

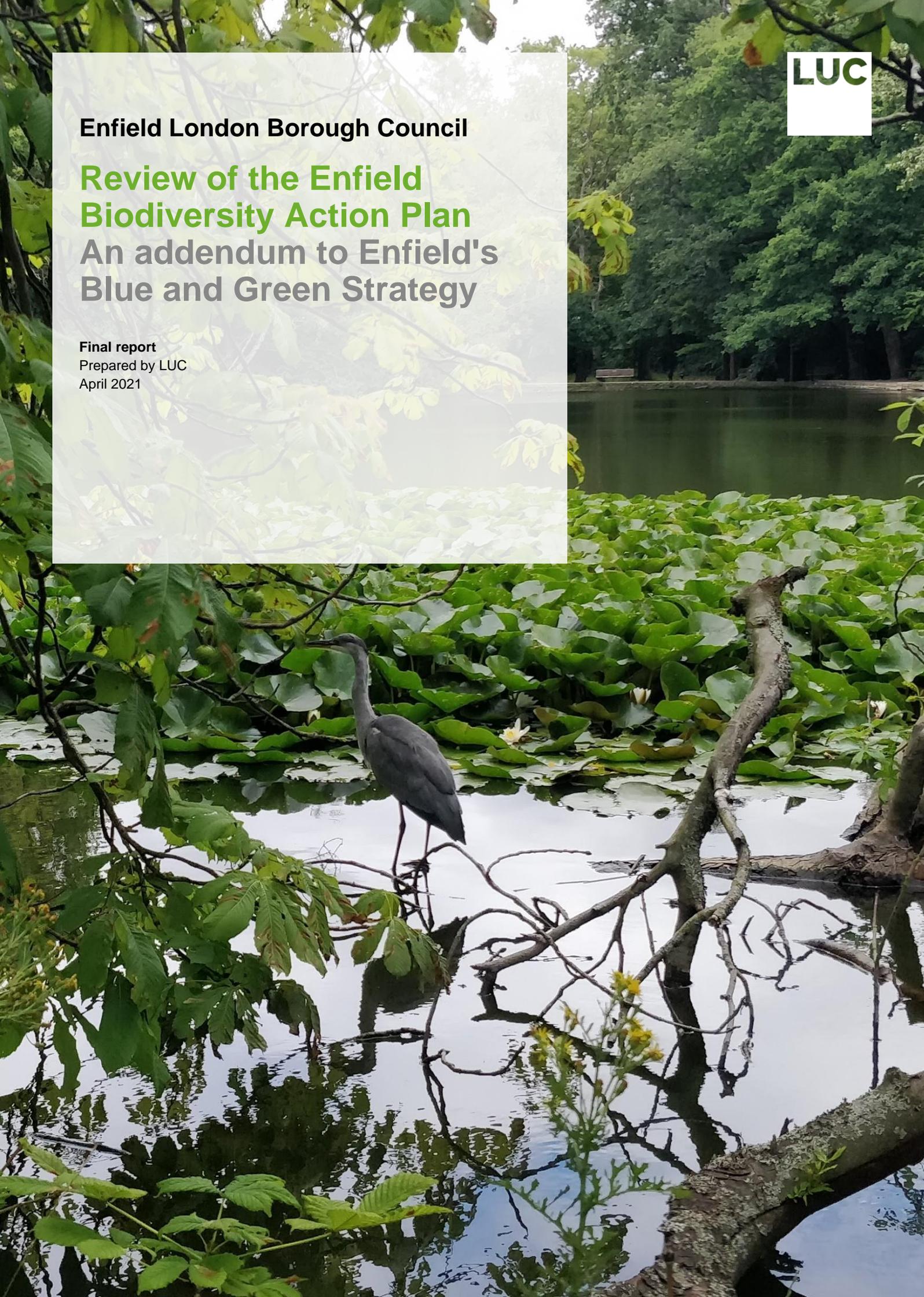
Enfield London Borough Council

**Review of the Enfield
Biodiversity Action Plan**
An addendum to Enfield's
Blue and Green Strategy

Final report

Prepared by LUC

April 2021



Enfield London Borough Council

Review of the Enfield Biodiversity Action Plan

An addendum to Enfield's Blue and Green Strategy

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Contents

Chapter 1		Chapter 6	
Introduction	1	Review of Enfield BAP Objectives	34
Nature for People: A Biodiversity Action Plan for Enfield	1	Objective 1: To review our LWS SINC regularly and designate and re-designate sites as appropriate	34
Aims of the BAP Review	2	Objective 2: To implement ecological management plans for all council- managed SINC LWS by 2015 , and to encourage other SINC landowners managers to implement management plans on sites not council- managed by the Council to ensure the entire network meets and maintains the designation standard by 2025	35
Cross-Compatible Studies	2	Objective 3: To deliver Enfield's share of the London priority habitat targets	36
Chapter 2	4	Objective 4: To identify all sites suitable for inclusion for payment through Higher Level Stewardship agri-environment, land management and the England woodland grant schemes, and bring these sites into management under these schemes where appropriate	37
Framework for Action	4	Objective 5: To identify projects and seek external funding, and partnership working for biodiversity projects	37
Trajectory of the BAP	4	Objective 6: To increase the number of green flag sites and write and implement ecological management plans for all green flag sites and major publicly accessible parks	38
A Network-Led Approach to Nature Recovery	4	Objective 7: To take a coordinated approach to the protection and management and planting of trees in Enfield	38
Communities, Health and Wellbeing	5	Objective 8: To manage the highway and housing soft estates to maximise its their biodiversity value	39
Chapter 3	6	Objective 9: To ensure that new developments result in a net biodiversity gain	40
Method	6	Objective 10: To screen all planning applications for the need for an ecological assessment, not determining them until the likely ecological impact has been fully understood	40
Legal and Policy Review	6	Objective 11: To explore opportunities for funding biodiversity and green infrastructure projects through developer contributions	41
Data Gathering & Analysis	6	Objective 12: To ensure that policies and plans refer to biodiversity conservation and the BAP where appropriate	42
Consultation	7	Objective 13: To raise awareness of the value of biodiversity for the natural services it provides and to ensure that biodiversity is given the appropriate weight when decisions are made	44
Review BAP Objectives	7	Objective 14: To ensure that all partners are aware of and fulfil their legislative duties in respect to biodiversity (such as ensuring that development proposals do not adversely impact upon protected species and habitats)	45
Chapter 4	8		
Legal & Policy Context	8		
2006 Natural Environment & Rural Communities (NERC) Act (as amended)	8		
1981 Wildlife & Countryside Act (as amended)	8		
DEFRA's 25 Year Environment Plan 2018	8		
Environment Bill	9		
National Planning Policy Framework (NPPF) 2019	9		
Planning Practice Guidance (PPG): Natural Environment 2016	9		
Protection of European Designated Sites	10		
London Plan	10		
Chapter 5	12		
Functional Networks in Enfield	12		
Statutory Designations	12		
SINC Network	13		
Wildlife Corridor Network	18		
Wider Habitat Network	18		

Contents

Objective 15: To produce and deliver a blue and green infrastructure plan, consolidating these elements in existing policies and plans	45
Objective 16: To raise awareness of the links between climate change and biodiversity and ensure that biodiversity is referred to in climate change policies and plans	45
Objective 17: To reduce the area of deficiency in access to nature (as defined in the London Plan) and to semi-natural greenspaces	46
Objective 18: To ensure that Local Area Action Plans and local strategic partnership frameworks-working are informed by up to date ecological information, opportunities for habitat creation, the potential to enhance and create GI and priorities set out in the Enfield BAP	46
Objective 19: To ensure that all place-shaping and other masterplan documents have a strong focus on biodiversity enhancements and accommodate biodiversity net gain from inception	46
Objective 20: To ensure that our parks and open spaces are accessible by the public	47
Objective 21: To facilitate access to nature through encouraging voluntary, community and educational activities which take people to natural places	47
Objective 22: To support educational activities that encourage students to understand and access nature	47
Objective 23: To maintain and develop establish partnerships with the region's higher and further educational institutions to involve students in biodiversity projects	48
Objective 24: To control invasive species where practicable and to take a coordinated partnership led approach to their management	48
Objective 25: To undertake partnership projects with other boroughs to enhance biodiversity and ensure that BAPs are coordinated	48
Objective 26: To facilitate collation of ecological records held by partners and the public and encourage them to pass on this information to London's Environmental Records Centre	48
Objective 27: To pass on ecological records submitted with planning applications to London's Environmental Records Centre	49
Summary	49

Chapter 7

Glossary

51

Executive Summary

Biodiversity refers to the range of life supported by our planet, including all flora (plants) and fauna (animals). Within Enfield the terms biodiversity refers not only to the more wild spaces or ancient woodlands but the semi-natural green spaces and green features within urban areas – from street trees, pocket parks, to rain gardens.

The [Enfield Biodiversity Action Plan \(BAP\) 'Nature for People: A Biodiversity Action Plan for Enfield'](#) was adopted in 2011 with the overarching aim to ensure the conservation and enhancement of biodiversity was fully integrated to the activities of Enfield London Borough Council and other BAP partners to promote recognition of the value of biodiversity and the services it provides, and to promote equitable access to nature. This overarching aim is supported by 27 objectives to enable delivery. The 2011 BAP set out the conservation priorities for the borough as a series of habitat and species action plans.

Whilst the UK BAP has been superseded, local BAPs remain relevant, providing a framework for objectives and actions to be set, shared and monitored. This review aims to ensure the objectives of the BAP remain up to date in light of current legislation, policy and current baseline conditions. It highlights progress made since the 2011 publication. It provides recommendations to ensure the objectives remain current in achieving a thriving biodiversity that is accessible to the local community and that supports the delivery of current London-wide commitments.

The description of current baseline conditions includes pertinent information from cross-compatible studies, such as the Review of Sites of Nature Conservation Importance (SINC) and studies relating to the identification and protection of blue and green infrastructure. It also recognises the delivery projects which the council has recently completed or has underway.

The 27 objectives of the BAP have been reviewed. For each, progress achieved since publication of the 2011 BAP are highlighted and, where appropriate, recommendations are made to complete delivery of current legislation and policy. All additional requirements of legislation and policy are addressed within, or by recommended extension of or refinement to, the existing objectives.

The findings of the review are summarised as follows:

- All 27 objectives remain relevant, although amendments of the wording are recommended for 11, and objective 27 has been amalgamated with objective 26. The scope has been extended for all to ensure the wording of each fully reflects current need;
 - Objective 15, which requires the creation of a green infrastructure plan, is recorded as complete. This is delivered in the Blue and Green Strategy and will continue to evolve under its own objectives and review process.
 - All other objectives remain relevant and continue to direct the implementation of the BAP, and its integration with parallel workstreams and recognised partners.
 - It is recommended that review of the BAP is revisited in 2022 to capture the progress in matters such as implementation of biodiversity net gain and the biodiversity credit system, and any changes to legislation and policy as a result of Britain's departure from the European Union.
- Key recommendations are summarised as follows:
- **Expertise:** Consolidate knowledge of current delivery of action on biodiversity, which is currently shared across several council departments. Clear definition of the role to oversee future action on biodiversity and nature recovery (including delivery and monitoring of BNG through planning requirements) to promote biodiversity as a key component within the multifunctional Blue and Green Strategy and to lead communication with other boroughs and partner bodies to support delivery of a future cross-boundary local nature recovery strategy (LNRS).
 - **Transparent data sharing:** Establish a register (held, for example, on the council's GIS open asset database) of SINC sites to record land ownership and implementation of ecological management. Expand the register to include major publicly accessible park sites, and the proposed wetland and woodland identified in the Blue and Green Strategy. Establish a data-sharing agreement with Greenspace Information for Greater London (GIGL) to access data ranging from local species records to future London-wide network mapping, that can further in from decision-making.
 - **Biodiversity net gain:** Recognise emerging national standards for BNG, including a minimum 10% target and 30 year legacy, determined by the DEFRA metric. Supporting BNG within urban areas, policy should also recognise emerging London-wide standards through the urban greening factor. Establish cross-departmental engagement to ensure early consideration of, and strong focus on, biodiversity and BNG in place-shaping and masterplanning. Identification of areas to accommodate strategic delivery of BNG to support locally-appropriate off-site gain where on-site gain cannot be fully met, sufficient to deliver through the lifetime of the Local Plan.
 - **Network-led approach:** Continue the network-led nature conservation efforts set out for the borough, as is currently underway in the catchment-led approach to management of river and watercourses, and the

Executive Summary

strategic approach to woodland planting. Align with the future LNRS process, through partners such as Natural England, the Environment Agency, other London boroughs, GIGL, Thames21 and the London Wildlife Trust.

Chapter 1

Introduction

1.1 The [Enfield Biodiversity Action Plan \(BAP\) 'Nature for People: A Biodiversity Action Plan for Enfield'](#) was adopted in 2011. This document sets out the review commissioned to ensure this remains up to date in light of current legislation and policy, to determine progress made against the objectives originally set in 2011, and to ensure these continue to deliver thriving biodiversity that is accessible to the local community.

1.2 This review is written to form an addendum to Enfield's Blue and Green Strategy.

Nature for People: A Biodiversity Action Plan for Enfield

1.3 The 2011 BAP sets out the aims and objectives for the conservation and enhancement of biodiversity across Enfield. To ensure Enfield council gives biodiversity due consideration across all fields of its work, the BAP may be seen as a tool to guide the decision-making process.

1.4 The overarching aim of the 2011 BAP is to:

“Ensure that the conservation and enhancement of biodiversity is integral to the actions of BAP partners, organisations and individuals; to promote the recognition of the value of biodiversity, both in its own right and for the natural services it provides to all of the borough's residents, both current and future; and to promote equitable access to nature.”

1.5 The aim of the 2011 BAP is underpinned by 27 objectives and for each objective, actions are identified to ensure its delivery.

1.6 As legislation and national policy have evolved, the UK and London BAPs are no longer pursued directly. However, local BAPs remain relevant as a mechanism to translate and deliver regional commitments at the local level (see **Chapter 2: 'Trajectory of the BAP'**). Review of the Enfield BAP is therefore required, not only to determine progress made against the objectives originally set, but to ensure the objectives remain current, delivering thriving biodiversity that is accessible to the local community and that supports the delivery of current London-wide¹ commitments.

¹ [https://www.gigl.org.uk/londons-biodiversity-action-plan/#:-:text=London%E2%80%99s%20Biodiversity%20Action%20Plan%20In%](https://www.gigl.org.uk/londons-biodiversity-action-plan/#:-:text=London%E2%80%99s%20Biodiversity%20Action%20Plan%20In%201992%2C%20the%20UK,to%20be%20delivered%20by%20key%20partners%20in%20London)

[201992%2C%20the%20UK,to%20be%20delivered%20by%20key%20partners%20in%20London](https://www.gigl.org.uk/londons-biodiversity-action-plan/#:-:text=London%E2%80%99s%20Biodiversity%20Action%20Plan%20In%201992%2C%20the%20UK,to%20be%20delivered%20by%20key%20partners%20in%20London)

1.7 In July 2019, Enfield London Borough Council ('the council') declared a climate emergency. The role of biodiversity assets in raising resilience to the effects of climate change is well documented, ranging from regulation of flooding to sequestration of carbon and urban cooling. In parallel, the rapid reduction of biodiversity globally and habitat loss more locally, puts pressure on the healthy function of our flora and fauna as documented in the national State of Nature Reports². The need to value and support biodiversity remains ever relevant.

1.8 Improving Enfield's biodiversity will not only have environmental benefits, but also play a role in the delivery of healthy and cohesive communities. Recognition of 'access to nature' as a tool for enhancing mental and physical well-being has been reiterated by the covid-19 pandemic. Within Enfield, it is estimated that one in five adults and one in ten young people suffer from a mental health disorder. Furthermore, two thirds of adults and a quarter of 4 to 5 year olds are considered to be overweight³.

1.9 It is recommended that action to deliver thriving biodiversity in Enfield now recognises the following principal needs:

- To deliver thriving biodiversity which supports both the existing population and future community in the long-term.
- To deliver nature recovery which not only supports biodiversity but optimises wider environmental benefits such as flood alleviation, air and water quality, and carbon sequestration.
- To contribute to a cross-boundary nature recovery network, through constructive partnership working.
- To utilise nature as a tool for improving mental and physical well-being through social engagement, providing space for relaxation, enhancing air and water quality and providing opportunities for physical exercise.

Aims of the BAP Review

1.10 A review of the 2011 BAP has been commissioned to ensure that the local conservation priorities used to ensure the Blue and Green Strategy and Local Plan documents, reflect current conditions and future aspirations appropriately.

1.11 The aims of this review are to:

- identify relevant legislation and policy which has emerged since the original publication of the BAP;
- concisely update the baseline description of local conservation priorities within Enfield to reflect current conditions;
- consider the emerging findings of cross-compatible studies (including the Review of Sites of Importance to Nature Conservation (SINC) and the Blue and Green Strategy) where relevant to the objectives of the BAP;
- concisely review progress against the 2011 BAP objectives, as has been delivered through the tasks and parallel studies listed above;
- where appropriate, provide recommendation/s to complete or update each objective in line with current legislation, policy or best practice; and
- signpost between relevant strategies and guidance documents to aid understanding, and support delivery, of the BAP in line with national aspirations for nature recovery.

