try to avoid harm from human disturbance. For example, take care when turning compost heaps and check bonfires for hedgehogs before lighting
8. Supplemental feeding of hedgehogs can be helpful, especially for young hedgehogs in the run up to hibernation. But certain foods like fish-based cat food, mealworms, nuts, bread and milk should be avoided as they can cause dietary upsets or imbalances. Meat-based wet or dry cat foods are the best options
9. Seek professional help from wildlife rehabilitators if you find an injured or ill hedgehog or similarly young hedgehogs weighing less than 600g in the run up to winter hibernation season, as they may need to be taken in and fed over winter before release in spring
10. Become a hedgehog champion and lead initiatives for community-led hedgehog conservation projects, such as speaking to your everyone in your street to create a hedgehog highway.
11. Donate, or if you have the expertise build boxes to give to parks, (parks@ealing.gov.uk), schools or Housing estates
12. Volunteer in parks, and support or volunteer with local conservation groups (contact parks@ealing.gov.uk)
13. Submit sightings of hedgehogs via iRecord online or via app

How to guides

Habitat creation for Hedgehogs

How to build a log pile - Stag Beetles (ptes.org)

How to make a log shelter | The Wildlife Trusts

How to build a hedgehog home | The Wildlife Trusts

Pond creation and management: Just Add Water (froglife.org)

Creating a pond | www.gardenorganic.org.uk

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Hedgehogs			
SAP4	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
BE2 All SAPs	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures	2026	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All HAPs All SAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support surveys of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Data from species surveys and location of Hedgehog Streets e.g. from local experts and Hedgehog champions, are shared with EC and GIGL • Use the Map to monitor and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG.	2023, then ongoing	EC Planning, Parks and other relevant EC GIGL, EBP, volunteers
All SAPs BE8 POS8 - 14	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including linear features, connectivity of appropriate habitat and invertebrate-rich habitats: • Review grassland and verge grounds maintenance to incorporate best practice and identify opportunities to improve biodiversity of minimum 5 hectares grassland (POS9) • Review all hedgerow (conservation and formal) maintenance to incorporate best practice, including cutting regimes and hedge-laying mature hedgerow i.e. with top heavy growth and sparse base (POS10) • Review all shrub planting, pruning and maintenance to incorporate best practice principles (POS11) • Tree and hedgerow planting target to increase mixed native hedgerow by minimum 3km (POS12) • Increase habitat piles and deadwood habitat, by leaving standing deadwood, creating dead hedging, log piles, loggeries, woodchip and dead vegetation heaps (POS14)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners

Species Action Plan for Hedgehogs			
SAP4	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs BE3, 10, 11	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • publicise information on the importance of SAP species to biodiversity, including awareness weeks/campaigns • disseminating top tips for creating habitats and homes for SAP species, and supporting community-led, neighbourhood or street-focussed projects for hedgehogs • promotion of training and opportunities to participate in citizen science surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners/ managers and community groups • Create and increase range and number of micro-habitats for SAPs in plots and gardens • Share SAP/ wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

3.5 Birds

House Sparrow *(Passer domesticus)*

Species description

The House Sparrow is a familiar bird to many, historically living in plentiful numbers in our gardens, nesting in our eaves and outbuildings and chirping cheerfully in hedges in many residential streets. A brown and streaky bird with a finch-like heavy bill for eating seeds as well as insects. Whilst the female and juveniles are light sandy brown with streaks of darker brown and grey plumage, the male is a more dapper bird. He has a grey crown and nape with chestnut cheeks and a white cheek patch and black bib, as well as chestnut on the wings.

Conservation status

- Red listed as a species of highest conservation concern, House Sparrows have undergone a severe decline nationally with an estimated reduction of 71% between 1977 and 2008
- There have been substantial declines in both rural and urban populations
- While the decline in England continues, Breeding Bird Survey data indicates recent population increases in Scotland, Wales and Northern Ireland.

Ecology

House sparrows are extremely gregarious, living in loose colonies with males claiming a tiny territory in the immediate vicinity of a nest or nest hole. They are closely associated with human habitation and have historically been extremely successful and numerous in urban environments. Their decline in rural areas is well understood, and follows the pattern of many farmland birds due to agricultural intensification. But urban and suburban population declines are less clear and the topic of much research. They tend to thrive near allotments and where houses have large gardens with interconnected green corridors.

They nest preferentially in holes in buildings, so modernisation and home renovations including the use of plastic and PVC fascia boards in place of wood may be having an effect. Where cavities in buildings are not available they will weave a nest in deep vegetation such as ivy or dense hedging.

Research has also implicated the decline in invertebrates and insects in the urban environment as a serious factor in reducing their ability to raise young. Aphids such as greenfly and blackfly in particular are a common food source for newly hatched young. Adults rely also on 'weed' or wildflower seeds which are becoming less common in tidy urban landscapes.

Distribution

National:

- Widespread across the entire UK except the highlands of Scotland, and most common in towns and cities but massively declined in recent decades.
- According to the British Trust for Ornithology (BTO) who have been studying their population declines, urban House Sparrows are most abundant and population declines are less dramatic in neighbourhoods with less manicured gardens, less 'tidy' green areas and less hard landscaping. This could be due to several factors, including more wildflowers, traditionally regarded as 'weeds' in public spaces and gardens that are allowed to go a little wilder leading to greater food availability. In areas with fewer home improvements, more availability of unmanaged open space and less intensive garden management may also help lead to a greater availability of nest sites and food.

London & Ealing:

- Surveys in 2002 and 2012* revealed that London House Sparrow population numbers were greater on the outskirts of the city, with numbers gradually diminishing towards the centre and absent from its heart. It also revealed there may be early signs of recovery in numbers in London.
- In Ealing House Sparrows are locally common, with what appear to be thriving colonies in certain neighbourhoods or even individual streets. But many areas that once harboured a busy sparrow population are now devoid of their cheerful chirping.

Factors affecting the species

- Reduction in food resources both for adults and chicks, through use of pesticides, herbicides and 'tidier' urban or garden landscape management as well as loss of brownfield sites

- Loss of suitable nest sites as buildings are modernised and urban hedges destroyed or replaced
- Increased levels of pollution (which has also been implicated in aphid declines, an important food source for chicks)
- Increased prevalence of disease including from unsanitary bird feeders
- Increased levels of predation, particularly by unnatural predators such as cats

Current Action

National: BTO, RSPB and other national surveys are monitoring ongoing trends in House Sparrow populations nationwide

London & Ealing:

- Ongoing monitoring by national organisations as well as Greenspace Information for Greater London (GiGL*).
- Our neighbouring borough of Richmond has launched a successful and engaging local campaign to conserve and promote the House Sparrow to local communities (https://e-voice.org.uk/richmondhousesparrows/)
- Currently in Ealing there is no targeted action towards House Sparrow conservation but there is opportunity to use this charismatic and nostalgic urban species as an engaging mascot for declining urban wildlife on our doorsteps

Further information

- *Counting Sparrows – Greenspace Information for Greater London (gigl.org.uk)
- Field Survey | BTO - British Trust for Ornithology
- Microsoft Word - Sparrow Action Plan.rtf (gigl.org.uk)
- Swift Bricks: The 'Universal' Nest Brick – by Dick Newell | CIEEM (2021)

Best Practice to maintain and create habitats for House Sparrows

General guidance for developers, planners, landowners, and managers

- Maintain and preserve (including hedge-laying mature hedgerow i.e. with top heavy growth and sparse base) existing hedging and hedgerows where possible
- Plant native, thorny and/or dense ornamental hedging in new landscaping schemes and to gap up existing hedgerow. Natives are generally preferable for all-round biodiversity benefits. Favoured ornamental hedging species include Pyracantha, which also produces attractive berries, a food source for many other birds, and Privet.
- Leave margins or wide strips of unmown grass beside linear features such as fence lines and hedging to encourage invertebrates and native wildflowers
- Planting schemes should include species designed to attract plentiful invertebrates and include native as well as ornamental plants
- Erect sparrow terrace nest boxes under eaves of buildings
- Minimise or stop the use of pesticides in landscape management plans

Top tips for residents

1. Maintain gardens, allotments and communal green spaces in a way that encourages sparrows, leaving hedges or ivy clad walls to grow dense, leaving some wild corners, long grass (perhaps a part or all of the lawn) and wildflower species traditionally considered 'weeds'
2. Plant native and ornamental plants that encourage insects and other invertebrates
3. Plant a native, thorny or dense ornamental hedge to replace or in front of bare walls and fences for suitable shelter and nesting sites. Natives are generally preferable for all-round biodiversity benefits. Favoured ornamental hedging species include Pyracantha, which also produces attractive berries, a food source for many other birds, and Privet.
4. Erect sparrow terrace or multiple swift boxes (Swift boxes can be used by sparrows and Tits as well as Swifts) under the eaves of buildings and houses
5. Minimise or avoid using pesticides and chemicals in the garden and allotments
6. Volunteer in parks, and support or volunteer with local conservation groups and /or lead initiatives for community-led sparrow conservation projects
7. Donate, or if you have the expertise build boxes to give to parks, (parks@ealing.gov.uk), schools or Housing estates

How to guides

Siting and making a house sparrow box (several boxes can be fixed together creating a terrace) house_sparrow_nest_box_plan.pdf (bto.org)

Siting and types of integrated swift boxes (must be installed professionally as part of renovation or new build):

https://cieem.net/wp-content/uploads/2019/06/9.pdf (2019)

Swift bricks - V11.pptx (rspb.org.uk) (2013)

Siting and making a non-integrated swift box DIY Swift Nest Box Design Plans - The RSPB

Planting hedgerows How to make a hedge for wildlife | The Wildlife Trusts

How to manage a hedgerow for wildlife | The Wildlife Trusts

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Skylark *(Alauda arvensis)*

Species description

The Skylark is a medium sized songbird of about 18-19cm length, visually somewhere between the size of a Sparrow and a Starling. Males are slightly larger than females. Both sexes have similar streaky brown and cream plumage, with lighter underparts. The striking feature is a crest on the head which can be raised prominently. The tail has conspicuous white outer feathers. They have a stout bill used for feeding on vegetation, seeds, grain or insects depending on time of year.

Conservation status

- The Skylark is a red listed bird of conservation concern in the UK due to significant declines in its population and range for both breeding and winter visiting populations.
- It is a UK BAP priority species, and is protected under the Wildlife and Countryside Act 1981.

Ecology

Skylarks are a bird of open landscapes and big skies, mainly occurring in open grassland, moorland and coastal dunes as well as in lower densities on agricultural lowlands. Crucially, they prefer occupying large expanses of open habitat devoid of vertical features like trees, hedgerows or man made structures. They like a combination of longer vegetation of between 15-50cm in which to make their nest on the ground, as well as shorter vegetation sward or even bare exposed ground on which to forage for a variety of food.

The Skylark is most famed for its song, which the male performs as a territorial display throughout the breeding season. Ascending to dizzying heights in the sky above his territory, he rolls out a melodious rambling series of notes that can last up to twenty minutes at a time before he drops rapidly to the nest site or ground below. Sometimes they will sing more quietly from a post or the ground.

Because they nest on the ground in a shallow depression or under a tussock of overhanging vegetation they are prone to disturbance or predation. So they have a very fast time to fledging, with chicks leaving the nest approximately 25 days after the first egg is laid. They usually have two clutches each breeding season between April and July, but are capable of up to four broods each year.

Large numbers of Skylark winter in the UK, coming from Scandinavia and Northern Europe so winter flocks into the dozens are not uncommon in suitable habitat, particularly in weedy winter stubble fields on agricultural land.

Distribution

National: A widespread and traditionally common species occurring across most of the UK but has undergone rapid declines since the 1960's due mainly to changes in land use.

London & Ealing:

- In Ealing, a population of Skylarks breeds successfully at Warren Farm. The nearest significant populations outside the Borough are at Richmond Park and Bushy Park in Surrey as well as in Middlesex on agricultural land around Heathrow airport and on Osterley Farm adjoining Warren Farm. This makes Ealing's Skylarks potentially the closest population to central London within the confines of London itself
- Despite several other areas of seemingly suitable open grassland habitat within the borough of Ealing, Skylarks have failed to expand their range beyond Warren Farm. It is thought that this may be due to the likes of Horsenden West and Islip Manor Meadows having too much surrounding tree cover and hedgerows breaking up the expanses of open spaces Skylarks need to feel safe enough to breed.

Factors affecting the species

- Changes in agricultural practices have had the most dramatic impact on the species since intensification started in the 1950s-60s
- The switch from hay to silage based grass systems, more intensive mowing regimes, monoculture cropping, loss of mixed farms providing a mosaic of habitats through the year, and loss of winter stubbles due to autumn sown crops have all reduced suitable habitat on a grand scale nationally
- Use of pesticides and herbicides eliminating invertebrates and weed seeds as important food sources
- Encroachment of scrub and trees into suitable open grassland habitat meaning better opportunities arise for predators such as crows and foxes to predate nests

- In both rural and urban environments, as with any ground nesting bird, disturbance from human activity and dog walking in particular is a very real pressure for Sylark populations
- The mere presence of people and pets near to a Skylark nest can drastically impact successful fledgling rates by preventing incubation of eggs and feeding of chicks

Current Action

National:

- Some countryside and agri-environment schemes target and reward for Skylark habitat management.
- RSPB have produced detailed land management guidelines for encouraging Skylarks to breed and thrive.

London & Ealing:

- Local conservation programmes occur where Skylarks currently breed, mainly focused on public outreach and education where Skylarks are prone to disturbance from human activity and dog walking in particular
- Habitat management on nature reserves such as RSPB Rainham Marshes and at Richmond and Bushy Park by the Royal Parks is vital to maintain the populations clinging on in or near London
- In Ealing, a decision by the council ranger team to discontinue mowing the unused sports grounds and pitches at Warren Farm was made several years ago to allow the ground to go fallow. This would have the dual benefit of benefitting biodiversity as well as making significant cost savings to the tune of approximately £16,000 per year at the time
- The resulting emergence of a rough neutral and acid grassland ecosystem over the coming years brought with it a boom in biodiversity from plants to insects to grassland species such as Skylarks which soon colonised and began to breed
- Because Warren Farm appears to be the only site suitable for Skylarks to breed within the borough of Ealing, any future development or changes of use must take them into account
- It is vital to minimise disturbance to breeding birds as well as avoid or minimise the introduction of vertical structures that may force them to abandon the site due to increased opportunity for predators
- Local residents and action groups have erected signs at Warren Farm to alert the public and dog walkers to the presence of nesting Skylarks and the importance to keep disturbance to a minimum by not venturing off paths

Further information

Skylark Conservation I Advice For Farmers - The RSPB

Best Practice to maintain and create habitat for Skylarks

General guidance for developers, planners, landowners, and managers

- Adopt appropriate grassland management regimes in areas where Skylarks currently breed and may potentially breed in future to maintain open grassland and prevent the encroachment of scrub and trees
- Avoid or minimise the introduction of vertical structures from which predators can observe Skylarks and prey on their nests
- Educate local residents of the potential to disturb Skylarks, other ground nesting birds and meadow biodiversity in general by not sticking to paths or having their dogs run off lead into such habitats
- Any proposed development in areas where Skylarks are known to breed must avoid disturbance during the breeding season and should maintain suitability of habitat for breeding in future
- Create new areas of neutral or acid grassland and meadow habitats on a large scale to encourage new sites for Skylarks to breed
- If large scale building developments are proposed near existing Skylark habitat, consider minimising height of development above the existing topography as well as installation of green roofs to encourage, extend and/or maintain meadow and grassland cover on site
- Limit or abolish the use of pesticides in landscape management plans

Top tips for residents

1. Visitors and dogs should stick to paths to avoid disturbing nesting Skylarks that breed and overwinter at Warren Farm, in particular during breeding season (April – July), but they are vulnerable year-round.
2. Submit sightings of Skylarks to iRecord online or via app, (verified data can be submitted directly to GiGL)

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Barn Owl *(Tyto alba)*

Species description

The Barn Owl is a highly recognisable bird, familiar to many as a ghostly, silent form in flight quartering back and forth over open fields and farmland. Up close the white, heart-shaped face, white underparts and golden or honey brown upperparts are quite distinctive. There is some flecking and grey on the back which is more pronounced in females, who also have slightly more spotting on the breast. Slightly smaller than a Tawny Owl at approximately 33-35cm

Conservation status

- Protected under the Wildlife and Countryside Act 1981 under Schedule 1 and 9
- Being a Schedule 1 species means it is an offence to intentionally kill, injure or take any wild bird or intentionally to destroy its nest, eggs or young
- The Act affords additional and special protection to the Barn Owl which is listed on Schedule 1, making it unlawful to intentionally or recklessly disturb it whilst preparing to nest or is at the nest with eggs or young or to disturb their dependent young. Special licenses can be issued to qualified individuals to do so at nest sites for the purposes of scientific monitoring (e.g. ringing studies) or public safety for example
- Being a Schedule 9 species means it is an offence to release Barn Owls into the wild without a licence

Ecology

Barn Owls are a sedentary species occupying small home ranges of between 3-9km during the breeding season. They rely heavily on tussocky, rough grassland that is only lightly managed, mowed or grazed so that dead vegetation or thatch forms in the base layer closest to the ground. This type of rough grassland supports good numbers of the Barn Owl's main prey species, the Field Vole *(Microtus agrestis)*, along with other small mammals and prey species.

Barn Owls require a relatively large, dry and dark cavity to nest in where they lay between 3-7 eggs. They do not make a nest but lay their eggs on a substrate or regurgitated pellets. They commonly nest near human habitation particularly in agricultural buildings or derelict dwellings near suitable feeding habitat, hence their common name. The destruction of such buildings and modernisation of farm properties has been a factor in their decline due to loss of nest sites. They will also nest in natural tree hollows and cavities, but due to their preference for a relatively large space such cavities are difficult to find especially if very old trees are felled within the local landscape. They adapt very well however to artificial wooden nest boxes and it is thought that about two thirds of nesting barn owls in the UK occupy artificial boxes or sites designed to attract them to nest.

Distribution

National: Widely distributed in lowland Britain (under 300m above sea level) but has suffered widespread declines during the 20th century largely due to changes in agricultural practices, intensity and land management.

London & Ealing:

- In London, a scarce bird mainly occurring on the outskirts or outer boroughs with suitable habitat
- In Ealing, there have been sightings of hunting barn owls on the periphery of the borough on a number of occasions in recent years. For example, at Warren Farm, Horsenden Hill and somewhat surprisingly at Brentham Meadows closer to urban sprawl
- Somewhat regular sightings have occurred in the vicinity of RAF Northolt in the north west of the borough and into the neighbouring borough of Hillingdon around Ten Acre Wood and Gutteridge Wood

Factors affecting the species

- Loss and fragmentation of rough, tussocky grassland that supports field voles and is needed for feeding habitat.
- Loss of nest and roost sites through demolition and conversion of old agricultural buildings/barns and felling of old trees with hollow cavities for safety reasons.
- Secondary rodenticide poisoning
- Road traffic mortality
- Climate change and weather patterns; increasing wet weather at certain times of year not only impacts vole populations but can prohibit successful hunting by adult owls becoming waterlogged in heavy rain

Current Action

National: Regional and local nature reserves habitat management and nestbox provision

London & Ealing:

- In Greater London, some local level barn owl nest box schemes and habitat management to encourage Barn Owls are undertaken by conservation groups or private landowners. Notably on the periphery of Greater London on Wildlife Trust or RSPB reserves (e.g. Rainham Marshes)
- In winter Barn Owls can show up in any suitable habitat to hunt
- In Ealing, a joint project by Ealing Council park rangers and Ealing Wildlife Group called 'Help an Ealing Owl' was launched in 2018, obtaining initial funding from Tesco 'Bags of Help' donation scheme
- The aim was to encourage the Barn Owl as the main target species to breed in Ealing by erecting artificial nest boxes and by changing certain areas of grassland management by the Council to establish rough grassland favoured by field voles
- To date in early 2021 ten Barn Owl boxes have been erected with signs of breeding in one, and confirmed visits by Barn Owls in at least three others, confirmed by camera traps and pellet analysis after box inspections
- The project has also erected a number of nest boxes for Tawny and Little Owls, thus reducing competition for natural nest sites. Local farmers and landowners have also been engaged and allowed nest boxes to be put up on their land or buildings in likely locations that may attract Barn Owls to breed

Further reading

- Conserving the Barn Owl and its environment (barnowltrust.org.uk)
- Barn Owl Conservation | Advice For Farmers - The RSPB