Cross-Compatible Studies

1.12 This BAP review progresses in parallel with four cross-compatible studies. Each is summarised below.

Review of Enfield's Sites of Importance for Nature Conservation

Assessment of the condition and status of the borough's SINC network was completed in 2020⁴ to build on the recommendations of the preceding 2012 review⁵.

1.13 A total of 41 sites were assessed. This information is considered further under **Chapter 5: 'SINC Network'**.

Enfield Blue and Green Infrastructure Audit

The BGI audit⁶ provides up to date evidence of informal open space and play across Enfield, considering the quantity, quality and accessibility of facilities needed to serve the current and future population.

1.14 The study identifies deficits and surpluses and seeks to set appropriate local standards to inform local planning policy and developer contributions.

² Available from <https://nbn.org.uk/stateofnature2019/reports/>

³ Statistics taken from Enfield's Blue & Green e Strategy

⁴ LUC (2020) Review of Sites of Nature Conservation Importance

⁵ Enfield London Borough Council (2012) Review of Enfield's Sites of Local and Borough Importance for Nature Conservation

⁶ LUC (2020) Enfield Blue & Green Infrastructure Audit Report

1.15 Of particular note are the open space surveys, which identified land outside the existing SINC network that warrants consideration for potential future SINC designation. This data is explored further under **Chapter 5: 'Identification of Additional SINC'** of the BAP review.

Enfield Blue and Green Strategy

1.16 The strategy sets out how the borough's parks, trees, open spaces, routes and watercourses will be protected and enhanced in the period to 2031.

1.17 The overarching vision of the strategy is that *"By 2031, Enfield will be London's greenest borough, forming the cornerstone of London's national park"*. Seven aims capture the multifunctionality of the borough's BGI, and each is supported by a number of objectives and actions. Those of particular relevance to the Enfield BAP are considered overleaf (**Chapter 6: 'Review of Enfield BAP Objectives'**).

Chapter 2

Framework for Action

Trajectory of the BAP

2.1 The UK BAP was created in response to the 1992 Rio Convention, setting out our commitment to conservation of habitats and species with supporting actions. Our national commitment was further formalised in legislation in the Natural Environment & Rural Communities Act (NERC) 2006. The NERC Act (habitats and species listed as conservation priorities in section 41) informs much of local government conservation action today. Whilst the UK BAP has been superseded, local BAPs remain relevant, providing a framework for objectives and actions to be set, shared and monitored. BAPs recognise the variability of ecological character, the need for local community engagement with nature, and the benefits that an ecosystem provides (particularly in relation to climate change).

2.2 Published in 2011, the purpose of the Enfield BAP was to inform the process of strategic land use planning, through to delivery of conservation projects ‘on the ground’ and on-going monitoring of progress against its 27 objectives. *“The Enfield BAP is an important source of information for key stakeholders and decision makers including land managers, developers, planners and others”* (2011 BAP).

A Network-Led Approach to Nature Recovery

2.3 DEFRA’s 25 Year Environment Plan (25YEP) envisages a national ‘Nature Strategy’ and Natural England-led ‘Nature Recovery Network’, which will set the trajectory for nature conservation and recovery actions over the next ten years. The network will be delivered through Local Nature Recovery Strategies (LNRS), delivered through Local Nature Partnership working at the sub-regional scale. Recommendations are provided to bring the Enfield BAP into line with this national vocabulary and to support progress toward a future LNRS. The 25YEP is discussed further in **Chapter 4: ‘Legal & Policy Context’**.

2.4 An important aspect of LNRS is to deliver interventions that optimise benefits to biodiversity, alongside those of the wider environment, such as air and water quality, flood alleviation and carbon sequestration.

2.5 This review of the Enfield BAP takes a network-led approach to understanding, and delivering enhancement of, biodiversity. This approach is intended to align with the future

LNRS process and, in due course, support delivery of a holistic approach to nature conservation efforts across boroughs. The BAP can inform interventions that are locally appropriate in nature, location and extent (i.e. to achieve net gain for both the existing and future populations of Enfield).

Communities, Health and Wellbeing

2.6 Enfield is one of the 20% most deprived boroughs in England and the 9th most deprived in London⁷. There is a marked east-west differentiation, with eastern and southern wards experiencing the highest percentages of household poverty; a pattern mirrored in the wider health and well-being indices of the borough.

2.7 Access to nature and interactions with biodiversity are recognised as tools to enhance physical and mental well-being of a community. This is achieved through a range of benefits or 'ecosystem services':

- encouraging social interactions;
- improving community cohesion;
- enhancing air and water quality;
- providing space for physical exercise;
- acting as an education asset; and
- providing space for relaxation and quiet contemplation.

⁷ Enfield London Borough Council (2020) All Things Being Equal: The final report and recommendations of the Enfield Poverty and Inequality Commission (EPIC).

Chapter 3

Method

Legal and Policy Review

3.1 Review of legislation and of national, London-wide and local policy was carried out to provide clear understanding of the requirements and aspirations for biodiversity and for nature recovery in Enfield.

Data Gathering & Analysis

3.2 The biodiversity of Enfield is described in terms of the networks of statutory designations, the SINC and the notable and priority habitats which extend more widely across and beyond the borough and indeed support an important proportion of the flora and fauna.

3.3 This desk-based analysis included information of both existing habitats and future opportunity mapping, where available. Data included publicly available information from Natural England, the Environment Agency, the ancient woodland and national forest inventories, from the Royal Society for the Protection of Birds (RSPB), as well as council-owned data on SINC boundaries, historic borough-wide ecological network mapping and highways soft landscape estate. At this stage, it was not possible to include local species and habitat records other than those provided by Enfield London Borough Council⁸.

3.4 The priority features, weaknesses, challenges and opportunities are described, referencing the emerging recommendations that have been identified through the cross-compatible studies summarised in **Chapter 1**.

3.5 Opportunity mapping sought to recognise cross-boundary networks through use of:

- national network mapping – Buglife B-Lines, Natural England restoration and enhancement foci based on priority habitats and Environment Agency WWNP⁹ watercourse and catchment potential mapping;
- city-wide data – GIGL BAP Habitat Opportunity Mapping¹⁰); and

⁸ When, in due course, full data collation is pursued to inform future update of the review, records sources, whilst centralised through Greenspace Information for Greater London (GIGL) may also include local nature conservation organisations such as the Lea Valley Regional Park, Herts and Middx Wildlife Trust, Herts and Middx Butterfly Conservation, London Natural History Society,

London Wildlife Trust, the British Botanical Society, Herts and Middx Bat Group, RSPB and BTO

⁹ <https://data.gov.uk/dataset/11873c69-d971-44ce-a648-872da9be847f/wwnp-floodplain-reconnection-potential>

¹⁰ <https://www.gigl.org.uk/habitat-data/bap-habitat-suitability-data/>

- borough-specific data – proposed tree planting, reinstatement of naturalised watercourse profile/s and raingardens.

Consultation

3.6 Consultation to confirm the baseline conditions and current foci for action was carried out with members of the council team in Autumn 2020.

3.7 The Enfield BAP Partnership was established to support the 2011 BAP, led by the council and included internal partners, public and private organisations, charity and voluntary groups, and individuals. However, knowledge of biodiversity within the council is now shared between staff responsible for flood management, landscape, and operations management. One to one discussion with these staff members has constructively informed this review.

3.8 Additional consultation comments were received following publication of the report and incorporated into the final issue.

Review BAP Objectives

3.9 The 27 objectives of the BAP review were reviewed against the current legal and policy context (**Chapter 4**) and in light of the results of the desk-based data gathering, and cross-compatible studies (**Chapter 5**).

3.10 Where appropriate, amendment to the wording of an objectives is given. Recommendations to ensure continued progress for biodiversity conservation are given. These reflect the shift toward a network-led approach to nature recovery and the need to optimise wider environmental benefits alongside the delivery of thriving biodiversity.

Chapter 4

Legal & Policy Context

4.1 The legal and policy context of the Enfield BAP including requirements on the council to have regard to the purpose of conserving biodiversity when exercising its functions is set out in the 2011 BAP (see Section 2: 'Background' and Appendix 1).

4.2 Additional documents which set the current context for the responsibilities of the council and inform the targets for the BAP actions are summarised under the subheadings below.

2006 Natural Environment & Rural Communities (NERC) Act (as amended)

4.3 The NERC Act places a duty on public and local authorities to have *'regard to the conservation of biodiversity in exercising their functions'*, including the provision of local policies and strategies, in planning and development control, and in managing their estates.

4.4 As described under **Chapter 2: 'Trajectory of the BAP'**, section 41 of the NERC Act lists the habitats and species of principal importance.

1981 Wildlife & Countryside Act (as amended)

4.5 Since publication of the 2011 BAP, water vole is now fully protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).

DEFRA's 25 Year Environment Plan 2018

Biodiversity Alongside Wider Environment Functions

4.6 The 25YEP sets ambitious long-term targets for environmental improvement to which government will be legally bound. The plan commits to embed the principle of 'environmental net gain' to development, such as housing and infrastructure, and calls for 'nature recovery areas' as important parts of developing 'ecological networks'. Ambitions of the 25YEP include returning 75% of our designated sites to favourable condition, creation or restoration of 500,000ha of wildlife-rich habitat outside the protected site network and to improve the health of our soils.

4.7 By its nature, a 'network' captures existing landscape features and potential new corridors that support migration, dispersal and gene flow, to areas identified for habitat

enhancement or restoration such a network would serve help biodiversity adapt to, and increase resilience against, climate change.

4.8 The key distinction between nature networks and ecological networks is that, in addition to the primary role to support thriving wildlife, “a nature network should also enhance natural beauty and conserve geodiversity and opportunities should be taken to deliver benefits for people, such as flood alleviation, recreational opportunities and climate change adaptation and mitigation. These joint aims... are at the heart of nature networks and they are inter-dependent: networks for wildlife that also deliver benefits to people also tend to be more valued by people” (NERR082, 2020¹¹).

Coordinating National & Local Nature Recovery

4.9 The 25YEP envisages a national nature recovery network, delivered by sub-regional LNRS via Local Nature Partnerships. As biodiversity action in Enfield moves forward, this should help to lay the foundation for a future cross-boundary LNRS and recognise the wider environmental benefits of biodiversity by clear signposting to cross-compatible strategies or policy documents.

Environment Bill

Biodiversity Net Gain (BNG)

4.10 The Environment Bill sets out a mandatory biodiversity net gain (BNG) requirement for all new development., through which developers would need to submit a ‘biodiversity gain Plan’ to the local authority before seeking planning permission. This comes ahead of the intention to “expand the net gain approaches used for biodiversity to include wider natural capital benefits, such as flood protection, recreation and improved water and air quality”¹². The government’s ambition is to require at least 10% BNG through new developments, with a legacy of 30 years.

4.11 BNG aims to deliver locally-appropriate benefit of high ecological value. It should reflect habitat types which are locally representative and compliment the nature and spatial spread of existing habitat features, such as the extension of woodland along and from river corridors, or tree planting to augment Enfield’s canopy network.

4.12 BNG follows the mitigation hierarchy i.e. is delivered on site or, where this is not possible, in adjacent land or, as a final option, offsite.

4.13 As BNG is geared toward delivery of naturalised habitats, recognition of urban greening features is, in London, valued through the urban greening factor (see ‘London Plan: Urban Greening’ below).

National Planning Policy Framework (NPPF) 2019

4.14 The NPPF promotes a strategic approach to maintaining and enhancing coherent ecological networks that are more resilient to current and future pressures.

4.15 Paragraph 170 states that the role of the planning system should:

- protect and enhance valued landscapes, sites of biodiversity or geological value and soils;
- recognise the wider benefits from natural capital and ecosystem services; and
- minimise impacts on biodiversity and providing net gains in biodiversity.

4.16 Paragraph 171 requires that plans should take a strategic approach to maintain and enhance networks of green infrastructure, and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

4.17 Paragraph 174 states that plans should:

- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks¹³;
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and
- identify and pursue opportunities for securing measurable net gains for biodiversity.

Planning Practice Guidance (PPG): Natural Environment 2016

4.18 The PPG aspires for planning authorities, neighbourhood planning bodies and other partners to “work collaboratively with other partners to develop and deliver a strategic approach to protecting and improving the natural environment based on

¹¹ [FULL REF / LINK]

¹² Westminster Briefing 08 May 2019 www.westminster-briefing.com/Biodiversity_net_gain_Manchester?elqTrackId=beb19658b99e4f1b8dc776c9b36225ef&elq=25561b5f337444fbad162960cd22da1a&elqaid=2185&elqat=1&elqCampaignId=1633&utm_source=Green+Infrastructure+Partnership&utm_campaign=c4f959944f-

EMAIL_CAMPAIGN_2017_08_31_COPY_01&utm_medium=email&utm_term=0_f4eb0dc7a3-c4f959944f-103371929

¹³ ‘Networks’ are stated to include the hierarchy of sites designated for biodiversity, the wildlife corridors and stepping stones that connect them, and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

local priorities and evidence". It states that together "*they need to consider the opportunities that individual development proposals may provide to conserve and enhance biodiversity and geodiversity... and contribute to habitat connectivity in the wider area, including as part of the nature recovery network*".

4.19 Regarding the network of locally designated wildlife sites, the PPG recognises these as "*areas of substantive nature conservation value*", important for their contribution to ecological networks and nature's recovery, as well as wider benefits including climate mitigation and ecosystem services. "*National planning policy expects plans to identify and map these sites, and to include policies that not only secure their protection from harm or loss but also help to enhance them and their connection to wider ecological networks*".

Protection of European Designated Sites

4.20 To ensure integrity of the network of European designated sites, it is a legal requirement for plans and projects that may cause significant adverse effect to be subject to Habitat Regulations Assessment (HRA). HRA focuses on the qualifying features of the network and its component designated sites.

4.21 New development within Enfield has the potential to adversely affect the integrity of European designated sites due to the increased recreational pressures and air pollution caused. At risk sites include Epping Forest Special Area of Conservation (SAC), Lee Valley Special Protection Area (SPA) and Ramsar, and Wormley Hoddesdon Park Woods SAC.

4.22 The nature and scale of any appropriate mitigation of potential significant effect/s is determined by the location of development (within the zone of influence for each designated site), scale of development, ease of access to the designated site and availability of other available greenspace. Provision of a cohesive green and blue infrastructure network has an important role in accommodating potential recreational pressure away from the European designations, as well as providing supporting or buffering habitat to the resident flora and fauna.

London Plan

London Plan 2018

4.23 The adopted London Plan sets the context for a cohesive approach to nature conservation across all boroughs. It prescribes the criteria and process for designation of site of importance to nature conservation within London, referred to as SINC (see Appendix 5: 'SINC Selection'). Please note that the term SINC is the current term for the sites previously referred to as 'Local Wildlife Sites' (LWS) in the 2011 BAP.

Three grades of SINC are recognised in London (see **Table 4.1**).

Table 4.1: Grades of SINC recognised in London

SINC grade	Description
Sites of Metropolitan Importance (SMI)	The best example of wildlife habitats in London. They often contain rare plants and animals and are selected as the most important sites for biodiversity by the Mayor of London and his officers at the GLA. Currently 6 in Enfield.
Sites of Borough Importance (SBI)	Important wildlife habitats for the borough. Currently 20 in Enfield.
Sites of Local Importance (SLI)	Sites that ensure that everyone has easy access to nature close to home. Currently 15 in Enfield.

Replacement London Plan (December 2019)

4.24 The replacement plan is at an advanced stage and a material consideration in planning decisions.

4.25 It states that SINC and ecological corridors should be identified to contribute to coherent ecological networks. Further, the protection and conservation of priority species and habitats that sit outside of the SINC network should be supported through plans, and opportunities to create other habitats in an urban context should be identified.

4.26 The replacement plan defines areas of deficiency (AoD) in access to nature as those more than 1km walking distance from an accessible metropolitan or borough SINC. AoD within Enfield is described in **Chapter 5**.

Urban Greening

4.27 Urban greening refers to the raft of habitat features which create in otherwise built landscape; from street trees to green walls and roofs, from pocket parks to raingardens and planted traffic calming measures.

4.28 The plan seeks to increase the quantity and functionality of green infrastructure in the built environment by assessing major development projects submitted for approval using a calculation referred to as the urban greening factor (UGF).

4.29 The UGF is to be tailored to local circumstances by each borough to help ensure that development is delivered in a manner which will support appropriate levels of urban greening required to address local issues. In the absence of locally specific targets, a UGF score of 0.4 for predominantly residential development and UGF 0.3 for predominantly commercial are suggested.

4.30 Recognising the multifunctionality of urban greening features, the UGF can also deliver against other policy objectives such as increasing canopy cover, implementing sustainable urban drainage and delivering BNG.