Best Practice to maintain and create habitat for Barn Owls

General guidance for developers, planners, landowners, and managers

- Consider creation of rough grassland habitat with mowing/topping of grass every 3-4 years rather than annually allowing dead grass 'thatch' to accumulate, encouraging field voles and other small mammals
- Erect Barn Owl nest boxes on development sites bordering suitable feeding habitats
- Erecting boxes in locations bordering suitable feeding habitats across the borough for Barn Owl, Little Owl, Tawny Owl and Kestrel boxes will reduce competition for breeding sites
- Minimise or stop the use of pesticides (in particular rodenticides) in landscape management plans

Top tips for residents

1. Volunteer in parks (parks@ealing.gov.uk) and support or volunteer with local conservation groups and initiatives to help enhance our habitats for wildlife
2. Support local conservation projects implementing large scale land management changes for owls and other biodiversity
3. Donate, or if you have the expertise, build a bird box (check with parks@ealing.gov.uk on types of boxes we may need): Nestboxes I Owl Boxes I Kestrel Boxes -The RSPB
4. Minimise disturbance and proximity to owl nest boxes
5. Report sightings of owls to iRecord online or via app, (verified data can be submitted directly to GiGL)
6. Stop or avoid using pesticides (in particular rodenticides) in gardens and allotments

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions I The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Kingfisher *(Alcedo atthis)*

Species description

The Kingfisher is an unmistakable jewel in the crown of UK birds, resplendent in blue/green above depending on the light and orange below with a luminous turquoise flash down the centre of the back. A long dark bill is used for spearing fish and other aquatic creatures as it plunges head first into the water from a perch or hovering position above. The lower mandible of the bill is orange in female birds, distinguishing them from males with a dark upper and lower mandible. Very frequently all that is seen of a Kingfisher is a rapid streak of turquoise whizzing by from a stretch of canal or river bank.

Conservation status

- Kingfishers are listed on the amber list of conservation concern
- They are listed as a Schedule 1 species under the Wildlife and Countryside Act offering them additional protection

Ecology

Kingfishers are found by still or slow moving water such as rivers, canals, lakes and ponds. They most frequently hunt from waterside vegetation or other objects overhanging the water, preying on small fish, tadpoles, newts, dragonfly larvae and other aquatic invertebrates. Highly territorial during the breeding season, a pair will vigorously defend their stretch of waterway but in winter birds move around more. Some birds move downstream to estuaries and the coast, especially in harsh weather as starvation due to freezing conditions and limited access to food is a major cause of winter mortality.

Kingfishers dig a nest tunnel up to a metre in length in vertical bankside locations, protected from predators on the bank above and from the water below. They will sometimes take to artificially constructed nesting banks and tunnels as nest sites if they simulate the characteristics of naturally preferred locations. They can raise up to three broods of 5-7 chicks in a single season, usually constructing a new nest tunnel for each attempt.

Distribution

National: Widespread and relatively common on unpolluted water courses across central and southern England, getting less common further north.

London & Ealing:

- Kingfishers are doing well on the Thames and its tributaries where water quality is good and fish populations are healthy. They breed on several flagship nature reserves across the capital.
- In Ealing, Kingfishers are regularly spotted both on the Brent River and Grand Union Canal. Individuals have been captured and ringed by a local bird ringer at Greenford Island and Elthorne waterside which are both regular locations for sightings
- Because they are a Schedule 1 species it is important to be wary of disclosing breeding locations. There are suitable natural nesting opportunities in the form of vertical earth banks along several stretches of the Brent River Park.

Factors affecting the species

- Water quality has a massive impact on prey species diversity and abundance
- Localised pollution events can have short term catastrophic effects on aquatic life resulting in loss of food supply for breeding Kingfishers tied to the nest site in particular
- Flooding can wipe out nest sites as well as erode the topography and plant life of the river bed and banks, therefore having a detrimental impact on the aquatic food web including fish that Kingfishers need to thrive
- Erosion or destruction of natural banks utilised as nest sites
- Disturbance by human activity and dogs entering the river at key locations
- Predation, in particular by the non native and invasive North American Mink which can scale river banks and access nest sites

Current Action

National: Conservation projects focused on creating Kingfisher nest sites as well as aquatic habitat creation and management schemes occurring regionally and nationally

London & Ealing:

- Nature reserves and conservation groups across London are managing habitats for Kingfishers specifically as well as wider aquatic biodiversity that they rely on

- In some areas artificial kingfisher banks and nest tunnels have been used with a good degree of success to encourage Kingfishers to breed, especially in locations which lack suitable natural features for them to do so (e.g. WWT Wetlands Centre at Barnes, LWT Crane Park Island reserve)
- In Ealing there are collaborative plans in place for the Council ranger team and Ealing Wildlife Group to construct and install a number of artificial Kingfisher banks and nest tunnels to supplement natural nest site availability and engage the community with local nature conservation and the importance of our waterways and aquatic habitats

Further information

Kingfisher Bird Facts | Alcedo Atthis - The RSPB

Best Practice to maintain and create habitat for Kingfishers

General guidance for developers, planners, landowners, and managers

- Limit and prevent pollution of waterways and disturbance of riparian and aquatic habitats
- Undertake relevant tree management in riparian zones to manage overshading and encourage better plant and therefore fish biodiversity within rivers and canals
- Increase the complexity of riverbed topography and slow the flow of our rivers with fallen trees and other flow deflecting features, therefore increasing refuge and spawning sites for fish
- Take care not to disturb Kingfisher breeding sites when carrying out works in breeding season (March – July)

Top tips for residents

1. Report waterway pollution incidents
2. Report any Kingfisher sightings to iRecord online or via app, (verified data can be submitted directly to GiGL)
3. Get involved in local conservation, habitat management and improvement activities in our rivers, canals and freshwater habitats
4. Minimise disturbance to known Kingfisher breeding sites in breeding season (March – July)

Report waterway pollution incidents to:

Environment Agency (EA) - 0800 807060. Give all the details you have. Make sure you ask for a reference number. If calling the EA for an update on a report dial 03708 506 506. Thames Water - 0800 316 9800.

The London Waterkeeper also has useful information: https://www.londonwaterkeeper.org.uk/reportpollution

Peregrine Falcon *(Falco peregrinus)*

Species description

The Peregrine is our largest native breeding falcon, a stocky bird of prey slightly larger than a crow with a wingspan of over a metre in length. Females are larger than males, typical of an evolutionary feature of many birds of prey called niche separation. This allows a pair of birds to hunt prey of varying sizes and take advantage of as wide a variety of prey in the environment as possible.

Adult Peregrine Falcons are blue grey above and white below with fine dark barring on the breast and undercarriage. A distinctive feature is the dark moustachial stripe either side of the beak contrasting with the white throat and cheek region. Juveniles tend to be a bit more brown in colour with heavier streaking in the chest. The feet, fleshy cere around the beak and skin surrounding the dark eyes are bright yellow in adults, blueish grey in juveniles.

Conservation status

- Peregrines are protected under the Wildlife and Countryside Act 1981 under Schedule 1
- Being a Schedule 1 species means it is an offence to intentionally kill, injure or take any wild bird or intentionally to destroy its nest, eggs or young

Ecology

Peregrine Falcons are a real wildlife success story, having come very near extinction globally in the 1950's due to the toxic effects of agricultural chemicals like DDT and dieldrin. These pesticides built up in the food chain having the most concentrated and toxic effects in apex predators such as Peregrines. The consequence of this bioaccumulation of organochlorines in raptors was thinning of the eggshells to the point they broke during incubation or failed to hatch. Peregrines were also heavily persecuted as vermin along with many raptors, and their eggs and chicks were collected for private collections and falconry purposes.

Traditionally a bird of mountain rock faces and cliffside coastal locations, Peregrines have in recent times started to move into more urban landscapes as their global populations have recovered. Tall buildings with many ledges provide a useful substitute for their natural cliff ledge breeding sites. Similarly, feral pigeon populations are reminiscent of the ancestral coastal rock doves that would have made up a large proportion of their diet in more rugged and wild locations.

Peregrine Falcons are an accomplished aerial predator, feeding primarily on other birds caught in flight in a direct chase or an impressive stoop from a great height. Reaching speeds of over 200mph in a hunting stoop, this makes Peregrines the fastest animal on the planet.

They do not make a nest as such, but rather a scrape or depression for 2-4 eggs in loose substrate such as soil or gravel on a sheltered ledge. They adapt well to artificial nest boxes or trays placed on appropriate tall buildings in a suitable north or east facing location. They mate for life but if one dies the other bird will accept a new mate.

Distribution

National: Widespread across the UK in coastal and upland sites, increasingly moving into large cities.

London & Ealing:

- The London population of Peregrines has been expanding steadily over the past 10-15 years with a high density of breeding pairs even in central London. This is due to the abundance of nest sites and feral pigeons as a food source, and the expansion of young birds into unoccupied suitable territories
- Peregrine Falcons have been breeding for several years on the periphery of the borough with a long established pair in Brentford and in recent years another pair is suspected to have bred in Southall too
- In Spring 2020 a new pair appeared and have been roosting ever since on Ealing Hospital
- The female of the pair is ringed and is a 2018 chick ringed at a quarry nest site in Surrey
- Ealing Wildlife Group has installed an artificial nest box on the roof of the hospital in Spring 2021 in the hopes they can be encouraged to breed here in the coming years

Factors affecting the species

- In the past persecution and pesticide bioaccumulation were the main threats, followed by egg collecting and chicks being taken for falconry.
- Persecution and poisoning are still a threat in urban environments where Peregrines have historically been deemed undesirable by some pigeon fanciers for example

- Nest sites are specifically protected under Schedule 1 and can only be examined under licence as they are prone to disturbance. There is still a market for eggs and chicks, so generally it's a good idea not to publicise nest locations
- However in urban environments and on public buildings many conservation groups take the opposite approach and ensure the local community are invested in their local peregrines so they will be afforded more protection through continuous monitoring and observation by interested individuals
- Availability of nest sites is generally good in urban sites with tall buildings but the young are prone to becoming grounded, trapped or injured at the time of fledging unless they have plenty of surrounding buildings with suitable ledges to land on during their first flight attempts
- This must be factored into any decisions to locate artificial nesting trays or boxes on buildings to maximise fledging success and minimise the risk of fledglings becoming grounded, injured or trapped

Current Action

National: Various conservation bodies are campaigning and lobbying to enforce harsher penalties for the large number of peregrine falcon breeding sites being disturbed, destroyed and birds shot or poisoned, specifically around upland grouse moors

London & Ealing:

- A number of individuals and local groups in London are actively installing and monitoring Peregrine Falcon nest boxes, ringing chicks and studying our urban populations
- Ealing Wildlife Group have been in talks with various developers about the presence of falcons roosting or suspected as breeding on certain buildings, reminding them of their legal obligations
- EWG are also working closely with the Ealing Hospital facilities team in hosting the nest box and remote monitoring camera set up on the hospital roof

Further information

- Peregrine Falcon Facts | Falco Peregrinus - The RSPB
- London Peregrine Partnership Homepage (london-peregrine-partnership.org.uk)

Best Practice to create habitat for Peregrine falcons

General guidance for developers, landowners, managers, ecologists and rangers

- Submit Peregrine sightings to iRecord online or app, (verified data can be submitted directly to GiGL) and record active nest sites (residents can do this too)
- Engage with experts/ecologists to assess if your building has potential as a target sites for artificial nest box or tray. The location will need to have suitable nesting ledges or ground, avoid infringing on existing territories, and have plenty of surrounding buildings with suitable ledges for fledglings to fly to during first flights
- If suitable, work with experts/ ecologists to install an artificial nest box or tray on buildings
- If nesting site is active, consider sponsoring installation of a live streaming webcam under license to increase public awareness and engage the community with urban wildlife

Swift *(Apus apus)*

Species description

The Swift is an aerial acrobat and as the name suggests extremely rapid in flight, resembling but not actually closely related to swallows and martins. It has long scythe shaped wings and a short shallow-forked tail, twisting and turning as it darts through the air screaming as it goes; a quintessential sound of summer.They are sooty brown in colour with a pale throat, but in flight appear black especially when flying at great heights as they so often do.

Conservation status

- Swifts have experienced rapid declines in the past two decades and are now on the amber list of conservation concern
- We have lost about half of our swifts in the last 15-20 years with continuing declines of approximately 3% each year

Ecology

No other bird is as tied to the skies as the Swift, which only ever lands to come to the nest site and breed. They eat flying insects, sleep, drink and even mate on the wing travelling up to great heights at night and gliding back down whilst catching sleep. They even collect nest material like feathers and fibres in mid air. If grounded, their legs are too tiny to lift them off the ground or propel them into the air. Instead they are just used to cling onto a nest ledge as they fly in and land before disappearing into the nest chamber.

Swifts are summer migrants arriving in the UK for a few short months from Africa from late April or early May until August. Traditionally breeding on sea cliffs and crags, Swifts have a long history of utilising our buildings as alternatives to natural nest sites. In the urban landscape they nest primarily under the eaves of houses and tall buildings within the roof space or behind fascia boards. As building materials and homes have been modernised and become more sealed, insulated and impenetrable, suitable nest sites have disappeared. Swifts that have nested for generations on certain buildings or streets return from Africa each summer to find their old nest site is no longer there after home renovations took place while they were gone.

Swift nests in a roof space are not a hygiene risk nor do they pose any risk of damage to the building itself. They are extremely faithful to the nest site returning to the exact same position to breed with the same mate each year, and are long lived birds often exceeding 10-12 years in age. If their original nest cavity has been sealed up they will readily take to using a specially designed Swift nest box fitted at the same location. They can also be attracted to new nesting locations by playing recordings of their calls at a busy colony for the period when returning adults are looking for nest sites and when non-breeding birds are prospecting for nest sites for the following season.

Distribution

National: Widespread across the UK but declining locally in many locations

London & Ealing:

- The London picture for Swifts resembles the national one, with the same declines being seen across the region, or perhaps more dramatic with increasing development, pollution and loss of nest sites through ongoing renovation of old buildings
- In Ealing, there are several neighbourhoods or indeed single streets that still support healthy colonies of Swifts and have done so for generations
- However, many of these streets are losing Swifts in numbers year on year due to gradual loss of nest sites to roof renovations and loft extension works
- Pitshanger, Greenford and Northolt appear to be local strongholds but further surveying is needed

Factors affecting the species

- Loss of nest sites in buildings through renovations and roof repairs
- Lack of new sites to build nest through lack of availability of suitable crevices or cavities in new developments
- Pollution and pesticides reducing the flying insects and other aerial invertebrates they need to feed on
- Global warming and other factors which influence conditions and food availability in their African overwintering grounds and on migration routes may also play a role

Current Action

National: No coordinated action nationally although several Swift conservation groups exist to advocate for the species

London & Ealing:

- RSPB Swift officers visit local conservation groups to educate about and advocate for Swifts
- Ealing Wildlife Group and other local environmental groups have tried to raise public awareness but a more coordinated survey and campaign is warranted

Further reading

- Swift Conservation Homepage (swift-conservation.org)
- About the Swift Bird Conservation Project | Help Us Help Swifts - RSPB
- Swift Mapper
- Feature Article: The Swift – A Bird You Need to Help! CIEEM (2019)
- Swift Bricks: The 'Universal' Nest Brick – by Dick Newell | CIEEM (2021)
- Guidance note for provision of swift boxes (including swift bricks) in new development (brighton-hove.gov.uk)

Best Practice to maintain and create habitats for Swifts

General guidance for developers, planners, landowners, and managers

Plan and maintain grounds in a way that encourages flying insects – see Best practice for Pollinators and other invertebrates

- Minimise or stop use of pesticides in landscape management plans
- According to CIEEM proposals, all planning applications for new developments (over 5m) should follow these recommendations:
  - Incorporate Swift nest boxes or bricks into all new suitable developments
  - Use data from mapping tools together with ecological surveying to assess impact of developments on Swifts
  - Implement effective mitigation by installing a suitable number of Swift boxes or bricks in the correct location and position
- Building renovations are an ideal opportunity to incorporate integrated swift bricks
- It is vital that provision of Swift nest bricks or boxes are accompanied by the use of sound lures the start (late April/early May) and end (late July/early August) of the Swift breeding season to attract returning adults and the attention of juvenile and non-breeding birds ahead of their return to Africa.
- More specific information on types of box, bricks as well as siting advice available here:
  - Siting and types of integrated swift boxes: https://cieem.net/wp-content/uploads/2019/06/9.pdf (2019)
  - Swift bricks - V11.pptx (rspb.org.uk) (2013)

Top tips for residents

1. Maintain gardens, allotments and communal green spaces in a way that encourages flying insects – see Best practice for Pollinators and other invertebrates
2. Minimise or stop the use of pesticides and chemicals
3. Record and submit Swift sightings including confirmed breeding sites to iRecord online or via app, (verified data can be submitted directly to GiGL)
4. Erect multiple Swift nest boxes (and encourage your neighbours to do so too) under the eaves of homes and buildings at least 5m above ground, and incorporate swift bricks on new builds or renovations. Integrated bricks must be installed by qualified professional, generally as part of a renovation or new build
5. Play attraction sound lures start (late April/early May) and end (late July/early August) of the Swift breeding season to attract breeding and prospecting Swifts to investigate the boxes
6. Donate, or if you have the expertise build boxes to give to parks, (parks@ealing.gov.uk), schools or Housing estates
7. Advocate for Swifts if you see local roof renovations and loft conversions in your neighbourhood
8. Get in touch with Swift conservation groups if you see development work in an area known to have breeding Swift colonies

How to guides

Siting and types of integrated swift boxes (must be installed professionally as part of renovation or new build):

https://cieem.net/wp-content/uploads/2019/06/9.pdf (2019)

Swift bricks - V11.pptx (rspb.org.uk) (2013)

Siting and making a non-integrated swift box DIY Swift Nest Box Design Plans - The RSPB

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Linnet *(Linaria cannabina)*

Species description

One of our lesser known finch species and smaller than a House Sparrow, Linnets could on first glance be described as your typical LBJ: little brown job. But on closer inspection they have some very attractive markings and colours, especially the males in breeding plumage. Sporting a crimson chest and head patch, chestnut back and grey head the male Linnet is a striking bird in summer. Females, juveniles and non-breeding males are browner and streakier in appearance. All have a longish, forked tail and often flock together in winter with an undulating flight and twittering calls.

Conservation status

- Red Listed species of UK conservation concern
- Protected by The Wildlife and Countryside Act 1981
- UK population is estimated to have declined by 57 per cent between 1970 and 2014

Ecology

Linnets are a bird of farmland, heathland and open grassland wherever there is an abundant, year-round seed supply and dense cover in which to nest during the breeding season. They are a nomadic, flocking species in winter moving in sometimes large numbers together from one area of feeding habitat to another. The adults feed on seeds all year round, being especially fond of fat hen, chickweed and other arable 'weeds'. They will also feed on oilseed rape and bird seed mixes planted especially for attracting finches, typically used in agri-enviroment schemes. They require abundant insects and invertebrates as well as seeds to feed their young. Ideal habitat includes rough field margins and weedy set-aside patches of arable fields bordered by scrub, dense thorny hedgerows or gorse in which to nest.

Distribution

National: Widespread across all counties where suitable habitat occurs, and becoming more common in urban locations

London & Ealing:

- Widespread where suitable habitat occurs, especially on open grassland spaces bordered by scrubby areas. Brownfield sites are important for providing the weed seeds they need.
- In Ealing, suitable patches of habitat exist throughout the borough where open grassland and thorny scrub, bramble or hedgerow exist side by side
- In winter large flocks are sometimes seen especially at sites like Horsenden West and Warren Farm

Factors affecting the species

- Reduction in habitat diversity which reduces suitable nesting sites alongside abundant supplies of small seeds and invertebrates, both required for feeding young
- Increased use of herbicides and pesticides in the environment
- Intensive management of arable land with loss of weedy field margins and dense hedgerows
- Overgrazing of agricultural pastureland or early cutting of pasture for silage and hay
- Reseeding of rough pasture to monoculture high yield grass sward
- Loss of nesting habitat to gorse clearance, scrub removal and frequent hedge trimming or poor hedgerow management
- Lack of food resources in winter to support roaming Linnet flocks

Current Action

National: Regional species action plans, widespread nature reserve management practices and agri-environment schemes that favour small finches

London & Ealing:

- None known in London, apart from general nature reserve management that favours Linnets and other finch species
- In Ealing, a very successful planting scheme was trialled by the Council parks department at Horsenden West, where a bespoke seed mix designed to attract Linnets and other finches was sown.
- The mix containing sunflowers, millet, linseed and other plant species producing oil rich seed and supporting abundant insect life was sown in The Plough field in early 2019.
- Wintering flocks of Linnet in 2019-2020 exceeded 30-40 birds at times on a frequent basis for many months showing that food sowing schemes can have dramatic benefits