Biodiversity Net Gain (BNG)

4.31 The principle of securing net gain is embedded in the replacement plan and the preceding Environment Strategy¹⁴. The plan encourages developments to achieve net biodiversity gain, irrespective of whether the development is having a harmful impact. It sets out a commitment to develop a BNG approach for London as well as promoting wildlife-friendly landscaping in new developments and regeneration projects. Further, the Mayor of London will “*provide guidance and support on the management and creation of priority habitats, the conservation of priority species, and the establishment of wildlife corridors*”.

London Environment Strategy 2018: National Park City

4.32 In July 2019, London was declared the world's first “national park city”. The concept behind the national park city movement is to encourage individuals and public bodies to contribute towards making London ‘greener, healthier and wilder’ as set out in the London National Park City Charter. The vision is one where more than half of the city's area is green, and where new growth helps to improve the quality and function of London's GI.

¹⁴ Mayor of London (2018) London Environment Strategy

Chapter 5

Functional Networks in Enfield

5.1 The Enfield BAP takes a landscape scale approach to the conservation and enhancement of biodiversity (as described in 2011 BAP, Section 5). This applies to understanding the nature, distribution and quality of biodiversity assets, and to identifying and delivering optimal condition and expansion of these.

5.2 *“The borough of Enfield has a wealth of biodiversity in its parks and open spaces, its urban areas and its watercourses. It contains important populations of nationally and internationally scarce plant and animal species and has a number of important habitats including important grassland habitats, more than 300ha of woodland, and approximately one hundred kilometres of watercourses; the greatest length of any London borough”* (2011 BAP).

5.3 This chapter concisely describes current assets in terms of networks ranging from international to local designations, of the wider reaching habitats of local conservation importance, and some of the flagship species that these collectively support. Strategic, ‘aspirational’ networks, such as the Environment Agency Working With Natural Processes (WWNP) Floodplain Reconnection Potential¹⁵, and the Buglife B-Line¹⁶ which aim to deliver cross-boundary landscape scale enhancement are referenced as appropriate throughout.

Statutory Designations

5.4 **Figure 5.1** illustrates the designated nature conservation sites within Enfield and the surrounding 2km.

5.5 Whilst Enfield does not support any European designation, the habitats within and connecting from the borough have a role to accommodate the needs of the local community and so to avoid pressure on designations nearby. European and international designations closest to Enfield include:

- Epping Forest SAC (ancient woodland) - 0.5km east;
- Lea Valley SPA and Ramsar (wetlands supporting breeding and wintering wildfowl) - 1km south east and 1.8km north east; and
- Wormley-Hoddesdonpark Woods SAC (woodland, grassland and heath mosaic) - 6.5km north.

¹⁵ <https://data.gov.uk/dataset/11873c69-d971-44ce-a648-872da9be847f/wwnp-floodplain-reconnection-potential>

¹⁶ <https://www.buglife.org.uk/projects/making-a-b-line-for-london/>

5.6 To avoid and mitigate adverse impacts of recreation on Epping Forest SAC, the Zone of Influence (ZOI) identifies where 75% of visitors come from (a nationally recognised approach). The ZOI extends up to 6.2km from the SAC and encompasses parts of north eastern Enfield. Under the interim recreational strategic solution led by Natural England and agreed by the councils, any developments coming forward in the ZOI will need to provide a suitable avoidance and mitigation package specifically for the SAC. Recent developments at Meridian Water and Colosseum Retail Park have, as part of their avoidance and mitigation strategies, secured new areas of accessible open green space such as Brooks Park SANG and Edmonton Marshes SANG. The primary role of the SANGS is to provide alternative natural greenspace to satiate recreational demand, thereby protecting the SAC. Provision of wider biodiversity benefit would also be reasonably expected. To similar purpose, the Council has also created the Enfield Open Space Enhancement (EOSE) payment scheme to deliver developer-contribution led access and biodiversity enhancements within local parks.

5.7 The nationally designated Chingford Reservoirs Site of Special Scientific Interest (SSSI) runs down the eastern edge of Enfield. Forming part of the Lea Valley corridor, the King George V and William Girling reservoirs offer some of the most extensive and undisturbed open water habitat in the London area, serving as a major wintering ground for wildfowl and wetland birds with nationally important numbers of some species. The reservoirs also form a moult refuge for large populations of wildfowl during the late summer months. Natural England monitoring reports the SSSI is 'unfavourable recovering' condition owing to the decline in winter bird numbers, which remains under review by Natural England and Thames Water.

5.8 It is recognised that the local designation network provides an important role, not only in accommodating a thriving network of local habitats and species, but in supporting the upper echelon sites – both in terms of habitat connectivity and in absorbing the recreational need of local residents who are encouraged to enjoy, explore and engage in nature nearby.

5.9 Covert Way Local Nature Reserve (LNR) lies on the western edge of the borough, forming part of the Hadley Wood Golf Course & Covert Way Field SINC within Enfield, and the Monken Hadley Common complex which extends into Chipping Barnet and across the railway line (in cutting).

SINC Network

5.10 This section provides an overview of the results and arising recommendations of the Review of SINC completed by

LUC. Field work was completed in July and August 2020. Full description of the data is described in the individual site survey proformas (Review of SINC: Appendix D).

Size, Connectivity & Geographic Position

5.11 Table 5.1: provides an overview of the extent of the SINC site network across the borough.

5.12 SINC cover a total of 1,554 hectares (ha) (19%) of the borough. Largest of the SMI are the Lea Valley (536.71ha) and Trent Park (220.30ha). Largest of the SBI are Hadley Court Golf Course & Covert Way Field (83.31ha) and Crews Hill to Bowes Park Railsides (68.20ha). Largest of the SLI are Broomfield Park (21.42ha) and Jubilee Park (19.88ha). The role of smaller sites remains important – to recognise habitats and species of local conservation importance, and to provide connectivity across the SINC network as ecological corridors or stepping stones¹⁷.

5.13 10% of SINC (four of the 41 sites) contain land that lies within 30m of a SSSI, 15% (six sites) within 30m of LNR and 12% (five sites) within 30m of AWI. Please note that these figures include some overlap of designations.

Table 5.1: Summary of SINC coverage, as surveyed in 2020

SINC status	Total no	Total area (ha)	% cover of borough *
SMI	7	977.33	11.9%
SBI	19	510.04	6.2%
SLI	15	66.95	0.8%
Total	41	1554.32	18.9%

* Calculated using a total borough area of 8,219ha

Representation, Rarity & Richness

5.14 The 2011 BAP references the London BAP habitat types of that time to ensure compatibility with neighbouring boroughs. The ten Habitat Action Plans¹⁸ then identify local priorities.

5.15 The Natural England Priority Habitat Index (PHI) provides more recent mapping and national coverage, therefore supporting the identification of cross-boundary networks. The PHI data underpins the Natural England habitat network mapping which identifies zones of opportunity for restoration, creation and enhancement.

¹⁷ Lawton et al. (2010) Making Space for Nature: A review of England's wildlife sites and ecological network

¹⁸ 2011 Habitat Action Plans: 1 Farmland 2. Grassland 3. Hedgerows 4. Parkland & urban spaces 5. Veteran trees 6. Brownfield sites 7. Waterways 8. Woodlands 9. Ponds and Lakes 10. Allotments

5.16 The current baseline data is principally described using the Natural England priority habitat types, which can be measured by area. The current London BAP types described by GIGL¹⁹ are given where baseline data permits. **Table 5.2:** provides the broad correlation between these habitat types.

Table 5.2: Broad correlation of BAP and priority habitat types recorded within Enfield

2011 Enfield BAP	London BAP	NE priority habitats
Woodlands	Woodland	Deciduous woodland Wood pasture & parkland
Veteran trees	Open landscapes with ancient/old trees	-
Hedgerows	-	-
Grassland	Acid grassland Lowland meadow Floodplain grazing marsh	Lowland dry acid grassland Good quality semi-improved grassland Coastal & floodplain grazing marsh
Parkland & urban spaces	Parks & urban green spaces	-
Farmland	Orchard	Traditional orchard
Allotments	Private gardens	-
Brownfield sites	Wasteland	-
Waterways	Rivers & streams Canals	-
Ponds and Lakes	Standing water Reedbeds	-

5.17 Enfield's SINC network supports six Natural England priority habitat types ranging from woodland and grassland to freshwater. However, it is recognised that habitats outside of the designated network not only accommodate much of the local flora and fauna but provide significant regulating function (in terms of ecosystem services) to Enfield (such as cooling, flood alleviation, health and wellbeing). The aim of the BAP and parallel projects such as the BGI is to optimise these multifunctional benefits. **Table 5.3:** lists the area of each habitat type within the SINC network and across the wider borough, taken from Natural England's national dataset.

Table 5.3: Summary of priority habitats recorded across the SINC network

PHI type	Area (ha) within SINC network	Area (ha) within borough
Deciduous woodland	387.77	517.66
Wood pasture & parkland	386.3	600.73
Traditional orchard	0.02	1.33
Lowland dry acid grassland	0.57	0.57
Good quality semi-improved grassland	28.10	60.38
Coastal & floodplain grazing marsh	1.31	1.45
Total	804.05	1,182.12

5.18 Table 5.4: illustrates the London BAP habitats recorded present across within the SINC network in 2020. Presence was recorded during the 2020 as part of the SINC survey proforma.

Table 5.4: Summary of London BAP habitats recorded across the SINC network

London BAP Priority Habitat	Present within SMI (no. sites)	Present within SBI (no. sites)	Present within SLI (no. sites)
Lowland deciduous woodland	7	14	9
Lowland beech & yew woodland	0	0	1
Wet woodland	1	3	2
Wood pasture & parkland	5	5	4
Veteran trees	6	4	4
Traditional orchards	0	0	1
Hedgerows	1	2	1
Lowland meadows	3	1	1
Lowland dry acid grasslands	4	2	2
Arable field margins	0	0	1

¹⁹ <https://www.gigl.org.uk/london-bap-priority-habitats/>

London BAP Priority Habitat	Present within SMI (no. sites)	Present within SBI (no. sites)	Present within SLI (no. sites)
Open mosaic habitats on previously developed land	1	0	1
Reedbeds	2	2	1
Rivers	4	4	1
Total	34	37	29

5.19 Table 5.5: summarises the key features of interest supported across the SINC network; note that the majority of SINC support numerous features of interest.

Table 5.5: Summary of broad categories of ecological interest supported by the SINC network

Ecological interest	No. SMI	No. SBI	No. SLI
Bird	5	11	9
Mammal	5	10	11
Amphibian	5	4	8
Reptile	4	8	4
Fish	3	2	3
Higher plant	0	0	0
Bryophyte	0	0	0
Lichen	0	0	0
Fungi	0	0	0
Invertebrates	4	8	9

Weaknesses & Opportunities across the SINC Network

5.20 Of the 41 SINC surveyed in 2020, 39% (16 sites) lie within council ownership or part ownership, 12% public ownership and 27% private ownership. Ownership of the remaining 22% (nine sites) is not recorded.

5.21 Table 5.6: summarises the threats and disturbances that have been recorded across the SINC network, while **Table 5.7:** identifies the management opportunities i.e. to enhance or create habitats or features of greater ecological value. Litter and dog fouling pose the most common and indeed widespread issues across the SINC network. These issues, along with vandalism and erosion, may be addressed through management of access (soft and hard interventions) and positive local engagement or education.

5.22 Presence of invasive species was recorded at a relatively few sites; Japanese knotweed at Turkey Brook SINC, Himalayan balsam at Boundary Ditch at Sandhurst Road SINC, and New Zealand pygmy weed at Woodcroft Wildspace SINC. Management of these species requires cross-boundary coordination, focusing not only on the SINC network but capturing the wider extent of infestations to ensure effective use of eradication resources.

Table 5.6: Summary of threats and disturbances recorded across the SINC network

Threats & disturbances	No. SMI	No. SBI	No. SLI
Redevelopment	0	1	0
Invasive species	1	1	3
Erosion	0	3	3
Vandalism	1	1	3
Litter	4	8	9
Dog fouling	4	5	7
Fly tipping	0	1	1

Table 5.7: Summary of opportunities recorded across the SINC network

Opportunities	No. SMI	No. SBI	No. SLI
Mowing regime	2	6	7
Meadow creation	2	6	3
Wetland creation	0	5	1
Wildlife friendly planting	2	7	8
Tree planting	0	1	3
Active tree management	5	8	8
Loggery	4	6	9
Education	2	0	0

5.23 The Buglife B-Line is a national map comprising broad belts within the creation and restoration of wildlife-rich habitats is focused to allow bees, butterflies and pollinating insects to thrive and disperse. It's overlap with Enfield is illustrated in **Figure 5.9**. The B-Line principally runs south from Enfield to Croydon, capturing Crews Hill, Botany Bay (location of mass tree planting on Enfield Chase), Oakwood, Winchmore Hill, Southgate, Palmers Green and Arnos Grove within the borough. Additionally, the 'outer London B-Line' which encircles the capital, captures the north east corner of the

borough at Brimsdown, Enfield Lock and Waltham Cross, as well as covering the King George V Reservoir.

5.24 27 of the 41 SINC fall within the B-Line, totaling 814.55ha (52%) of the total SINC network. This contrasts to 41.14% of the borough captured within the B-Line.

Access to Nature and Greenspace, and Recommendations for the SINC Network

Areas of Deficiency

5.25 Figure 5.2 illustrates the AoD in access to nature, defined as areas over 1km walking distance from SINC. This reveals two principal areas of deficiency – one in the north west of the borough (north west of Enfield Chase), and a second straddling the A1010 – A10 corridor between Enfield Highway and Lower Edmonton.

5.26 Figure 5.3 (extract from the 2020 BGI audit) illustrates the Combined AoD in access to semi-natural greenspaces, defined as areas ranging from over 0.4km to 5km using a three-tiered hierarchy based on open space quality and value²⁰. This highlights a wider reach of deficiency in the north west of the borough but across the urban areas reveals a number of smaller scattered pockets of deficiency, for example at Southbury and Bush Hill Park. Please note that the deficiency in access to three levels in the east of the borough, in part, captures the waterbodies of the Lea Valley, hence represents an anomalous over-representation.

5.27 Recognising the value of nature and greenspaces to our health and wellbeing, the London Plan²¹ requires councils to work to understand the causes of, and reduce the extent of, deficiency in access. Deficiency may be reduced, for example,

by creating additional sites, extending existing, enhancing existing open spaces (to become relevant as SINC).

Recommendations for SINC Status

5.28 The recommendations for change to individual SINC status identified by the 2020 review are illustrated in Figure 5.4 and listed in Table 5.8. Table 5.9: details the explanation behind each recommendation at these ten SINC.

5.29 Three SINC are proposed for upgrade and a further three for extension. Opportunity for significant enhancement was identified at three other SINC which, once implemented, may also justify change in status.

5.30 No SINC has been flagged for de-designation, although a single SBI – Turkey Brook – has been identified to be at-risk as a result of the extensive infestation of Japanese knotweed.

Table 5.8: Summary of change in status recommended across the SINC network

Status recommendation	No. SMI	No. SBI	No. SLI
Proposed upgrade	0	1	2
Proposed extension	1	2	0
Opportunity	0	1	2
No change	6	14	11
At risk	0	1	0
De-designate	0	0	0

Table 5.9: SINC-specific recommendations for change in status

Status recommendation	SINC	Status	Explanation
Proposed upgrade	Crews Hill Golf Course	Borough	Considered to be of metropolitan quality due to relict acid grassland habitat, which is irreplaceable and considered to be one of the best examples in the borough.
	Jubilee Park	Local	Upgrade to borough grade 2 as the site supports a diverse range of habitats in good condition and is of a large size providing a significant area of green space and semi-natural habitat in an otherwise deficient area.
	Tatem Park	Local	Upgrade to borough grade 2 to reflect the diversity of well managed habitats, and associated contribution to the local ecology, particularly given its location within an urban area.

²⁰ Combined deficiency shows where different areas have deficiency in access to open spaces in different levels of the open space hierarchy: Metropolitan (3.2km buffer applied to parks, gardens, natural and semi-natural green spaces of 60+ha), district (1.2km buffer applied

to those of 20-60ha), local (0.40km buffer applied to those of 2-20ha) and small local (0.28mm applied to those under 2ha).
²¹ Mayor of London (2004) Improving Londoners' Access to Nature: London Plan (consolidated with alterations since 2004) implementation plan <https://www.london.gov.uk/sites/default/files/uploads-access-to-nature.pdf>

Status recommendation	SINC	Status	Explanation
Proposed extension	Forty Hall Park & Estate	Metropolitan	Extend SINC boundary to include a series of fields located within the centre of the site. This would allow continuation of similar habitat for which the site is designated and enables protected and notable species, which rely on the site to disperse through the site
	Bush Hill Golf Course	Borough	Extend SINC boundary to include the rest of the golf course which supports similar habitat types and would improve connectivity to nearby wildlife corridors.
	Plumridge, Vault Hill & Little Beechill Woods	Borough	Site supports ancient and semi-natural woodland. Extend SINC boundary to include an additional two blocks of woodland to the south of the site.
Opportunity	Broomfield Park	Local	The site is of a significant size, supports a wide variety of habitats, offers features of historical and cultural value, offers the provision of sport, communal allotments, and an opportunity for locals to engage with nature. It is considered that these features, in combination with additional enhancement measures incorporated within the current management plan, then it could be upgraded to Borough importance.
	Woodcroft Wildspace	Local	Potential in the future that as the habitats present establish for the site to be considered as a Borough grade 2 site.
	Enfield Loop of the New River	Borough	Enhance the site by improving the quality of the waterbody including naturalising of the river in places and planting aquatic and marginal vegetation.
At risk	Turkey Brook	Borough	Dominated by non-native and invasive Japanese knotweed which should be managed and controlled appropriately for the SINC to remain designated.
De-designate	-	-	-

Identification of Additional SINC

5.31 The Blue and Green Infrastructure Audit (LUC, 2020) open space surveys included consideration of whether each land parcel surveyed were of sufficient value to warrant consideration for potential future SINC designation.