Further information

Linnet Conservation I Advice For Farmers - The RSPB

Best Practice to maintain and create habitats for Linnets

General guidance for developers, planners, landowners, and managers

- Maintain and preserve (including hedge-laying mature hedgerow i.e. with top heavy growth and sparse base) existing hedging and hedgerows
- Plant native, thorny and/or dense ornamental hedging in new landscaping schemes and to gap up existing hedgerow. Natives are generally preferable for all-round biodiversity benefits. Favoured ornamental hedging species include Pyracantha, which also produces attractive berries, a food source for many other birds, and Privet.
- Management of hedgerows to include infrequent cutting, ideally on 2-3 yearly rotational cycle at most leaving at least a third of hedgerows uncut each year
- Leave margins or wide strips of unmown grass beside linear features such as fence lines and hedging to encourage invertebrates and native wildflowers
- Planting schemes should include species designed to attract plentiful invertebrates and include native as well as ornamental plants
- Including areas of rough grassland mown or topped on a 2-3 year in landscaping management plans
- Minimise or stop the use of pesticides in landscape management plans

Top tips for residents

1. If you live near favoured habitat for Linnets, i.e. farmland, heathland or open grassland, planting native, thorny and/or dense ornamental hedging will provide shelter. Natives are generally preferable for all-round biodiversity benefits. Favoured ornamental hedging species include Pyracantha, which also produces attractive berries, a food source for many other birds, and Privet.
2. Maintain gardens, allotments and communal green spaces in a way that encourages sparrows, leaving hedges or ivy clad walls to grow dense, leaving some wild corners, long grass (perhaps a part or all of the lawn) and wildflower species traditionally considered 'weeds'
3. Plant native and ornamental plants that encourage insects and other invertebrates
4. Minimise or avoid using pesticides and chemicals in the garden and allotments
5. Volunteer in parks, and support or volunteer with local conservation groups and /or lead initiatives for community-led conservation projects (parks@ealing.gov.uk)
6. Donate, or if you have the expertise build boxes to give to parks, (parks@ealing.gov.uk), schools or Housing estates

How to guides

Planting hedgerows How to make a hedge for wildlife I The Wildlife Trusts

How to manage a hedgerow for wildlife I The Wildlife Trusts

Seed mixes for Linnets

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions I The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Birds			
SAP5	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail. This includes: • Protect Skylark breeding grounds from impact from development at Warren Farm without prejudicing the outcome of the recently commissioned Ealing Sports Facility and Playing Pitch Strategic review (the brief of which acknowledges protection of Skylark habitat at Warren Farm). Due to the understandable sensitivity, a follow up review and action will be addended to the BAP in 2022	Follow up review and action to be addended to the BAP in 2022	EC Planning and other EC directorates Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. In developing LPPGs, strongly recommend mandatory installation of swift bricks in all new developments over 5m, with a recommended provision of two per residential unit along with use of sound lures In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures	2026 2022	EC Planning, Parks, other relevant EC EBPse
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. Collect verifiable ecological data from and support surveys of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres Data from species surveys e.g. from local experts and bird campaigns such as Big Garden Birdwatch, BTO bird monitoring and ringing projects are shared with EC and GIGL Use the Map to monitor and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG.	2023, then ongoing	EC Planning, Parks and other relevant EC GIGL, EBP, volunteers

Species Action Plan for Birds			
SAP5	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs BE7, 8 POS8-15 WW9-11 WD11-13	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including: • Review grassland and verge grounds maintenance to identify opportunities to improve biodiversity minimum 5 hectares of grassland through, including creating suitable and connected habitat, and planting (where appropriate) seed mixes for finches (POS9) • Review all hedgerow (conservation and formal) maintenance to incorporate best practice principles, including cutting regimes and hedge-laying mature hedgerow i.e. with top heavy growth and sparse base (POS10) • Review all shrub planting, pruning and maintenance to incorporate best practice principles (POS11) • Tree and hedgerow planting with target to increase mixed native hedgerow by minimum 3km (POS13) • Where feasible (rangers and partners to scope) and funding available, selective thinning, coppicing or pollarding of trees along riparian habitat to reduce shading & encourage better plant and therefore fish biodiversity (WW9) • Where feasible (rangers and partners to scope) and funding available, re-purposing of selected felled trees for flow diversity projects increasing refuge and spawning sites for fish • Monitor (230) nest boxes, prioritising 30 owls, raptors nest boxes, recruiting volunteers to support monitoring and maintenance (POS15) • Monitor and maintain 4 existing and install 4 new kingfisher nest boxes, including associated earth bank and site line works (WW11) • Where feasible (rangers and partners to scope) and funding available, install additional bird boxes (or trays for Peregrines) for species in the birds (BE10,11)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners
All SAPs BE3, 10, 11 POS17	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP

Species Action Plan for Birds			
SAP5	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • publicise information on the importance of birds to biodiversity, including awareness weeks/campaigns on each species in birds SAP, including educating on not disturbing Skylark nesting areas, and reporting water pollution incidents • disseminating top tips for creating habitats and homes for each species in birds SAP, and supporting community-led, neighbourhood or street-focussed projects for swifts and sparrows • promotion of training and opportunities to participate in species surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners/ managers and community groups • Create and increase range and number of micro-habitats for SAPs (including foraging and nesting sites for birds) in plots and gardens • Share SAP/ wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

3.6 Pollinators and other Invertebrates

Pollinators

Many insects and other invertebrates fall under the category of pollinators, even though we most commonly associate bees and butterflies as the main two groups of species. But wasps, beetles, flies and many other invertebrates play a crucial pollinating role too. It's estimated there are over 1500 key pollinator species in the UK but the number of invertebrates that may contribute to pollinating plants is in the region of 4000 species. All with their own unique needs in terms of habitat and food sources. Pollinators contribute massively to the vitality and health of our natural ecosystems allowing plants to set fruit and seed as well as in production of our food by pollinating fruit and vegetable crops. Occupying the base layers of many food webs, pollinators are also a food source for an abundance of other life and their activities help to preserve plant and animal biodiversity.

According to the DEFRA National Pollinator Strategy, the evidence on population levels and trends in pollinators is patchy but the overall pattern is that many species are in decline. For example, although the status of honeybees, wild bumblebees and butterflies is pretty well known, population data for hoverflies, solitary bees and various flies is lacking. Insect and invertebrates in general appear to be suffering declines for many of the same reasons as the other BAP species mentioned previously, namely:

- habitat loss and fragmentation
- intensification of land use
- use of herbicides, pesticides and other chemicals in the landscape
- disease
- climate change
- competition and/or predation by non-native, invasive species

Species in focus - Bees

Of the UK's 27 native bumblebee species, three are now extinct and another six have undergone a rapid range contraction, only being found in specific areas of the country. Half are in decline. This is largely due to loss of species-rich and flower-rich habitats such as wildflower meadow and unimproved grassland. Climate change may see further changes to our bee populations, abundance, distribution and even species list. For example in recent years records of the impressive Mediterranean species, the Violet Carpenter Bee *(Xylocopa violacea)*, have increased, including recent records in Ealing.

There is good data for honeybees which are on the increase alongside an increase in the number of beekeepers. But honeybees are just one of the approximately 270 species of bees in the UK. Therefore the assumption many hold that beekeeping is a positive action or help for pollinators is arguably shortsighted. In fact the proliferation of domestic honeybees may be a pressure on other pollinators through competition for dwindling food resources on a local level.

250 of our 270 species of bees in the UK are solitary bees, living alone and not in communal colonies as their name suggests. Solitary bees have a huge variety of lifestyles and habitat requirements, many digging nest burrows in sandy ground or earth banks, others in dead plant material or holes in walls and rockwork. Provision of such open sites should therefore be factored into habitat management and conservation project management across the borough.

Species in focus - Butterflies and moths

There is reasonably good data for butterflies and moths, and while many species are in decline in recent decades, others are holding their own or in some cases appear to be on the increase. The picture changes according to geographical location with certain species doing better regionally or in some counties compared to others. Two thirds of our moths and 71% of our butterflies are in decline.

Ealing also has a relatively healthy population of Elm saplings and understory which may be important for the rare White Letter Hairstreak butterfly. The related and also uncommon Brown Hairstreak butterfly has been recorded in suitable habitats in Ealing containing mature Blackthorn, emerging Blackthorn scrub and mature Ash trees such as Horsenden West, where habitat management has been tailored to its conservation in recent times.

Habitats in focus - Wildflower meadows

Ealing manages many of its open green spaces under a High Level Stewardship scheme designed to manage for wildflower biodiversity. These flower-rich meadows are of

enormous benefit to pollinators as well as a host of other biodiversity. Exceptional local wildflower meadow sites in summer include Islip Manor Meadows, Yeading Brook Meadows and Horsenden West.

Habitats in focus - Pictorial meadows

In certain areas of the borough, mainly more urban parks or green spaces, areas are routinely sown with colourful seed mixes including both native and non native annual and perennial flowers. The purpose of these features is threefold

- to benefit pollinators and other biodiversity
- to engage the local community with more nature friendly parks management
- to reduce the resources needed for maintenance of sterile, frequently mown amenity grass monoculture

Current Action

National:

- DEFRA has set out The National Pollinator Strategy, a 10-year plan to help pollinating insects survive and thrive (link in 'Further Reading' below)
- Various nature organisations and national bodies are promoting and advocating for pollinators

London & Ealing

- The Bee Sensory and Behavioral Ecology Lab based at Queen Mary University of London has set up the London Pollinator Project to encourage more pollinator friendly planting across the capital
- Local nature organisations and charities are also promoting and advocating for pollinators
- In Ealing many of the green space management practices already support and protect pollinators
- As discussed in the Parks and Open Spaces HAP, Ealing manages much of its open space for wildflower meadow which has enormous benefit for pollinators
- In 2016 the parks team made a conscious move away from traditional bedding planting borders, frequent mowing of amenity grass and municipal planting schemes to reduce costs associated with intensive management of urban greenspaces
- The resulting benefit to biodiversity including pollinators has been a surprising and remarkably successful outcome

Further information

National Pollinator Strategy 2014 to 2024: implementation - GOV.UK (www.gov.uk)

Butterflies and moths: Home page | Butterfly Conservation (butterfly-conservation.org)

Other Invertebrates

The term invertebrates, by definition animals without a backbone, encompasses a massively diverse array of organisms ranging from microscopic mites to molluscs like snails and slugs, spiders, crustaceans like woodlice as well as the insects of course. Much of the activity and management plans set out under the Habitat Action Plans in this BAP are directly or indirectly aimed at preserving, boosting or expanding the diversity and distribution of invertebrates.

Whatever actions are taken to support and increase invertebrate numbers will have a huge benefit to wider biodiversity. This is because invertebrates form the base layer of most food chains after plants. Essentially they are food for many other species, and in many cases indirectly provide food from plants in the form of fruits and seeds arising from pollination.

For the purposes of this BAP, it's not possible to go into detail on specific actions for all invertebrate groups. Instead we will highlight specific species or groups of species for which certain habitat management benefits them and a range of other species to boot. As outlined above for pollinators and many other priority species, invertebrates in are negatively affected by the same broad biodiversity threats:

- habitat loss and fragmentation
- intensification of land use
- use of herbicides, pesticides and other chemicals in the landscape
- disease
- climate change
- competition and/or predation by non-native, invasive species

Species in focus - Stag Beetles

London and the southeast are a stronghold for this impressive insect, Britain's largest in fact measuring up to 8cm in length. London is thought to hold approximately one third of the UK population, making it nationally significant. And Ealing is one of the key London boroughs where stag beetles appear to be doing better than in others. They have a shiny, chestnut pair of wing cases. In the male a reddish pair of extended mandibles which look like antlers are used for wrestling with other males, giving them their name. Females have shorter, stronger mandibles. In flight they are noisy and somewhat clumsy but cannot be mistaken, sounding almost like a mini helicopter or drone.

The crucial habitat factor for stag beetles is deadwood, which the larvae feed on for up to seven years before emerging as adults for a few short weeks to months to breed. Adults emerge from log piles, old tree stumps and other rotting wood in mid May to late July. Males search for females by scent, and are often visible flying for several hours just before dusk. Eggs are laid underground next to suitable deadwood habitat to continue the life cycle and after mating and egg laying the adults die. Very occasionally adults may hibernate over winter in compost heaps or other rotting vegetation or wood.

Unsurprisingly considering the long life cycle of the larvae, the main factor affecting stag beetle population numbers and distribution is availability of dead wood. Here are the list of factors affecting stag beetles which should inform actions to protect them:

- Lack or loss of deadwood in the environment
- Loss or fragmentation of suitable woodland habitat in urban landscapes
- Tidying of gardens which are a significant habitat resource in urban areas
- Predation by natural predators and cats
- Human impacts include accidental crushing on tarmac and hard warm surfaces to which they are attracted or deliberate crushing of adults due to fear or misunderstanding. Larvae are also frequently destroyed due to mistaking them for garden pests

Further information

Stag beetle facts - People's Trust for Endangered Species (ptes.org)

Species in focus - Dragonflies & Damselflies

Making up the order of flying insects known as Odonata, dragonflies and damselflies are easily recognised and prominent species that can act as a useful indicator species for various aquatic habitats from still ponds and lakes, and wet woodland to running streams or rivers. They are a very charismatic group of insects that capture the public imagination and can be a useful tool for engaging local communities with observing and recording biodiversity in their area.

There are about 30 species of dragonfly and about 20 damselfly species in the UK. Some species are more recently arrived than others expanding their range into more northern zones, perhaps due to global warming.

A species to note in this category is the Willow Emerald Damselfly which has been recorded in various locations in Ealing in recent years.

Factors affecting dragonfly and damselfly populations include:

- Loss and fragmentation of suitable wetland habitats
- Successional change in wetland vegetation leading to loss or overshading of open water
- Pollution of aquatic habitats
- Climate change creating drier conditions, altering water tables or causing flooding
- River and canal 'improvements' creating steep banks and deep, straight watercourses poor in plant diversity and detrimental to riverine species
- Introduction of fish and domestic waterfowl to ponds and lakes which add predation pressure and change habitat structure
- Damage to the bank profiles, underwater vegetation and sediment in freshwater habitats due to dogs in ponds, making it unsuitable for aquatic larvae

Further information

British Dragonfly Society - British Dragonfly Society (british-dragonflies.org.uk)

Best Practice to create habitats for pollinators and other invertebrates

General guidance for developers, planners, landowners, and managers

- Incorporate wildflower meadows, long grass and pollinator friendly ornamental flower and shrub borders in new and existing landscape design and management plans
- Reduce frequency of mowing in grassland management
- Include dead wood piles and features in landscaping design and management plans
- Include ponds and other aquatic habitat features in landscaping design and management plans
- Limit or abolish the use of pesticides and herbicides in landscape management plans

Top tips for residents

1. Transform your lawn into a wildflower meadow. Leave lawns to grow and flower. Cut at the end of summer when the wildflowers have shed their seed and remove the clippings – this helps prevent grass from dominating the wildflowers. Check out some more tips on how to turn grass into species-rich meadows.
2. If you must keep that lawn, why not try:
   - Changing the mower height to higher than your usual setting to allow flowers to produce nectar
   - Leaving a strip, corner or patch to go wild, instead of the whole lawn. This could be a new sown wildflower meadow or leaving the lawn to go wild.
   - Join 'No Mow May' – allow the flowers in the lawn to provide nectar, before you cut again
   - Extend No Mow May into June or longer, or mow less frequently
3. Create a new wildflower meadow from scratch if you don't have a lawn to work with, or you just want to keep your lawn! Seeds can be native or ornamental, as long as the seed mix is designed to attract and sustain our native pollinators
4. Plant pollinator friendly ornamental shrubs and perennials, using predominately native garden plants
5. If you don't have a garden, you can use a window box, pot or planter with plants for pollinators
6. Anyone can 'Adopt a tree pit', like the residents Rewilding Acton. Plant and water a wildflower seed mix or pollinator friendly perennials or annuals at the base of street trees local to you. Encourage your neighbours to join in!
7. Create beetle banks and bare earth mounds in sunny positions for solitary bees and other invertebrates to use as nest sites
8. Erect bee hotels and boxes designed for our native bee species
9. Create fish-free wildlife ponds and container ponds in gardens
10. Create log piles and deadwood features
11. Minimise or avoid using pesticides and chemicals
12. Submit sightings of stag beetles to iRecord (app or online) and People's Trust for Endangered Species.
13. Volunteer in parks (parks@ealing.gov.uk) and support or volunteer with local conservation groups and initiatives to help enhance our habitats for wildlife
14. Try to avoid damage of habitats around ponds and water courses in our green spaces, by both human and domestic animal disturbance. For example, avoid compacting the banks and damaging marginal and aquatic vegetation and keeping dogs from churning up the water in ponds, especially during breeding season, will really help wildlife.

How to guides

Planting and habitat creation for pollinators and other invertebrates

Plant flowers for bees and pollinators | The Wildlife Trusts

Plants for Pollinators advice and downloadable lists / RHS Gardening

Habitat creation and planting for butterflies: Habitat Creation (butterfly-conservation.org)

Making homes for bees and insects:

- How to build a bug mansion | The Wildlife Trusts
- Build a bee hotel | Friends of the Earth
- How to Build a Bug Hotel - Woodland Trust
- How to build a log pile - Stag Beetles (ptes.org)
- How to make a log shelter | The Wildlife Trusts

Pond creation and management: Just Add Water (froglife.org)

Creating a pond | www.gardenorganic.org.uk

Gardening tips to enhance biodiversity for wildlife and methods that minimise the use of pesticides and fertilisers

London Wildlife Trust Wildlife Gardening Pack Wildlife Gardening Pack (gigl.org.uk)

The Wildlife Trust Gardening for wildlife Actions | The Wildlife Trusts

Buglife wildlife friendly garden GardeningLeaflet-CJ-v3.pdf (buglife.org.uk)

Garden Organic: Encourage Biodiversity Garden Organic - POG - Revised Apr 19 - Biodiversity_0.pdf

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Pollinators and other Invertebrates			
SAP6	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures	2026 2022	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support surveys of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Use the Map to monitor and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG.	2023, then ongoing	EC Planning, Parks and other relevant EC GiGL, EBP, volunteers
All SAPs HAPs	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including: Review grassland and verge grounds maintenance to identify opportunities to improve biodiversity of minimum 5 hectares grassland (POS9) Review all shrub planting, pruning and maintenance to incorporate best practice principles with target 0.5 ha gardens improved for pollinators (POS11) Increase habitat piles and deadwood habitat, by leaving standing deadwood, creating dead hedging, log piles, loggeries, woodchip and dead vegetation heaps (POS12)	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners

Species Action Plan for Pollinators and other Invertebrates			
SAP6	**Species Action Plan: Pollinators and other Invertebrates**	**Time target**	**Lead and Partners**
All SAPs BE3, 10, 11 POS17	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • publicise information on the importance of pollinators and other invertebrates to biodiversity, including campaigns on species in focus • disseminating top tips on creating pollinator and invertebrate-friendly spaces • promotion of training and opportunities to participate in species surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners and community groups Create and increase range and number of micro-habitats in plots and gardens for SAPs Share SAP/ wildlife sightings with tenants, encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

3.7 Plants

Ealing's green spaces support a vast diversity of plant species, some of which are relatively scarce or rare nationally and locally. For example, Dyer's Greenweed *(Genista tinctoria)* is a shrubby plant of unimproved meadows which is nationally rare and extremely rare in Greater London. In Ealing it occurs at Horsenden Hill however and management takes its presence into consideration. Other species of note include Wild Service Tree *(Sorbus torminalis)* which occurs in reasonable numbers in the borough, and several species of orchid which occur in various grassland locations including cemeteries and urban parks.

For the interest of the BAP, specific focus is given to two plant species as priority action plan species, our Native Black Poplar (NBP) and Mistletoe. But many of the management goals and targets in the Habitat Action Plans are of benefit to a host of other plant species and maintaining general plant diversity and success.

It is important for biodiversity in general that negative human impact to our flora is discouraged, so sticking to paths in sensitive meadow or woodland habitat is vital for example. Similarly, picking of wildflowers and foraging of wild plants should be done with care not to impact the abundance of plants and digging up bulbs or other wild plants is illegal without permission from the landowner under the Wildlife and Countryside Act (1981).

Native Black Poplar

The Black Poplar *(Populus nigra)* is distributed across Europe and Asia, with the Atlantic race

P. nigra betulifolia occurring in the UK. This race is referred to as 'native' Black Poplar and will be abbreviated to NBP throughout this Species Action Plan.