5.32 A total of 13 potential land parcels totaling 46.25ha were identified, as illustrated in **Figure 5.5**. Please note that this data reflects the spatial scope of the open space surveys and does not therefore represent a comprehensive assessment of all land across the borough.

5.33 The open space surveys were completed by the land management team and identification of the potential future SINC assessed using ten general parameters²² based on the of the GIGL SINC selection criteria²³ and should therefore be

considered an 'initial flag' of sites for further consideration. Detailed assessment against the prescriptive ecological criteria²⁴ for the London SINC would require specialist ecologist input to identify those suitable for designation by the London Wildlife Sites Board²⁵ to expand and enhance the network.

5.34 Additional opportunities for SINC designation were identified through consultation feedback on the earlier published draft report. These are included in Figure 5.5. as follows:

- Additional land within Whitewebbs Wood (outside the existing SINC designation), reported to support a number of priority species. Specific habitat features cited include unimproved grassland meadow habitat, land within the golf course and hedgerows located

²² General parameters considered: habitat richness, size, ancient character, recreatability, typical urban character, cultural or historic character, access, use, potential, aesthetic appeal.

²³ Mayor of London (2018) London Environment Strategy - Appendix 5: Site of Importance for Nature Conservation (SINC) Selection

²⁴ Ecological criteria: habitat rarity, representation, species rarity, species richness, important populations of species, geographic position and geodiversity interest.

²⁵ Board chaired by the GLA with representatives from London Boroughs Biodiversity Forum, Greenspace Information for Greater London, London Wildlife Trust and London Geodiversity Partnership.

between the woodland and Forty Hall. Accordingly, this wider area is included in Figure 5.5.

- Future habitat areas within Enfield Chase.

Wildlife Corridor Network

5.35 Figure 5.6 illustrates the wildlife corridors through Enfield. Identified in 2014, the corridors recognise the network of railways and rivers that support dispersal of wildlife. The railways and New River channel largely orientate north-south toward central London, with the riparian corridors of Turkey, Salmons and Pymmes brooks cross-connecting between. Further description of the riparian corridors is provided under 'Wetland Habitats' below.

Wider Habitat Network

Data Sources

5.36 Figure 5.6 illustrates the notable and priority habitats of Enfield, identified from the following datasets:

- Ancient woodland inventory (Woodland Trust);
- Natural England priority habitats; and
- Ordnance Survey open water.

5.37 Figure 5.7 illustrates the tree canopy cover of Enfield, identified from the National Forest inventory and street trees.

5.38 The Enfield BAP Map of Broad Habitat Types (replicated in Figure 5.8) illustrates the 2006 GLA survey of land parcels over 2ha across the borough. This is the most widespread dataset across the borough, outside the SINC network, and provides a useful indication of the distribution of hedgerows, scrub, allotments, wet ditches and fen carr, and habitats which are not otherwise captured by the national mapping described above. These provide an important role in supporting the flora and fauna of the borough, connecting between designated sites and into urban or agricultural areas otherwise lacking opportunities for wildlife.

5.39 Figures 5.9 – 5.11 illustrate data relating to strategic habitat opportunities. These figures capture proposed habitat creation across the borough and the national network mapping designed to inform cross-boundary habitat creation and enhancement. Additional London-wide data of BAP habitat suitability opportunity mapping is summarised in Table 5.10.

Table 5.10: BAP Habitat suitability opportunity mapping in Enfield (source: GIGL²⁶)

London BAP habitat type	Area (ha) suitable for creation / restoration	Area (ha) suitable to expand existing	Existing (ha) w/o potential for expansion
Woodland	1,846.87	1.82	2.16
Lowland meadow	-	50.02	-
Acid grassland	4.47	-	26.65
Calcareous grassland	4.61	-	-
Floodplain grazing marsh	671.87	-	-
Reedbed	365.95	11.10	-
Standing water (ponds)	1,250.41	0.22	-

5.40 The broad habitat types characteristic of Enfield are described under the subheadings below. These are expanded from the 2011 BAP habitat types to include those associated with urban greening, which is now prioritised across all London boroughs.

5.41 Species data is described under the most relevant habitat subheading. The 2011 BAP includes three Species Action Plans:

- bats;
- amphibians and reptiles; and
- black poplar.

5.42 Appendix 1 of the 2011 BAP lists the UK and London BAP species that have been recorded in the borough. Please note that since its publication, habitats and species of principal importance are now listed in the 2006 NERC Act, and water vole is fully protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended).

Woodland, Parkland, Trees & Hedgerows

5.43 Enfield has a high proportion of woodland when compared to the London average, but is typical when compared to other outer London boroughs. Enfield supports 256ha of native deciduous woodland. Almost half of this is ancient woodland – all of which occurs in the rural north at Wildwoods, and northwest at Enfield Chase and Oak Wood (Figure 5.6). Pockets of woodland are uncommon with the

²⁶ <https://www.gigl.org.uk/habitat-data/bap-habitat-suitability-data/>

urban centres of the borough but are found in the larger open spaces between sub-settlements. Street trees follow broadly similar pattern – being clustered to the larger areas of open space, with few extending along linear features such as transport corridors or extending into urban areas (see **Figure 5.7**).

5.44 Forestry Commission research estimated in 2017 that just 2.7% of Enfield's woodland is under active management, suggesting that the majority, in a state of non-management, may not be achieving its full biodiversity potential²⁷. In the context of this review, the term 'active management' is taken to include the natural regeneration of vegetation (also referred to as 'rewilding') which typically requires some intervention, albeit at low intensity. Within public parks for example, development of scrub within prescribed areas – which may be augmented by select planting of whips – can markedly increase structural diversity, and provide nesting and foraging habitat but may include selective removal of invasive species or thinning to maintain a varied age class or target structure.

5.45 The Mayor of London has committed to increasing tree canopy cover by 10 per cent by 2050, to c31% of the capital's land area²⁸. The Blue and Green Strategy seeks to transform *the " arc of open countryside to the north and west of the main built-up area....into a publicly accessible parkland landscape, with over 300ha of new native species woodland (known as Enfield Chase)"*. This reflects the Natural England habitat network of restoration and enhancement (**Figure 5.10**). Proposed woodland planting across Enfield Chase (largely flanking Salmons Brook but also at Trent Park to the south; see **Figure 5.9**) totals 17,00ha, 60ha of which is to be delivered 2020 to 2022. There is a desire for the woodlands to be made publicly accessible. Planting areas have been devised through extensive consultation with the farming community to ensure deliverability, and are offset approximately 50metres from Salmons Brook to allow space for future reinstatement of a more natural profile to the watercourse. Given the certainty of delivery, this planting may be considered as part of the 'anticipated baseline' of habitats across the borough. Diversification of the locally-appropriate assemblage will be optimised.

5.46 Further opportunity lies in the expansion of canopy cover into urban areas, such as the highways and housing soft estates (see **Figure 5.9**) to enrich the species and structural diversity of parks and open spaces, integrated to new developments and urban renewal, as street trees and at 'gateway' locations.

5.47 Tree planting offers not only benefits to biodiversity and through ecosystem services, but given the height and

structure, can provide waymarking through the landscape, for example, to create east-west connectivity for biodiversity and for people.

5.48 Strategic habitat opportunities for woodland planting identified by the Environment Agency (**Figure 5.11**) include:

- riparian woodland potential flanking watercourses in the more open landscape that arcs the north and northwest of the borough, with floodplain woodland potential at more specific foci therein;
- floodplain woodland potential is also widespread across the north-north west arc but reaches extensively through the LVRP belt in the east of the borough; and
- wider catchment woodland potential is additionally identified through the large open greenspaces that sweep through the urban areas of Enfield Highway, Lower Edmonton, Winchmore Hill to Highlands Village.

Grassland Habitats

5.49 Enfield supports 62.40ha of priority habitat grasslands, 97% of which is good quality semi-improved grassland, with small areas of lowland dry acrid grassland and coastal and floodplain grazing marsh mapped (see **Table 5.3**:). The largest areas lie at Forty Hall and at Grovelands Park and Priory Hospital (**Figure 5.6**).

5.50 Threats to the highly valued grasslands of the UK typically relate to the lack of recognition of their importance and, correspondingly, their loss to intensive management (resulting in lower value grassland) or to built development (resulting in loss without appropriate mitigation or compensation).

5.51 One such example includes Brimsdown South Marsh – located within the Lea Valley SINC, comprising the strip of land between the canal and the King George V Reservoir. Consultation correspondence identified this area as priority flood plain grazing marsh habitat of high floristic diversity, which floods seasonally. This is not recognised in the available basemapping (including 2006 GLA survey data, **Figure 5.8**), hence; risks lack of recognition, inappropriate management and potentially, loss. This area has reportedly been subject to horse-grazing in recent years but would benefit a more sensitive management regime to benefit the sward and associated invertebrate assemblage. This area falls within the Environment Agency's high level, national WWNP mapping, which identifies the periphery of the reservoir as having potential for tree planting at this location (**Figure 5.11**). Specific note has been added to the figure to

²⁷ Lantern & Forestry Commission England (2017) Making London's Woodlands Work. Available at: <https://www.london.gov.uk/sites/default/files/171130-londonwoodlandevidencereport.pdf>

²⁸ <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/trees-and-woodlands/tree-canopy-cover-map>

recognise the location of the marsh. Strategic opportunities illustrated in **Figure 5.9** include the B-Line and the soft estate of both highways and housing, within which creation of species-rich and structurally diverse grassland can be delivered across the borough. This offers opportunity to connect through rural and urban areas. Assemblages selected to reflect the varied substrate and seasonal drainage may benefit a wide range of invertebrates and other wildlife.

5.52 There is also opportunity for grassland restoration and enhancement in the vicinity of Botany Bay Farm (see **Figure 5.10**), as acknowledged as part of the proposed woodland planting at Enfield Chase.

5.53 The rewilding concept within public parks and within the highways or housing soft estate offers opportunity to increase the benefit to biodiversity, through reduction of management intervention or intensity. Rewilding requires monitoring and some on-going work to ensure the target state is maintained, particularly for grasslands which may otherwise become rank or dominated by scrub. The council parks team currently use this approach at approximately 16 sites where relaxed mowing of select areas of historically wet grassland has allowed the sward to develop. On-going management is as 'conservation meadows'²⁹.

Farmland

5.54 The farmland of the rural north and northwest arc of Enfield includes large areas identified for tree planting and woodland expansion in the Blue and Green Strategy (see **Figure 5.9**) as part of Enfield Chase, as described under woodland above.

5.55 Farmland habitats support an important assemblage of birds which includes a number of species in fast national decline. Factors including the increased intensity of farming practices and the conversion to built development or other land uses, has incurred dramatic reduction in the extent of hedgerows and open grassland habitats which farmland species that are not tolerant of high levels of disturbance depend on.

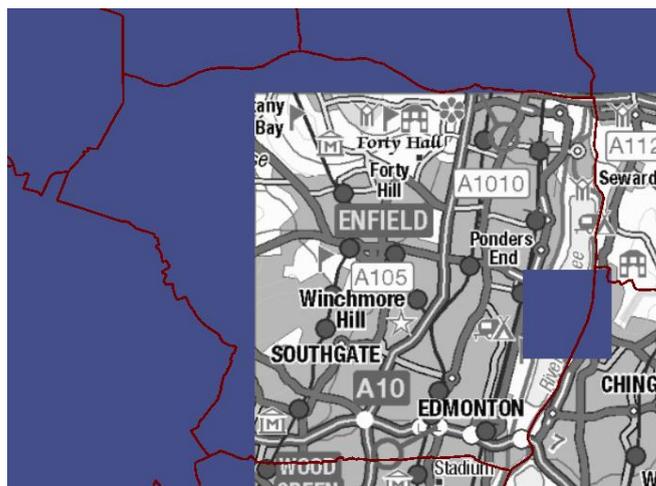
5.56 The RSPB identifies hotspots for arable farmland birds³⁰ in the north east of the borough at Rammey Marsh and north of Chingford Reservoirs, and in the north east part of Enfield Chase beyond Little Beechhill Wood. Hotspots for grassland birds³¹ follow similar but wider distribution in both the north east (east of the Turkey Street-Southbury line and at Rammey Marsh) and north west (north west of Botany Bay and East

Lodge Lane). These foci of farmland biodiversity assets form an important component of Enfield's ecological character.

5.57 Countryside and environmental stewardship payments are available for land management which includes specific conservation interventions, prescribed for target habitats or species. Natural England has identified areas within Enfield for countryside stewardship targeting two bird species of open grassland habitats³²:

- lapwing (see **Inset 5.1**) – tetrads capture the north portion (approximately north of Whitewebbs Lane) and east portion of the borough (approximately encompassing Botany Bay and beyond). There is also a tetrad in the east of the site, straddling the King George's and William Girling reservoirs.
- redshank (see **Inset 5.2**) – tetrads capture the open farmland north of Whitewebbs Wood and extend north into Broxbourne.

Inset 5.1: Priority species for CS targeting – lapwing (extract MAGIC Map database)



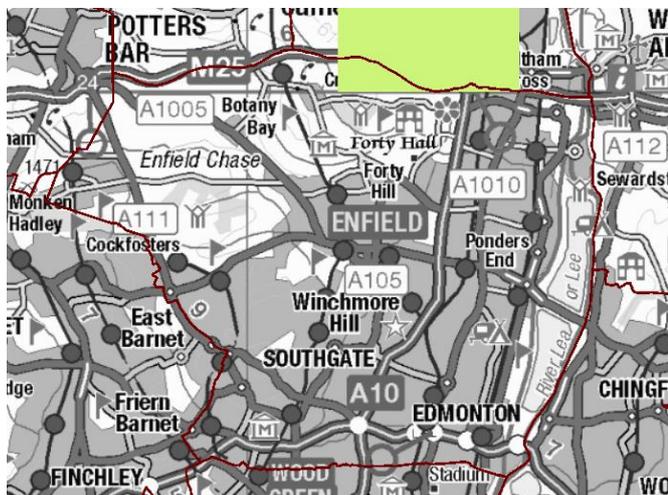
²⁹ Parks Operations Manager, pers. comm.

³⁰ RSPB Arable Farmland Bird Assemblage Category 4 (Rammey Marsh and north of Chingford Reservoirs) and Assemblage Category 3 (north east part of Enfield Chase, beyond Little Beechhill Wood). Assemblage a subset of the BCTP and based on the select species - corn bunting, grey partridge, lapwing, turtle dove, tree sparrow and yellow wagtail. Available from www.magic.gov.uk

³¹ RSPB Grassland Bird Assemblage Category 2 (east of the Turkey Street-Southbury line) and Category 3 (Rammey Marsh), plus Category 2 (north west of Botany Bay and East Lodge Lane). Assemblage based on the overlapping subset of curlew, lapwing, redshank, snipe and yellow wagtail.

³² Available from www.magic.gov.uk

Inset 5.2: Priority species for CS targeting – redshank
(extract MAGIC Map database)



5.58 Traditional orchard habitat is uncommon in Enfield but is recognised as a locally appropriate option for habitat creation, particularly where community engagement and local food growing objectives also occur.

Urban Greenspaces and Brownfield Habitat

5.59 The term 'urban greening' was established after publication of the 2011 BAP but now forms an important part of Enfield's biodiversity asset. The importance of urban greening is given prominence in the replacement London Plan (see **Chapter 4**).

5.60 The term 'brownfield', rather than referring to simply previously developed land, broadly translates to the Natural England priority habitat type of 'open mosaic habitat on previously developed land'. This typically consists of a patchwork of bare, previously disturbed ground with typically no or impoverished soil, and stands of vegetation. A relatively small proportion of formerly developed sites support good examples of this priority habitat. In Enfield, none of this priority habitat is mapped in the national dataset.

5.61 'Green architecture' includes green roofs, walls and trellises i.e. living habitats created on or as an extension to buildings. Green architecture can deliver habitat creation at height and through the vertical plane to benefit biodiversity in areas that are seemingly spatially constrained. Figures published by the Livingroofs partnership³³ on the area of green roofs in Enfield show an increase of 130% between 2016 (5,664m²) and 2017 (13,024m²). Examples range from North Middlesex University Hospital, schools several schools and new residential developments. As with many green

architecture interventions, green roofs can offer benefit not only to biodiversity but also energy efficiency and to appease the urban heat island effect.