Species description

A dioecious species, individual NBP trees are either male or female. Male trees can be identified by purple catkins in Spring, whereas females have green catkins and copious seed fluff. Mature trees are truly majestic with side branches arching down often from a leaning trunk. They have rough bark that often bears bosses and the leaves invariably feature galls of the aphid *Pemphigus spirothecae* unlike hybrid black poplars. These galls look almost like knots tied in the leaf stalks. They also have densely clumped, upturned twigs ang again, unlike its hybrids NBP never supports Mistletoe.

Conservation status

- Estimates suggest there are fewer than 7000 mature trees surviving nationally, of which fewer than 600 are females.
- Some estimates put these figures as low as 2500 and 400, respectively
- An aging population, loss of habitat and isolation of female trees preventing seed production means that very little natural regeneration occurs

Ecology

NBP is mainly found in southern Britain and was once an important tree for timber production. Being a tree of floodplains, wet woodland and riparian habitats, land drainage and urbanisation have caused drastic declines. Once mature trees were felled, germination and regeneration of young trees wasn't as prolific in drier habitats. Most existing trees are ones planted in the agricultural landscape, along watercourses, in field boundaries, and as parish markers. Trees were also planted close to villages because of their value for traditional timber uses such as wagon bottoms, fire hearths and brake blocks. Now that these uses have declined, NBP replacement planting has also reduced, resulting in a national scarcity of the species currently.

The native Black Poplar is an important food plant for many invertebrates, including over 35 species of British macro moths, and for a considerable number of micro moths.

Distribution

National: Typically NBP occurs south of a line between the Mersey and Humber, and has a few regional strongholds but many trees especially females are very isolated from others

London & Ealing:

According to GiGL, NBP is thought to be rare in London, and records need to be verified as confusion with other poplar species and hybrids is common. Reports from 21 London boroughs with concentrations along the River Thames and North East of the city. Those boroughs

with black poplar records are Barking and Dagenham, Barnet, Bexley, Bromley, Camden, Croydon, Ealing, Greenwich, Hackney, Havering, Hillingdon, Hounslow, Kensington and Chelsea, Lambeth, Newham, Redbridge, Richmond, Sutton, Tower Hamlets, Waltham Forest and Wandsworth.

It's also notable that most trees, apart from recently planted cuttings, are in excess of 100 years old, and some up to 300 years old. As these trees die, are damaged or felled, natural regeneration will become even more difficult.

In Ealing the ranger team have compiled a list and map of NBP specimens in the borough, the most notable ones as follows:

- Two very attractive specimens at Jubilee Gardens Park, Southall. Pre-date the park
- Old mature specimen, Perivale Lane East. Heavily pollarded
- Large specimen by river at Ealing Golf Course
- Superb mature specimen on the canal bank at Poplar Ave was felled in 2021 after losing a limb. But 8 younger trees (cuttings at this location)
- 17 trees a few decades old at Brentham Meadows. Origin unknown
- Canalside, St Margarets Road, Hanwell. A single specimen now large, grown from a cutting taken c1986 by Peter Edwards from a tree in Brent Lodge Park

Factors affecting the species

- Isolation of remaining trees from each other making reproduction difficult
- An aging population of remaining adult trees which will succumb to natural causes, creating an age disparity in the population compared to younger propagated trees
- An imbalance in the sex ratio with male NBP greatly outnumbering females making sexual reproduction difficult
- Hybridisation with more commercially versatile and fashionable continental Poplar species and their hybrids
- Loss of or drainage of habitat suitable for their relatively exacting germination requirements of short lived seeds, meaning most new stock is now derived from cuttings rather than natural regeneration
- Loss of genetic diversity from sexual reproduction may mean that NBP becomes less resistant to climate change and local environmental or habitat pressures over time

Current Action

National: Various initiatives nationally to map, protect and propagate NBP from local stock

London & Ealing:

- The London Wildlife Trust has grown on some female cuttings from trees on one of their reserves at the Centre for Wildlife Gardening in south London. Some of these have been planted out in the London Borough of Croydon.
- In Ealing, the ranger team and some residents have been propagating cuttings from established trees in recent years. Several young trees have been planted in public spaces too.

Further information

[black-poplar.pdf (sussexwildlifetrust.org.uk)]

Mistletoe

Species description

Mistletoe is an evergreen plant that appears as large 'balls' or spheres within the canopy of other trees. It has a branching structure and long, yellowish green leaves held in pairs, yellowish flowers and waxy, white berries.

Conservation status & distribution

Mistletoe is relatively common in certain parts of the country but thought to have declined nationally, largely due to loss of old apple orchards and changes in landscape management.

In London mistletoe is regarded as scarce, being absent or only known from a few individual plants in many boroughs. In London the plant is mainly found in parks and gardens. Richmond upon Thames is a stronghold with an abundance of plants in Bushy Park and around Hampton Court.

In Ealing, mistletoe is very scarce with only a few known locations of existing plants including Brent Valley golf course, Marnham Field in Greenford, Perivale Park, Cayton Green Park and some private gardens.

Ecology

Mistletoe is an unusual plant with a hemi-parastitic lifestyle meaning it can only grow on other trees but doesn't cause them much harm. It takes fluid and structural support from the host tree but photosynthesises energy itself with its green leaves.

Favoured host tree species in a rough order of preference for mistletoe include Apple, Lime, Hawthorn, Poplar, Field Maple, Crab Apple, Willow and False Acacia. Mistletoe is also host to four species of insects which are wholly dependent on it and the current status of these insects in London is unknown.

Factors affecting the species

- Management of trees, woodland and forestry may be unsympathetic to mistletoe conservation, or even destructive pruning out mistletoe if it is deemed parasitic or harmful to the host trees by the landowner.
- Loss of traditional sites such as ancient orchards
- Overharvesting and theft of mistletoe at unsustainable levels for seasonal Christmas market primarily
- Failure of landscape management plans and tree planting schemes to plant and propagate mistletoe
- Decline of vector species that naturally spread mistletoe seeds such as the Mistle Thrush, a red listed bird of conservation concern

Current Action

National: Various mistletoe conservation projects occur on national, regional and local levels (see further information)

London & Ealing: Mistletoe is included in local action plans in areas where it is thriving (e.g. Richmond BAP). In Ealing, recent efforts in Spring 2021 to spread mistletoe seeds to suitable host trees have been undertaken by the council ranger team, Ealing Wildlife Group, Friends of Horsenden Hill and community orchard group Hanwell and Norwood Green Orchard Trail (HANGOT). An interactive map to document existing plants and monitor newly planted trees has also been produced.

Further information

Mistletoe Conservation – The Mistletoe Pages

Best Practice to protect and increase Native Black Poplars and Mistletoe

General guidance for developers, planners, landowners, and managers

- Factor in and avoid felling or damaging NBP specimens in development proposals, building works, site access placement and ongoing site management plans
- In riverside locations, responsibly source and plant NBP trees drawing attention to residents or development users of their conservation status
- Include mistletoe in tree planting schemes
- Minimise clearance of mature host tree species or individual trees containing mistletoe
- Factor in mistletoe conservation into existing woodland and urban tree management plans

Top tips for residents

- Become a guardian or advocate for a local NBP specimen, monitoring it for any signs of disturbance, threat or damage and educating people in your local area of its importance
- Sow mistletoe berries on suitable old trees in gardens: How to grow your own mistletoe – RHS Gardening / RHS Gardening
- Help map known existing and propagation sites by informing parks@ealing.gov.uk
- Get involved with local community tree, woodland, orchard and other conservation projects propagating, planting and monitoring NBP and mistletoe. Contact parks@ealing.gov.uk

How to guides

Contact parks@ealing.gov.uk if you would like to propagate NBP

How to grow your own mistletoe – RHS Gardening / RHS Gardening

Useful links: wherever 'Best Practice' is referenced in the action plans, you can click on these shortcuts to take you there:

Best Practice: Built Environment, Parks and Open Spaces, Wetlands and Waterways, Woodlands

Best Practice: Reptiles and Amphibians, Bats, Water Voles, Hedgehog, House Sparrow, Skylark, Barn Owl, Kingfisher, Peregrine Falcon, Swift, Linnet, Pollinators and Other Invertebrates, Native Black Poplar and Mistletoe

Species Action Plan for Plants			
SAP7	**Species Action Plan**	**Time target**	**Lead and Partners**
All HAPs All SAPs	SAP species are protected under the Local Plan, council strategies and through the planning process. See BE, POS, WW, WD1 and BE3, POS, WW, WD2 for detail.		EC Planning and other EC directorates EPBse
All SAPs BE2	Review and update the application process and Local Planning Practice Guidance (LPPGs) to reflect and require best practice for biodiversity, as outlined in the BAP, HAPs and SAPs to ensure planners and developers understand and implement appropriate planning conditions and obligations to avoid loss or damage to priority habitats or species, or as last resort to mitigate or compensate for them. • In the interim planners and developers are referred to best practice outlined in the BAP, HAPs and SAPs to ensure they understand and implement appropriate measures, including factoring in: • Avoid felling or damaging NBP specimens • In riverside locations, responsibly source and plant NBP trees drawing attention to residents or development users of their conservation status • Where appropriate, the council will put TPOs on verified NBP trees	2026 2022	EC Planning, Parks, other relevant EC Ealing Biodiversity Partnership - strategic and ecology groups (EBPse)
All SAPs All HAPs	Develop and maintain the Ecological Network Map. Map includes SINCs, ecological data on habitats, species, features, management practices and enhancements. • Collect verifiable ecological data from and support surveys of SAP and other species by EC, experienced volunteers, ecology experts and Local Environmental Record Centres • Use the Map to monitor new and existing locations of NBP and Mistletoe and identify opportunities delivering habitat connectivity, maintenance, restoration and enhancements for SAP species, biodiversity and BNG.	2023, then ongoing	EC Planning, Parks and other relevant EC GiGL, EBP, volunteers
All SAPs POS8	Ongoing review and implementation of habitat maintenance and enhancements where appropriate for SAPs using best practice principles for HAPs and SAPs. Including: Propagating 100 Native Black Poplars and planting with local community projects on an annual basis. Propagation of NBP where possible from local stock to maintain local ecotype and confirm where feasible with genetic analysis Promote and facilitate Mistletoe sessions with local community projects on an annual basis Factor in NBP and Mistletoe conservation into existing woodland, riverside and urban tree management plans	Ongoing	EC Parks, GEL EBPec (ecology and community groups) Relevant partners