5.62 Integration of artificial habitat features to reflect the lifecycle requirements of local species includes, for example, the provision of swift boxes at appropriate locations within urban re/development design. Examples reporting successful occupation by the target species include large numbers of swift nesting bricks for colonies in Shepcot House, New Avenue Estate N14, and in Fulbourne, Cambridge.

5.63 Creation of pocket parks and community gardens within Enfield have been delivered within existing greenspaces (Painters Lane Neighbourhood Park), as enhancement of existing spaces (Kempe Road Pocket Park) and as derelict land conversion (Angel Community Garden). Further opportunities may be delivered as part of the housing soft estate (see **Figure 5.10**) where open spaces lie at the heart of the communities standing to benefit.

5.64 Street tree planting as an urban greening intervention can be used at a range of scales – from short avenues or small clusters to delineate gateways or character 'quarters' within urban areas, to more abundant use including a range of age-classes as part of strong place-making at new or refurbished civic squares. Extended stretches of tree planting between or radiating from parks and public green space, can serve to connect these spaces for people as well as for wildlife. Use of planting along major active travel routes is cited in the BGI audit to create 'urban boulevards' which spur off the Green Loop active travel route. Within the highways' soft estate, tree planting may be used in combination with wildflower grasslands (see 'Grassland Habitats' above) or, at selected locations, with rewilding to create a more diverse habitat mosaic.

5.65 At the smaller scale, features which serves as stepping stones between larger habitat areas may be delivered as part of traffic calming or delineation, play streets and multi modal streets – though use of street trees, planted beds or raingardens.

5.66 **Figure 5.10** shows the location of urban wetlands including raingardens and SuDS measures provided within the highways' soft estate. These wetland habitats are described under the subheading below but, in relation to urban greenspaces, it is important to note that rain gardens in particular are well-suited to retrofit delivery in urban areas, for example, as part of traffic calming interventions or public space renewal. Offering multifunctional benefits, raingardens can be particularly effective in alleviating flood risk. Enfield

³³ Figures include intensive, extensive and biosolar roofs
<https://livingroofs.org/london-map-green-roof-boroughs/london-borough-of-enfield/>

council is developing a practical design guide to encourage delivery of raingardens across a wider range of public and private led development projects.

5.67 Urban greening offers significant opportunity for benefit where growth and development are expected, but the density of existing built development leaves limited opportunity for creation of new open space. The multifunctional benefits of urban greening include flood alleviation and public health; issues which may overlap the denser urban areas

Wetland Habitats

5.68 Enfield lies within the River Lea catchment, broadly draining south and east. It supports over 10,000ha of open water; the highest amongst London boroughs. The principal watercourses are Turkey Brook (north-most), Salmons Brook and Pymmes Brook (south-most) which feed into the Lea Valley Regional Park (LVRP).

5.69 Low-lying topography makes Enfield vulnerable to the effects of climate change, particularly from river and surface water flooding. The risk is greatest close to the confluence of Salmons and Pymmes Brooks (both in terms of 1/100 year flooding and climate change³⁴), which also coincides with relatively extensive areas of built and impermeable land uses.

5.70 The Blue and Green Strategy also recognises the some of the borough's urban rivers and reservoirs are considered to have poor ecological status particularly due to road run-off and sewage discharge. This reflects the national trend in the poor quality of watercourses recognised by, and currently the focus for action by, the EA. Poor water quality correspondingly influences biodiversity, with restrictions on plant and invertebrate life potentially reflected up the food chain.

5.71 Management of flood risk within Enfield takes a holistic approach, reducing canalisation, reinstatement of natural watercourse profiles, reducing run-off and slowing flow rates, all of which offer opportunity to benefit biodiversity. A significant proportion of Salmons Brook flows through the borough, including the relatively rural north west, which provides an extensive area across which downstream flood risk can be alleviated. Woodland planting, offers key benefit to maintain the flow and quality of watercourses within the borough.

5.72 The 'Rewilding Enfield's Urban Rivers' programme explores the opportunities to rewild Enfield's urban rivers i.e. to reinstate a more natural structure and function within a system which has been heavily modified and historically polluted. The project provides increased flood storage as well

as benefitting biodiversity and access to nature. The programme has delivered eight sites³⁵ across the Salmons Brook and Pymmes Brook, with three further sites planned that have undergone public consultation³⁶. Works include the creation and management of wetlands, reedbeds, raingardens and rain planters, as well as opening culverts where these pass through public green spaces. Each project entails consultation with stakeholders and engagement with the local community (e.g. Friends of Parks) to optimise successful delivery and longevity.

5.73 Examples of SuDS within roadside verges which have been delivered in the borough include Houndsden Road, Hertford Road, Compton Road, Bramey Road and Alma Road, with further SuDS planned as part of the Haselbury Neighbourhood improvements and Four Hills public realm. These each contribute to the diversification of the habitat mosaic in a way that accommodates the seasonal cycles; something that can be restricted, particularly in the urban mosaic. These projects form part of the current / near-future baseline conditions.

5.74 Wetland creation proposed in the Blue and Green Strategy through the opening up of closed or canalised watercourses, where these pass through public open spaces, is illustrated in **Figure 5.10**. Also illustrated are the raingardens prioritised for delivery alongside highways and access improvement projects.

5.75 Further strategic habitat opportunities identified by the Environment Agency for floodplain reconnection (**Figure 5.11**) are widespread, particularly through the Turkey Brook corridor north of Enfield Town and alongside the LVRP reservoirs in the east of the borough, flanking the road infrastructure in the east, and more widely along the Salmons and Pymmes brooks corridors where these pass through open spaces in the urban scape and the more rural north west.

5.76 London BAP habitat opportunities identified by GIGL for rivers and streams include a number of sites along the principal watercourses which flow through Enfield.

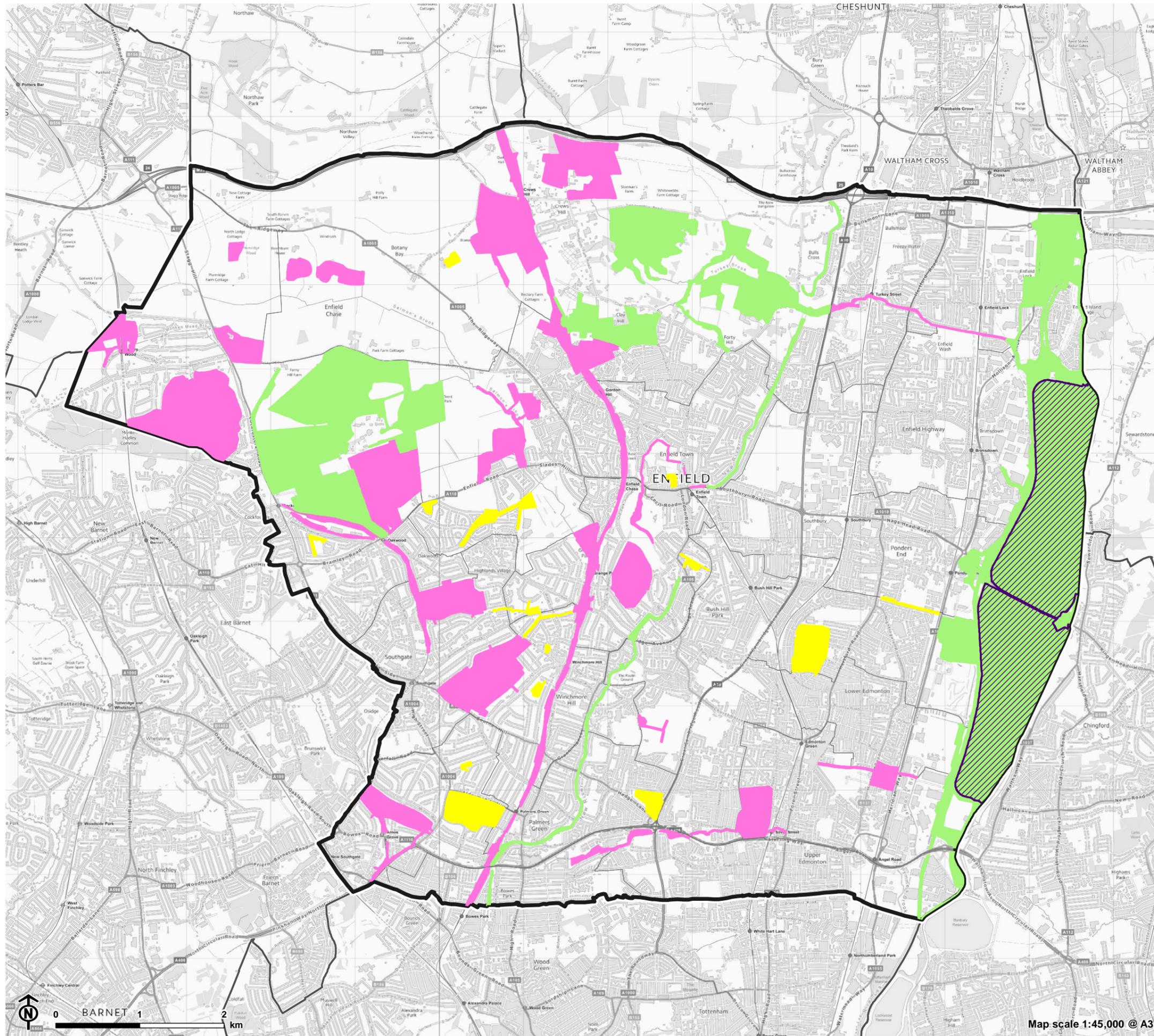
³⁴ Watercourses Team, Principal Engineer, pers. comm.

³⁵ Broomfield Park Wetland, Bury Park Lodge Wetland, Enfield Town Park Wetland, Firs Farm Wetland, Glenbrook Park Wetland, Groveland Park Wetland, Prince of Wales Field Wetland and Pymmes Park Wetland.

³⁶ Albany Park River Restoration, Oakwood Park Wetland and Wilbury Way Wetland.



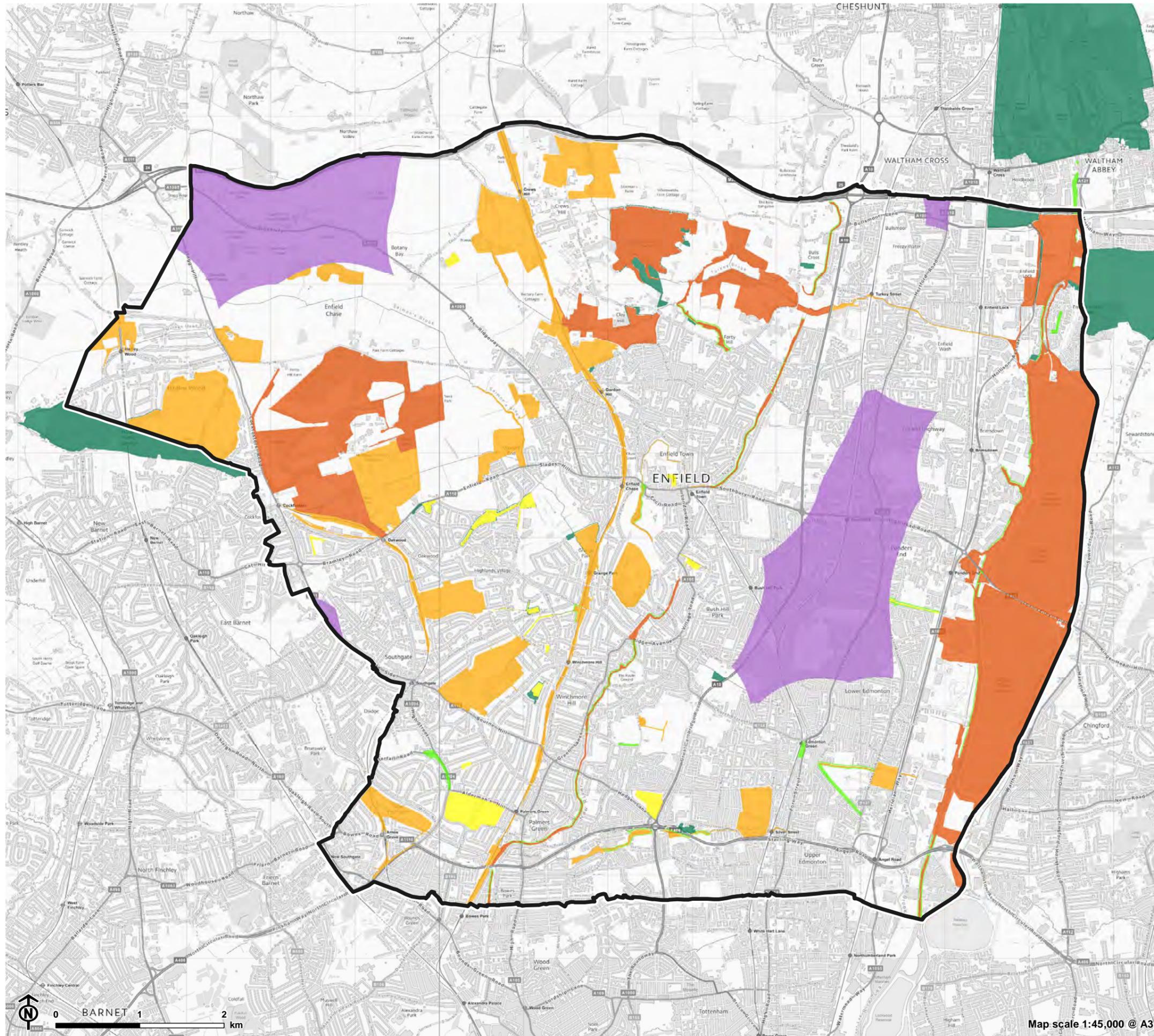
Figure 5.1: Designated Site Network



-  Enfield boundary
-  Neighbouring authority
-  Ward
-  Site of Special Scientific Interest
- Site of Importance for Nature Conservation**
-  Local
-  Borough
-  Metropolitan

Map scale 1:45,000 @ A3

Figure 5.2: Areas of Deficiency in Access to Nature

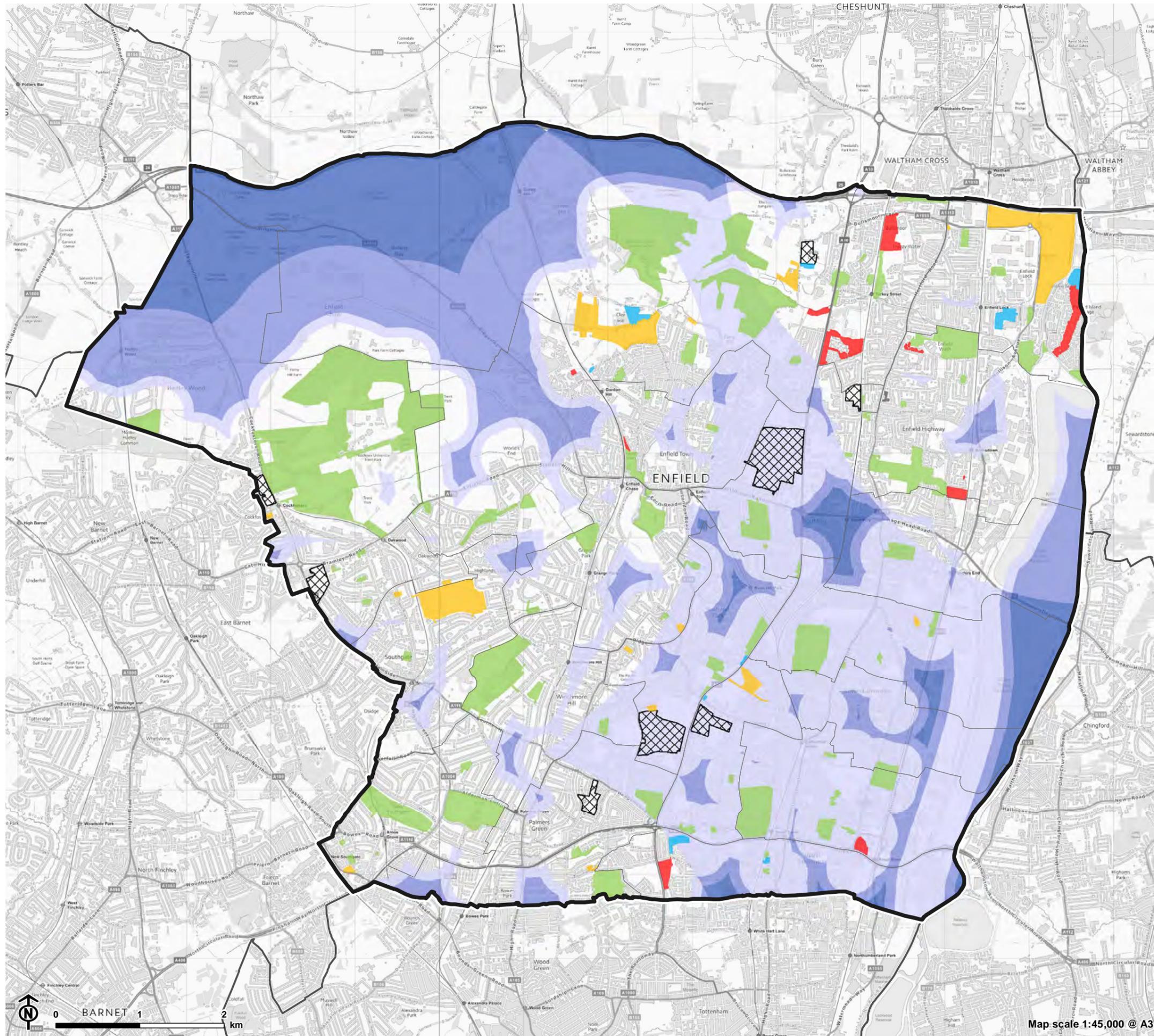


- Enfield boundary
- Green chain or corridor
- Natural and semi natural green space
- Areas of deficiency in access to nature*
- Site of Importance for Nature Conservation (SINC)**
- Local
- Borough
- Metropolitan

*Based on deficiency in access to accessible Sites of Importance for Nature Conservation (SINC) of Metropolitan or Borough grade, Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar



Figure 5.3: Combined Deficiency



- Enfield boundary
- Neighbouring authority
- Ward
- Publicly accessible outdoor sports facility
- Public open space**
 - Higher quality, higher value
 - Higher quality, lower value
 - Lower quality, higher value
 - Lower quality, lower value
 - Not audited
- Combined deficiency***
 - Deficient in access to 1 level of the hierarchy
 - Deficient in access to 2 levels of the hierarchy
 - Deficient in access to 3 levels of the hierarchy

*Combined deficiency shows where different areas have deficiency in access to open spaces at different levels of the open space hierarchy. Different buffers have been applied to open spaces based upon size, each buffer has been layered to show varying deficiencies in access. Details of the buffers for each level of the hierarchy is as follows:

Metropolitan buffer: 3.2km access buffer (representing 40 minutes pedestrian walking time). Applied to parks and gardens, natural and semi natural green spaces of 60ha or larger.

District buffer: 1.2km access buffer (representing 15 minutes pedestrian walking time). Applied to parks and gardens, natural and semi natural green spaces of 20-60ha.

Local buffer: 400m access buffer (representing 5 minutes pedestrian walking time). Applied to parks and gardens, natural and semi natural green spaces of 2-20ha. Also applied to amenity green spaces.

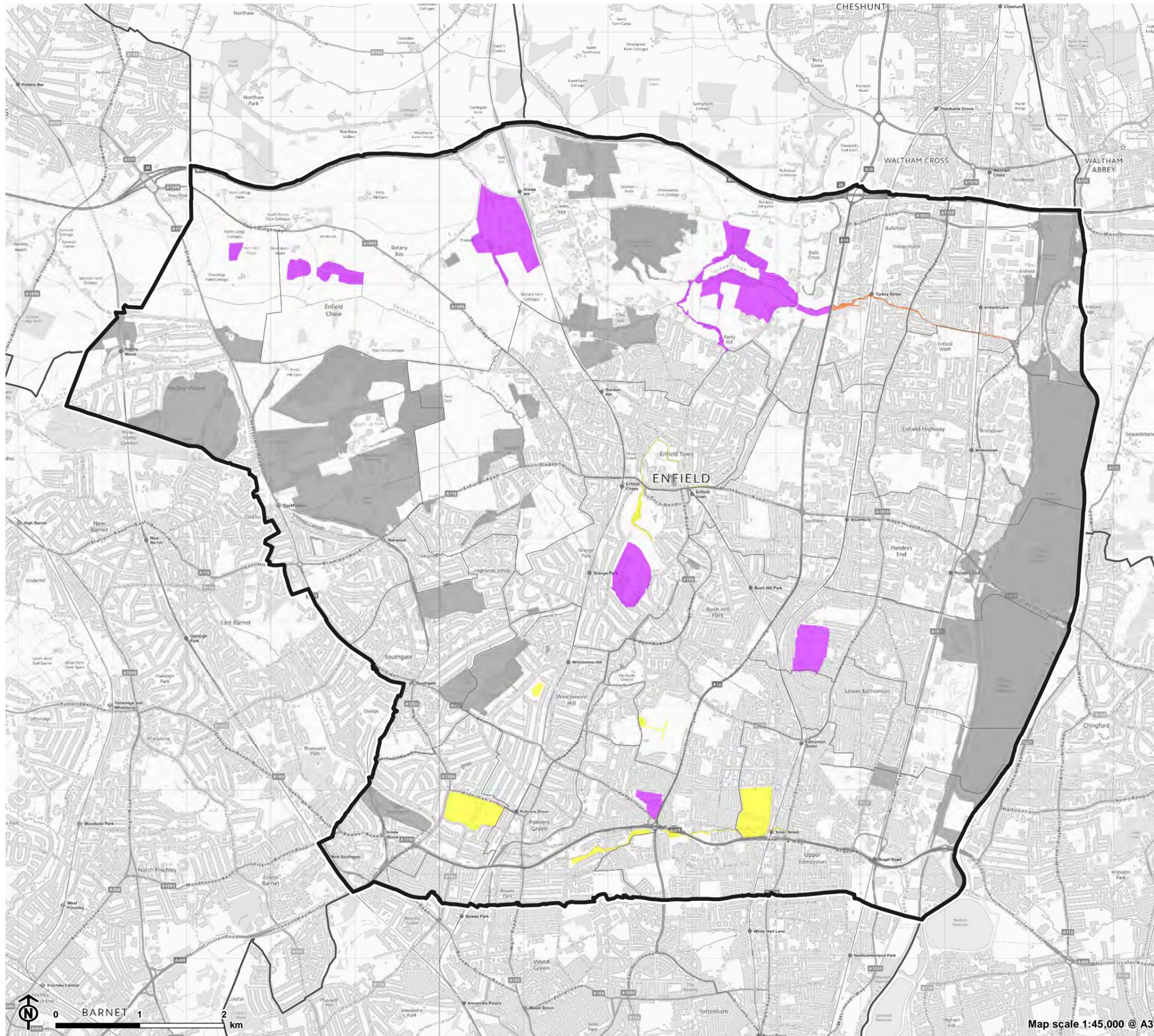
Small local buffer: 280m access buffer (representing 3 minutes pedestrian walking time). Applied to parks and gardens, natural and semi natural green spaces of 2ha or less.



Map scale 1:45,000 @ A3



Figure 5.4: SINC Survey - Summary of Proposed Changes



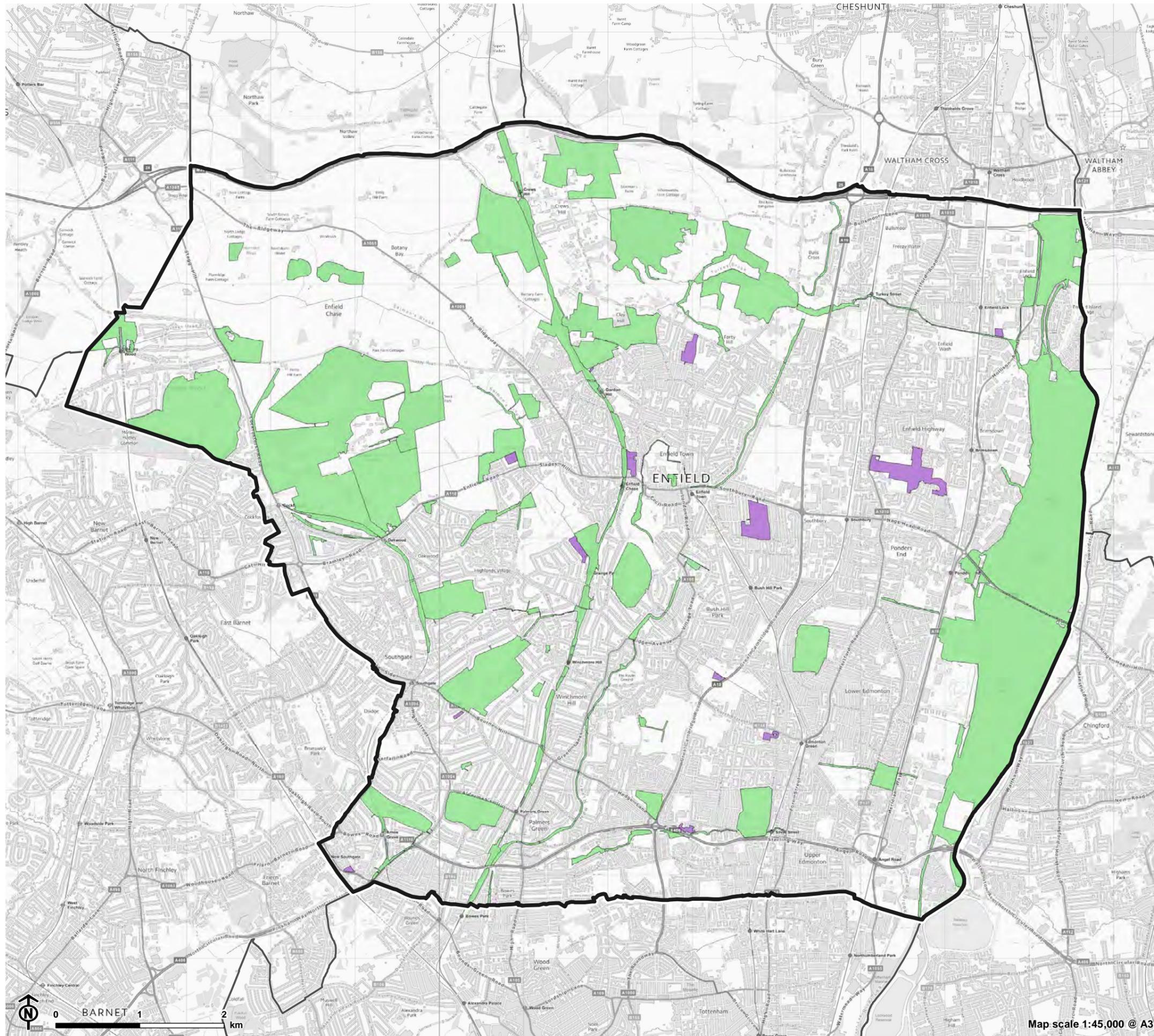
- Enfield boundary
- Neighbouring authority
- Ward
- Proposed SINC change**
- Opportunity
- Upgrade and extension of SINC
- At risk
- No change



Map scale 1:45,000 @ A3

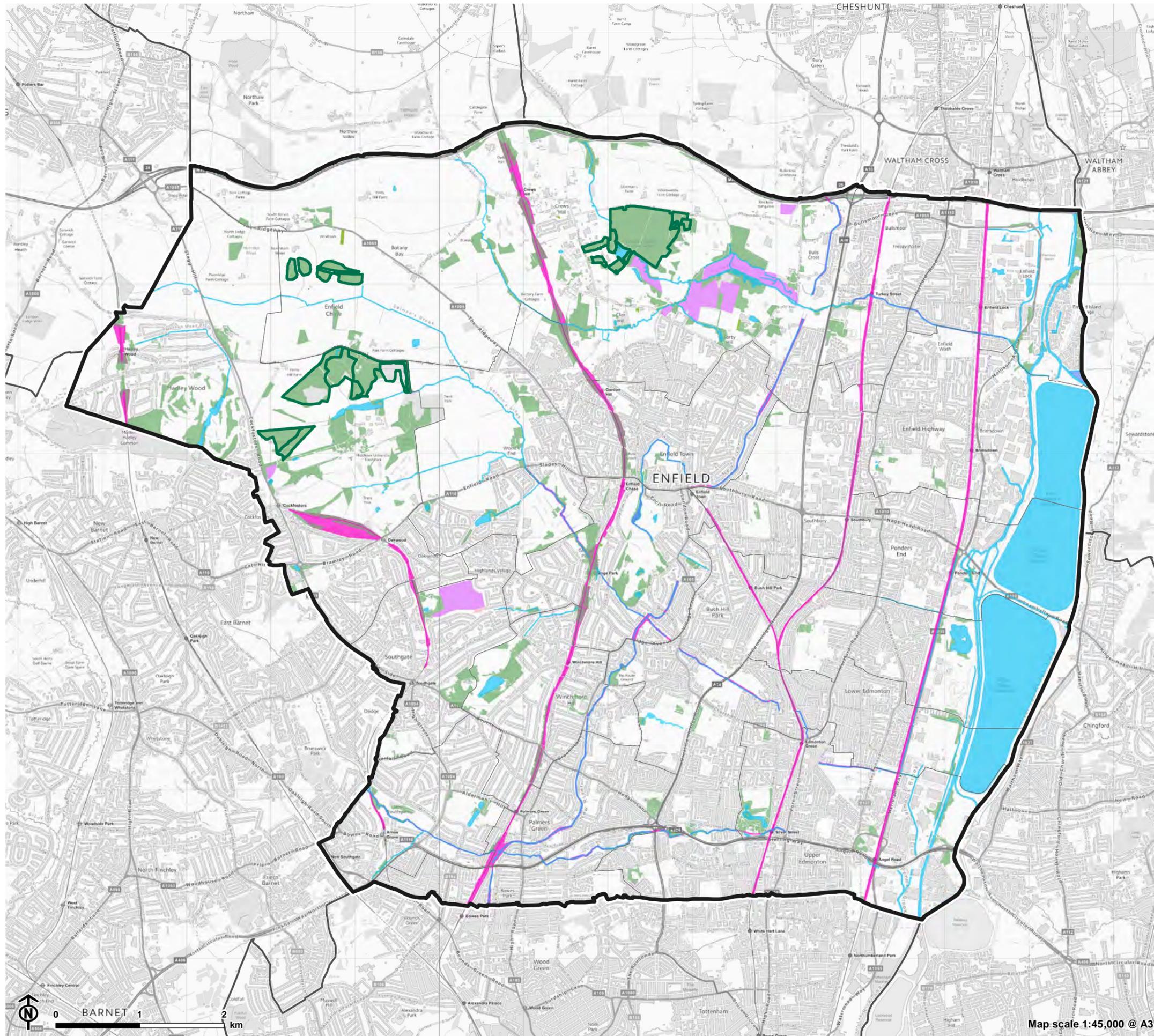


Figure 5.5: Potential Sites of Importance for Nature Conservation (SINC)



- Enfield boundary
- Other Local Authority boundary
- Existing SINC
- Potential SINC

Figure 5.6: Notable and Priority Habitats



- Enfield boundary
- Neighbouring authority
- Ward
- Wildlife corridor
- Ancient woodland
- Surface water
- Priority Habitat**
 - Coastal and floodplain grazing marsh
 - Deciduous woodland
 - Good quality semi-improved grassland
 - Lowland dry acid grassland
 - Traditional orchard





Figure 5.7: Borough Wide Tree Canopy



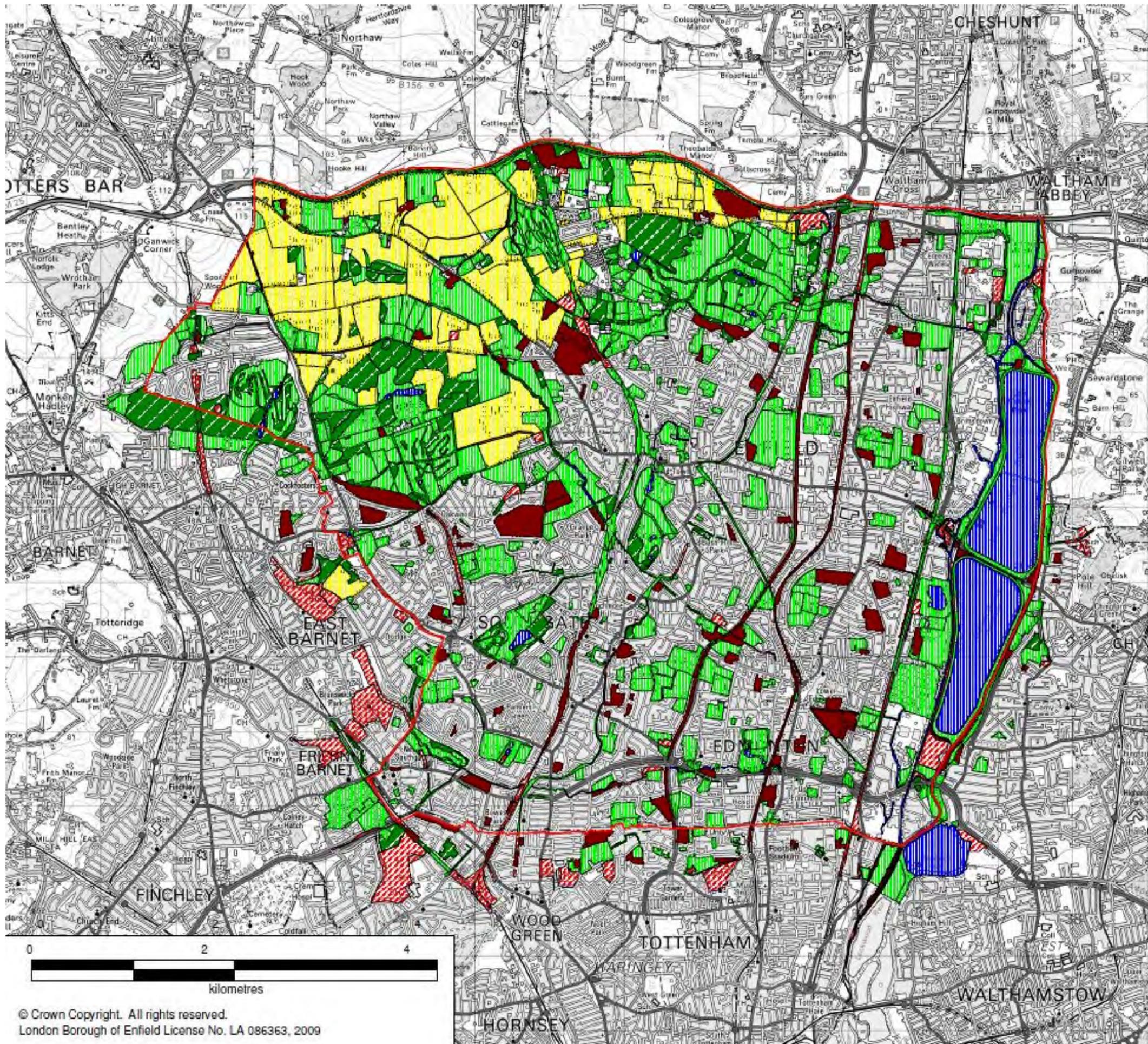
- Enfield boundary
- Neighbouring authority
- Ward
- Street trees
- Broadleaved
- Conifer
- Shrub