Species Action Plan for Plants			
SAP7	**Species Action Plan**	**Time target**	**Lead and Partners**
All SAPs BE3, 10, 11 POS17	Engage with relevant internal Services (Planning, Education, Highways, Housing, Public Health decision-makers) and external agencies and landowners (e.g. Brent Catchment and Crane Valley Partnerships, private landowners, Network Rail, TfL, Golf course managers) to signpost them to the BAP, HAP and SAPs to seek best practice and outcomes for biodiversity.	Initially 2022, then ongoing	EC Parks and other relevant EC EBP
All SAPs All HAPs	Use council and external local community network communications (e.g. Around Ealing, e-bulletins, council and external websites, social media and print) to promote issue, habitat or species-led campaigns, tips, guidance, news, events and activities that encourage positive actions, data collection and submissions, including: • publicise information on the importance of NBP and Mistletoe in the landscape • disseminating top tips • encourage the preservation of NBP specimens by private landowners • promotion of training and opportunities to participate in NBP and Mistletoe propagation and surveys and encourage use of iRecord online /app (i.e. sharing verified data with EC, GiGL)	Ongoing	EC Comms, Parks and other relevant EC EBPec, SRLs, Residents Associations, schools and business networks
All SAPs POS20 BE14	Work with Ealing Allotments Partnership (EAP) to develop guidance for and to encourage wildlife-friendly gardening practices on allotments, grounds and gardens • Guidance available on websites (Act for Ealing, EWG, Parks, EAP, Do Something Good) and other media and disseminated to allotment tenants, residents, landowners and community groups • Create and increase range and number of micro-habitats in plots and gardens for SAPs • Share SAP/ wildlife sightings with tenants, and encourage use of iRecord online /app	2023	EC Comms, Parks EAP EBPec

4. APPENDICES

Ealing Biodiversity Partnership (EBP):

The following community and conservation groups have an interest in the environment, and/ or are involved in parks' projects. We suggest inviting these groups to participate in the EBP with designations for the sub-group that they are most likely to have interest or involvement in.

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Act for Ealing	✓	✓	✓
Acton Gardening Association			✓
Acton Green community herb garden			✓
A Rocha			✓
Artification			✓
Blondin Consortium (social enterprise)			✓
Brent River and Canal Society (BRCS)	✓	✓	
Brent Catchment Partnership (BCP)	✓	✓	

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Canal and River Trust (CRT)	✓	✓	✓
Crane River Partnership (CRP)	✓	✓	
Cultivate London			✓
Ealing Allotment Partnership (EAP) represents the interests of tenants and Allotment managers	✓	✓	✓
Ealing Common Society			✓
Ealing Friends of the Earth	✓	✓	
Ealing's Forgotten Spaces		✓	✓
Ealing and Hounslow Community Voluntary Service			✓
Ealing Parks Foundation	✓		✓

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Ealing Transition	✓		✓
Ealing Wildlife Group (EWG)	✓	✓	✓
Environment Agency (EA)	✓	✓	
Forest school providers: Blue Fox Forest School, Grass Roots Forest School, Forest Buds, Be Wilder Education)			✓
Friends of Friars Gardens			✓
Friends of Haven Green			✓
Friends of Horsenden Hill		✓	✓
Friends of Grand Union Canal			✓
Friends of Islip Manor Park			✓
Friends of Litten Nature Reserve			✓
Friends of Perivale Park			✓

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Froglife		✓	✓
Greenspace Information Greater London (GiGL)	✓	✓	
Good Gym			✓
Green S Welfare Force			✓
Greenwayers			✓
Hammersmith and Community Gardens Association			✓
Hanwell and Norwood Green Orchard Trail (HANGOT)			✓
Hobbayne Charity			✓
Horsenden Farm Community Interest Company (a collective of social enterprises)			✓
Horsenden Grape and Honey Farm			✓
Katherine Buchan Meadows Trust			✓

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Litter Action Group for Ealing Residents (LAGER Can)			✓
London Parks and Greenspace Forum	✓		
London Wildlife Trust (LWT)	✓	✓	
Mind Food			✓
Neighbourly Care			✓
Old Oak and Park Royal Development Corporation	✓		✓
Pitshanger Manor Gallery and Trust			✓
Pitzhanger Community Association			✓
Rewilding Acton			✓
Selbourne Society	✓	✓	✓
Southall Orchard Project			✓

Community and Conservation Groups			
Group name	**Strategy**	**Ecology**	**Community**
Southall Transition			✓
Thames 21 (T21)	✓	✓	✓
The Conservation Volunteers (TCV)		✓	✓
Trees for Cities			✓

Other:

Operators in parks (e.g. childrens centres, sports providers, cafes)			✓
Residents' Associations			✓
Education groups: Schools, colleges, Capel Manor, scouts, guides etc.			✓

Further Reading

Biodiversity and social benefits:

Nature and mental health: An ecosystem service perspective. Bratman et al. Science Advances 2019; 5:eaax0903

Psychological benefits of greenspace increase with biodiversity. Fuller et al. 2007 https://doi.org/10.1098/rsbl.2007.0149

Evidence Statement on the links between natural environments and human health. DEFRA 2017 https://beyondgreenspace.files.wordpress.com/2017/03/evidence-statement-on-the-links-between-natural-environments-and-human-health1.pdf

The Natural England study 'Links between natural environments and learning: evidence briefing', July 2016 EIN017_edition_1.pdf

Wendy Thompson, Children and the natural environment: experiences, influences and interventions Natural England, 2011 NERR040 edition 1.pdf

Biodiversity and Economics

Millenium Ecosystem Assessment, Ecosystems and Human Well-Being (World Resources Institute, 2005).

LinkClick.aspx (unep-wcmc.org) UK National Ecosystem Assessment Follow-on Work Package Report 3: Economic value of ecosystem services. Ian J. Bateman and Brett H. Day et al.]

The natural choice: securing the value of nature - GOV.UK (www.gov.uk) 2011

Key information on Nature and Conservation in the Environment Bill: 10 March 2020: Nature and conservation covenants (parts 6 and 7) - GOV.UK (www.gov.uk)]

Policy

Nature Recovery Network - GOV.UK (www.gov.uk)

Biodiversity-Net-Gain-Principles.pdf (cieem.net) 2016

Urban Greening for Biodiversity Net Gain: A Design Guide | London City Hall 2021

Climate and ecological emergency strategy | Ealing Council

Brent Catchment River Improvement Plan (thames21.org.uk)

Caring for our environment | Canal & River Trust (canalrivertrust.org.uk)

content.tfl.gov.uk/lu-biodiversity-action-plan.pdf

Other

Managing our green infrastructure - Transport for London (tfl.gov.uk)

Sustainability - Network Rail

'Nature Conservation in Ealing' The London Ecology Unit 1991

SINC SPACES WILD: championing the values of London's wildlife sites London Wildlife Trust 2015 spaces-wild-london-wildlife-trust-oct2015.pdf (live-twt-d8-london.pantheonsite.io)

7111_FC_Urban_Tree_Manual_V15.pdf (forestresearch.gov.uk)

londonurbanforestplan_final.pdf Nov 2020

create-and-manage-reedbeds-2.pdf (sussexwildlifetrust.org.uk) 2013

Microsoft Word - Reedbed management IA NoteV7 (rspb.org.uk)

How to manage a woodland for wildlife | The Wildlife Trusts

Swift Bricks: The 'Universal' Nest Brick – by Dick Newell 26th July 2021 Swift Bricks: The 'Universal' Nest Brick – by Dick Newell | CIEEM

References

Ealing Council, 2018. Population and Households. Available at https://www.ealing.gov.uk/info/201048/ealing_facts_and_figures/2184/population_and_households/1 (Accessed July 2021), s.l.: s.n.

Ealing's Local Strategic Partnership, 2021. Ealing Data. Available from https://data.ealing.gov.uk/population/ (accessed July 2021), London: s.n.

Ealing's Local Strategic Partnership, 2020. Ealing Health and Social Care Data, available from: https://data.ealing.gov.uk/health-and-social-care/ (Accessed July 2021), London: Ealing Council.

Greater London Authority, 2017. Natural Capital Accounts For Public Green Space In London. Available from: https://www.london.gov.uk/sites/default/files/11015viv_natural_capital_account_for_london_v7_full_vis.pdf (Accessed July 2021), London: Greater London Authority.

Greenspace Information for Greater London CIC on behalf of LB EAling, May 2017. Summary of open space data by land use in LB Ealing, s.l.: s.n.

Hayhow DB, e. a., 2019. The State of Nature, s.l.: The State of Nature partnership..

J Hughes, M. R. R. L., Sept 2018. Evaluating connection to nature and the relationship with conservation behaviour in children. Journal for Nature Conservation vol 45, pp. 11-19.

Lawton, J. e. a., 2010. Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network, s.l.: Report to Defra..

London Green Spaces Commission, 2020. London Green Spaces Commission Report, London: Greater London Authority.

Network, N. B., 2019. The State of Nature 2019, s.l.: National Biodiversity Network Trust.

Richardson, M., 2016. Nature: A New Paradigm for Workplace Wellbeing. Available at: https://findingnature.org.uk/2016/03/23/nature-a-new-paradigm-for-workplace-wellbeing/ (accessed July 2021), s.l.: s.n.

Sheldrake, R. ,. A. R. ,. R. M. J., 2019. Children and Nature: A research evaluation for The Wildlife Trusts, s.l.: The Wildlife Trusts.

The National Lottery Heritage Fund, 2020. Space to Thrive report. Available at https://www.heritagefund.org.uk/publications/space-thrive (Accessed July 2021), Londonm: The National Lottery Heritage Fund.

Trees for Cities, 2018. Valuing Ealign's Urban Trees - Ealing iTree Technical Report, s.l.: s.n.

Watson, R. a. A. S., 2011. The UK National Ecosystem Assessment: Synthesis of the Key Findings (Available from http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=wiVYSZoHmBQ%3d&tabid=82) (Accessed July 2021), Cambridge: UNEP-WCMC.

Wooley, H. P. L. S.-W. A., 2009. Children and the natural environment: experiences, influences and interventions - Summary, s.l.: Natural England Research Reports, Number 040.

www.gov.uk, 2012. National Planning Policy Framework - policy 13 Protecting Green Belt Land, s.l.: s.n.

www.wildlifetrusts.org, 2020. The Woodland Trust, s.l.: s.n.

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www.ealing.gov.uk

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