Note: Proposed tree planting data to follow



Map scale 1:45,000 @ A3

Figure 5.8: Enfield Biodiversity Action Plan



Broad habitats types

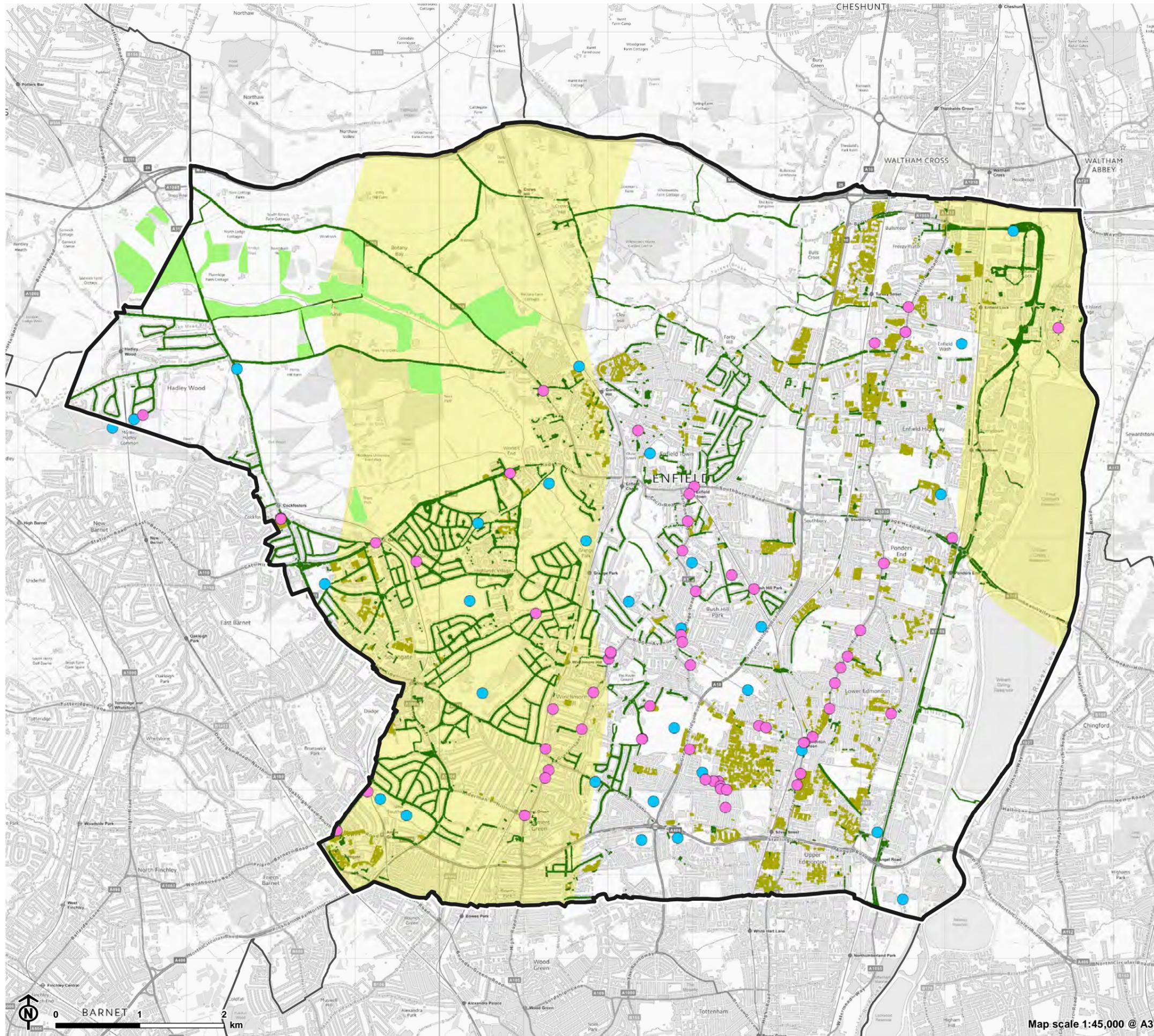
Data from 2006 GLA habitat survey.
Showing GLA polygons where more than 50% of the polygon is covered by a single habitat type and split into the following broad habitat types:

- Acid grassland - Grassland
- Allotments (active) - Wasteland - brownland
- Amenity grassland - Grassland
- Arable - Farmland
- Bare artificial habitat - Wasteland - brownland
- Bare soil and rock - Wasteland - brownland
- Basic grassland - Grassland
- Bracken - Woodland
- Coniferous woodland - Woodland
- Ditches (water filled) - Wet habitats
- Fen carr (woodland or scrub over fen) - Wet habitats
- Improved or re-seeded agricultural grassland - Farmland
- Native broadleaved woodland - Woodland
- Native hedge - Boundary features
- Neutral grassland (herb-rich) - Grassland
- Neutral grassland (semi-improved) - Grassland
- Non-native broadleaved woodland - Woodland
- Non-native hedge - Boundary features
- Orchard - Farmland
- Other - Other
- Planted shrubbery - Wasteland - brownland
- Reedswamp - Wet habitats
- Roughland (intimate mix of 9, 14 and 6) - Grassland
- Ruderal or ephemeral - Wasteland - brownland
- Running water (rivers and streams) - Wet habitats
- Scattered trees - Grassland
- Scrub - Woodland
- Standing water (includes canals) - Wet habitats
- Tall herbs - Wasteland - brownland
- Typha etc. swamp - Wet habitats
- Vegetated walls, tombstones etc. - Boundary features
- Wet marginal vegetation - Wet habitats

Legend

- Borough boundary
- GLA areas with no predominant habitat type
- Farmland
- Grassland
- Wasteland - brownland
- Wet habitats
- Woodland

Figure 5.9: Strategic Opportunity: A

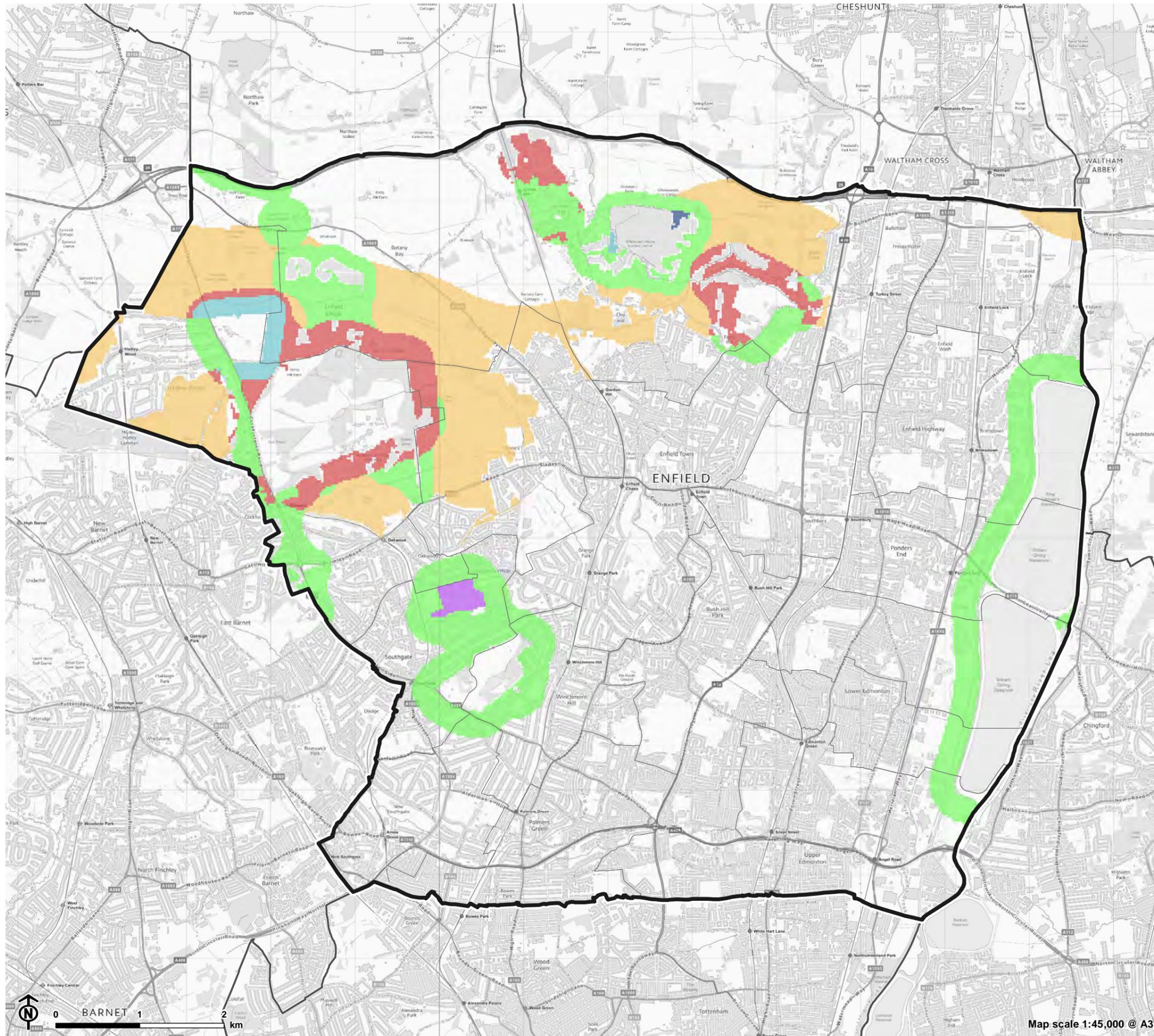


- Enfield boundary
- Neighbouring authority
- B line
- GIBI strategy 2020**
 - Wetland (proposed)
 - Rain garden
 - Woodland (proposed)
 - Highways soft landscape estate
 - Housing soft landscape estate
 - New parks (to follow)



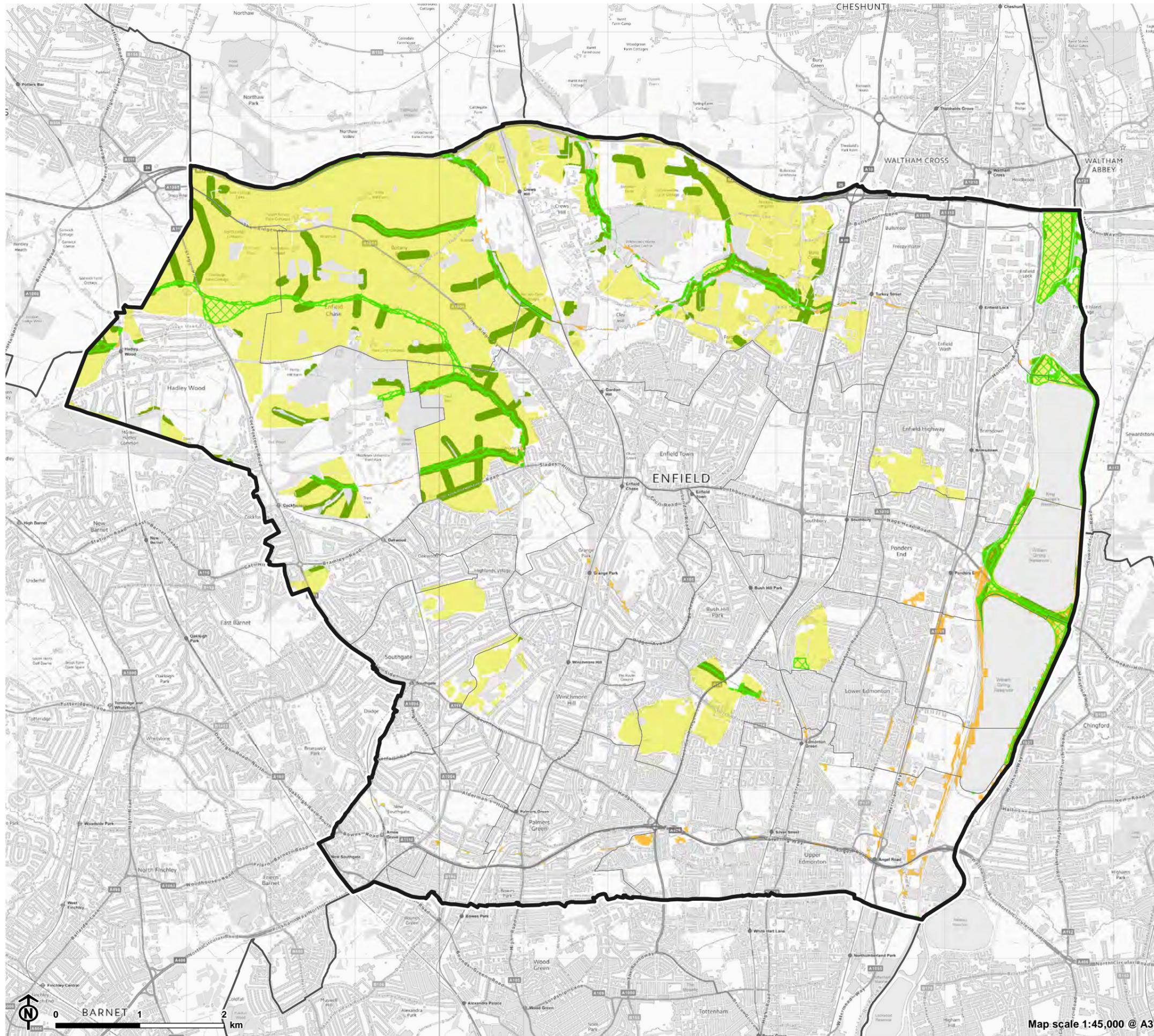
Map scale 1:45,000 @ A3

Figure 5.10: Strategic Opportunity: B



- Enfield boundary
- Neighbouring authority
- Ward
- Habitat Network**
 - Fragmentation action zone
 - Habitat restoration-creation
 - Restorable habitat
 - Network enhancement zone 1
 - Network enhancement zone 2
 - Network expansion zone

Figure 5.11: Strategic Opportunity: C



- Enfield boundary
- Neighbouring authority
- Ward
- Floodplain woodland potential
- Floodplain reconnection
- Riparian woodland potential
- Wider catchment woodland potential



Map scale 1:45,000 @ A3

Chapter 6

Review of Enfield BAP Objectives

6.1 This section reviews the progress made against each of the 27 objectives of the 2011 BAP. The 'biodiversity baseline' of Enfield is described in **Chapter 5**. Where appropriate, recommendations are provided, where appropriate, to complete or update each objective in line with current legislation, policy or best practice. For clarity, any amendment recommended to the wording of an objective is underlined if additional and ~~struck through~~ if to be removed.

6.2 As a result, the objectives address the principal needs recommended in **Chapter 1**:

- To deliver thriving biodiversity which supports both the existing population and future community in the long-term.
- To deliver nature recovery which not only supports biodiversity but optimises wider environmental benefits such as flood alleviation, air and water quality, and carbon sequestration.
- To contribute to a cross-boundary nature recovery network, through constructive partnership working.
- To utilise nature as a tool for improving mental and physical well-being through social engagement, providing space for relaxation, enhancing air and water quality and providing opportunities for physical exercise.

Objective 1: To review our LWS SINC regularly and designate and re-designate sites as appropriate

6.3 25 locally designated sites are listed in the 2011 BAP. The 2011 BAP also included the proposal to increase the network based on the recommendations of the 2006 GLA survey³⁷:
"The GLA recommended that in total 50 sites across the borough be designated as Local Wildlife Sites and, in line with national guidance, a system will be established to review these sites".

6.4 The current SINC network includes 41 sites, an increase from 25 sites since the 2011 BAP. Of these 41 sites, the Review of SINC recommended three sites for upgrade (Crews Hill Golf Course, Jubilee Park and Tatem Park) and three for

³⁷ It is understood that the GLA assessment was not written up in a digitally available report but the results of the survey are represented in Figure 5.8.

extension (Forty Hall Park & Estate, Bush Hill Golf Course and Plumridge, Vault Hill & Little Beechill Woods). These sites (summarised in **Table 5.8:** and **Table 5.9:** and illustrated in **Figure 5.4**) support habitats of higher quality, variety and value than previously identified and/or the site was of sufficient size to provide valuable opportunities for wildlife in an urban setting as well as contribute to the strategic ecological corridors in the borough. Opportunity for significant enhancement has been identified at three other SINC (Broomfield Park, Woodcroft Wildspace and Enfield Loop of the New River) which, once implemented, may also justify upgrade.

6.5 A single SINC – Turkey Brook – has been identified to be at risk of de-designation as the ecological value has declined since the previous survey and would require management to maintain current status. Addressing these recommendations will help to ensure the SINC network supports thriving wildlife and is designated accordingly.

6.6 To extend the SINC network – both in terms of wildlife habitat and increasing public access – additional SINC may be designated. The 13 land parcels identified as potential additional SINC in the open space surveys (see **Figure 5.5**) may usefully be prioritised for consideration. Assessment by an ecological specialist against the SINC criteria will be required before submission of any suitable candidate sites to the London Wildlife Site Board³⁸. It may be appropriate for some candidates to be subject to targeted positive management to increase their value to designation standard prior to submission.

6.7 To support wider extension of the SINC network it is recommended that the borough-wide habitat survey³⁹ be updated, targeting those areas outside the existing SINC network to identify:

- additional potential SINC beyond the reach of the 2020 open space survey (part of the BGI audit); and
- all land parcels to be prioritised for interventions or management which bring them up to designation standard. Interventions may, for example, include some areas of woodland planting being progressed by the council across Enfield Chase (see **Chapter 5: 'Wider Habitat Network'**).

6.8 To rationalise the scale of survey, it may be appropriate to target land under council ownership i.e. at which commitment to long-term management can be assured.

6.9 The Mayor of London SINC selection guidance (section A1.5) requires that “*judgement should benefit from additional*

consideration by a wide range of interested parties. For this reason the procedures include widespread consultation with individuals and organisations with knowledge of the sites and of nature. These include local naturalists, voluntary organisations, land owners, statutory authorities, council officers and elected members”. It is therefore recommended that appropriate consultation be held with relevant parties such as the London Wildlife Trust as part of the network designation process, prior to submission to the London Wildlife Site Board.

Objective 2: To implement ecological management plans for all council-managed SINC LWS by 2015, and to encourage other SINC landowners managers to implement management plans on sites not council-managed by the Council to ensure the entire network meets and maintains the designation standard by 2025

6.10 Each local authority reports annually to DEFRA on the condition of locally designated sites (SINC and equivalent) within their area. It is understood that in the latest reporting submitted (2009/10), of the 26 sites in Enfield, 30% were in positive management. The target to ensure all council-owned sites are in positive management remains pertinent.

6.11 Of the 41 SINC surveyed in 2020, 39% (16 sites) lie within council ownership or part ownership, 12% public ownership and 27% private ownership (see **Table 6.1:**). Ownership of the remaining 22% (nine sites) is not recorded. It is understood that SINC which overlie the heritage parks (e.g. Trent, Arnos, Broomfield, Oakwood and Jubilee Parks) will be subject to some form of management plan, and similarly for those which overlie the principle watercourses (e.g. Salmon's Brook, New River and Pymmes Brook)⁴⁰.

6.12 It is recommended that a register of SINC is compiled and made available for data sharing between council departments, for example, is held on the council's GIS open asset database. Using the SINC boundaries held by GIGL, the register should record land ownership, whether an ecological management plan is in place (or management plan which includes delivery of specifically ecological objectives), the timeframe and the delivery body/partnership (including any key local volunteer organisations or friends of parks groups). The register can inform the most appropriate means to share resources, communication, best practice and funding

³⁸ LWSB (2019) Advice Note: Process for selecting and confirming Sites of Importance for Nature Conservation (SINCs) in Greater London https://www.london.gov.uk/sites/default/files/sinc_selection_process_2019_update.pdf

³⁹ Previously completed in 2006, see Figure 5.8.

⁴⁰ Parks Operations Manager, pers. comm.

opportunities across the borough. Recognition of local interest groups as part of the overarching management may also serve to address objective 21.

Table 6.1: Recorded SINC ownership

Ownership	SINC
Council	Broadgates Pastures
	Boxer's Lake & Lonsdale Drive Woods
	Hounsdon Road Wood & Hounsdon Gutter
	Trent Park
	Arnos Park
	Conway Recreation Ground
	Broomfield Park
	Lakeside
	Oakwood Park
	Woodcroft Wildspace
	Enfield Loop of the New River
	St Andrews Churchyard
	Hilly Fields Country Park
Lavender Hill Cemetery	
Council / private	Grovelands Park & Priory Hospital
	Royal Enfield Rifles Site & Woodland at Vicarage Farm
	Hadley Wood Golf Course & Covert Way Field
Public	Piccadilly Line from Cockfosters Station to Southgate
	Tatem Park
	Whitewebbs Wood
	Forty Hall Park and Estate
	World's End Lane

6.13 The Review of SINC (LUC, 2020) identified opportunities for positive management across the network, as summarised in **Table 5.7.:** Positive interventions range from wetland or meadow creation, tree planting and management, introduction of a sensitive mowing regime, to visitor education. For some SINC, multiple opportunities may be identified.

6.14 Management interventions are also recommended to address current threats and disturbance and ensure the SINC

network is returned to optimal condition and maintained so in the long-term. As summarised in **Table 5.6.:**, threats and disturbance issues include presence of invasive species, issues associated with recreational use (such as erosion and litter), as well as vandalism and fly tipping. Addressing these issues would help to ensure the SINC network remain in optimal condition for the benefit of wildlife and to address AoD in access to nature. The issue of invasive species is specifically addressed in objective 24.

6.15 One SINC – Lavender Hill Cemetery – was identified with the specific threat of 'redevelopment'. This category was used to flag the risk of impact to the ecological value of the SINC as additional graves are added to the burial space capacity within the site. It is recognised that many SINC will serve multiple functions beyond purely supporting biodiversity but to remain designated in the long-term requires the ecological criteria to continue to be met. This is an example where the role of an ecological management plan can help to inform management decisions.

Objective 3: To deliver Enfield's share of the London priority habitat targets

6.16 The replacement London Plan sets out the current targets for biodiversity action across the city, by London BAP habitat type. To identify the appropriate proportion of targets for delivery within Enfield, recognising the local geology, soils and priority habitat classification, it is recommended that update of the available 2006 survey data be completed to identify the habitat types and condition present across the borough. This will enable realistic target for habitat creation and enhancement to be set and quantified. This will also serve to deliver part of objective 1 (identification of potential additional SINC).

6.17 It is recognised that some targets, such as woodland, may readily be achieved through delivery of the proposed planting set out in the Blue and Green Strategy, coupled with a small number of large sites recognised to be in need of positive management, such as Trent Park. However, the vision for nature networks is to ensure biodiverse-rich habitats are far-reaching, through both rural and urban environs. Whilst some habitat targets may therefore be accelerated, a comprehensive approach to capture all that are relevant to the borough is recommended.

Expertise

6.18 The Enfield BAP Partnership was originally established to support the 2011 BAP. The partnership was led by the council and included internal partners, public and private organisations, charity and voluntary groups, and individuals. However, knowledge of biodiversity is now shared between staff responsible for flood, landscape and operations

management. It is recommended that the council re-establishes partnerships through the Blue and Green Strategy and secure additional expertise to oversee future action on biodiversity and nature recovery in Enfield. Communication with those currently carrying this working knowledge should be established to ensure the positive work underway can be taken forward to best effect.

6.19 The London Biodiversity Partnership disbanded in 2013 following a national decline in support for BAPs. However, there is still regional and organisational delivery of the London BAP (information now coordinated by GIGL), as well as many London borough-focused plans that translate the commitments at the local level⁴¹. It is therefore recommended that a mechanism for collaborative working with London-wide partnership bodies be established. This may include the London Wildlife Trust, RPSB and GIGL as well as building on the existing good relationships with Natural England, the Environment Agency and utility providers.

Objective 4: To identify all sites suitable for inclusion for payment through Higher Level Stewardship agri-environment, land management and the England woodland grant schemes, and bring these sites into management under these schemes where appropriate

6.20 It is recommended that this objective be revised to capture the broader range of agri-environmental payment schemes currently available or which are forthcoming. These are summarised as follows:

- The Forestry Commission Woodland Carbon Fund (WCF)⁴² is available to public and private bodies to support planting of large-scale productive woodland, including at Enfield Chase.
- Environment Agency funding for natural flood management also supports the creation of naturalised habitats on former intensive agricultural land at Enfield Chase.
- DEFRA proposes to replace the current Environmental Stewardship with Environmental Land Management (ELM) scheme in 2024. A number of research studies to assess implementation and monitoring of the management measures, across a number of habitat types, is underway and public consultation on the ELM approach is in progress⁴³.

6.21 Grants and funding successfully support biodiversity management at a number of designated nature conservation sites, semi-natural green spaces, and areas of proposed tree planting within Enfield. The WCF, for example, is used to support delivery of the large-scale woodland creation, which is in progress in the north west of the borough at Enfield Chase.

6.22 It is recommended that a register of grants and funding in place or under application at council-managed sites is made available for data sharing between council departments. This would support collaboration between different departments, whether seeking to deliver flood alleviation or nature recovery. As a minimum, the register should include council-owned farms and the SINC network. This register may cross reference, or form an extension of, that recommended under objective 2 (addresses the tracking of ecological management plans on SINC).

Objective 5: To identify projects and seek external funding, and partnership working for biodiversity projects

6.23 Enfield London Borough Council has worked in partnership with multiple bodies to deliver a range of projects since the 2011 BAP. Partnership working not only enhances the chance of funding but also the successful delivery of a project. Increasingly, these serve to include biodiversity as one of several multifunctional benefits (such as the WCF - see objective 4). Looking ahead, therefore, it is recommended that funding and partnership opportunities be progressed in parallel with those of the Blue and Green Strategy. Strategic programmes therein include the river and wetland restoration programme, the grey-to-green corridors and Enfield Chase restoration.

6.24 The restoration of Enfield Chase is one of the largest and most high-profile biodiversity projects in London. The emergence of the project has come through successful partnership working, both internally between different council departments, and externally with the Environment Agency and farmers. The majority of funding for the project has come from the Mayor of London and Enfield's capital programme. The delivery of the project is now underway and is utilising volunteers within the community to help with tree planting.

6.25 Thames21 in partnership with the council is undertaking community-based flood modelling to inform the location of several new and proposed wetlands through the Community Water Management for a Liveable London (CAMELLIA)⁴⁴ and Blue Green Infrastructure through Social Innovation (BEGIN)⁴⁵ programmes. Examples include Firs Farm wetland,

⁴¹ <https://www.gigl.org.uk/londons-biodiversity-action-plan/>

⁴² <https://www.gov.uk/guidance/woodland-carbon-fund>

⁴³ <https://www.gov.uk/government/consultations/environmental-land-management-policy-discussion-document>

⁴⁴ <https://www.camelliawater.org/cm-enfield>

⁴⁵ <https://keep.eu/projects/19128>

Hounsden Road raingarden and Pymmes Park wetland. Whilst not strictly biodiversity-led, both provide a framework for residents to become more involved in the decision-making process, therefore increasing community engagement and buy-in.

6.26 Potential external partnership bodies include:

- Environment Agency
- Thames Water
- Thames21
- Greater London Authority
- Transport for London
- Lee Valley Regional Park Authority
- London Wildlife Trust
- Natural England

6.27 To ensure continued external funding is secured, projects which are multifunctional and provide a host of benefits alongside biodiversity gain should be explored. This will increase the range of funding opportunities available. Examples include, the Enfield Chase restoration project (delivers carbon sequestration, natural flood management, valuable habitats and enhanced recreation opportunities), the natural flood risk management scheme through the Salmons Brook catchment (delivers natural flood management, woodland and wetland creation, reinstatement of natural watercourse profiles, carbon sequestration and potentially biofuel opportunities), and urban greening as part of urban realm improvements through the renaissance of civic squares, such as at Meridian Water (which could deliver urban greening, flood alleviation and support active travel) and Enfield Town.

Objective 6: To increase the number of green flag sites and write and implement ecological management plans for all green flag sites and major publicly accessible parks

6.28 The Green Flag status is a national award as a “benchmark standard for the management of recreational outdoor spaces”⁴⁶, rather than specific recognition of biodiversity.

6.29 Forty Hall was awarded green flag status again in 2020 and now represents the single such site in the borough. The

number of green flag status has fluctuated. This is understood to be largely in response to changes in funding to submit award applications, although park management continues⁴⁷. Should the borough wish to pursue green flag awards for recreational spaces, funding will need to be re-prioritised.

6.30 Irrespective of green flag status, it is important to have current management plans in place for the protection and enhancement of wildlife habitats across the borough’s major publicly accessible park sites.

6.31 Forty Hall Park is council-owned and is subject to the site management plan which runs to 2022. However, the detailing of ecological management practices is limited and would benefit from revision.

6.32 It is recommended that the SINC register (recommended under objective 2) be extended to include all major publicly accessible park sites to enable data sharing and transparent reporting between council departments, and to steer mobilisation of volunteer groups.

6.33 It is recommended that the register also record the management plans issued with each of the wetland habitats recently created and proposed (see **Chapter 5: ‘Wider Habitat Network’**). These plans typically follow a standard template, which is refined to reflect each wetland location to include management of each SuDS cell and associated planting during the 12-month establishment period, plus aftercare. The register could be used to collate, log and monitor continued progress.

Objective 7: To take a coordinated approach to the protection and management and planting of trees in Enfield

6.34 Tree management within Enfield is currently guided by the:

- Tree Management Strategy⁴⁸;
- Highways Tree Management Strategy⁴⁹.

6.35 It is recommended that this objective be updated to capture tree planting. In line with the national drive to deliver widescale tree planting, Enfield council has planted over 2,000 new trees since 2016, with the target to continue with at least 500 annually. This will contribute to the London-wide canopy network expansion of 10% by 2050 to c31% of the capital’s land area⁵⁰.

⁴⁶ <https://www.greenflagaward.org/about-us/>

⁴⁷ Park Operations Manager, pers. comm.

⁴⁸ <https://new.enfield.gov.uk/services/environment/trees---strategy---tree-strategy.pdf>

⁴⁹ <https://governance.enfield.gov.uk/documents/s11045/Appendix%20-%20Highway%20Tree%20Maintenance%20Service%20Contract.pdf>

⁵⁰ <https://www.london.gov.uk/what-we-do/environment/parks-green-spaces-and-biodiversity/trees-and-woodlands/tree-canopy-cover-map>

6.36 Figure 5.9 shows the proposed areas of new woodland planting across the borough. New planting must be mapped and monitored on an ongoing basis alongside the existing tree stock to optimise the success rate of new planting and ensure a diverse and healthy population in the long-term. This baseline data can also inform future assessment of ecosystem services delivered by trees and, in turn, feedback to ensure the 'right tree, right place' principle achieves greatest benefit.

6.37 The average life expectancy of a London street tree is estimated to be just ten years. This is due to a number of factors including:

- poor installation;
- inappropriate placing;
- poor management; and
- unsuitable risk management leading to removal.

6.38 Sufficient management, particularly of establishing trees, will be needed to ensure a successful tree planting programme across the borough. Encouraging community involvement in both the planting and the upkeep, mostly through watering, can have a significant effect on tree survival rates. This has successfully contributed to the high young tree survival rates enjoyed in Enfield⁵¹.

6.39 Urban and street trees provide important biodiversity stepping-stones, alongside multiple other benefits, within otherwise built-up areas. Their role in supporting biodiversity, enhancing air quality, natural flood risk management, urban cooling and providing amenity value means their delivery should be explored wherever possible. To enhance the street tree population, the planting of new specimens should be incorporated into all highway upgrade works where there is sufficient space and favourable conditions.

6.40 Enfield's tree stock is predominantly composed of native species. Whilst beneficial to biodiversity, this can put them at a greater risk to climate which demands tolerance to widely fluctuating rain and drought conditions. With Enfield's climate in 2050 set to mirror Barcelona's at present⁵², native trees within the borough and the south of England may struggle to cope with the variable temperatures and extreme weather conditions. Furthermore, Enfield may see an influx of invasive species, pests and diseases which thrive more successfully in this climate. This could see native species being out competed or having their population's health severely affected. New planting should contribute to a diverse population of locally appropriate species. This may entail use of different mixes in urban compared to rural areas of the borough, with temperate

biome species less strictly controlled in the former. The Forest Research's Ecological Site Classification Decision Support System⁵³ may be used as a mechanism to identify appropriate tree and woodland species based on soil type and location. This system takes into account the climate change projections for the 2050 and 2080 low and high scenarios of UKCIP02.

6.41 Enfield is currently going through a major period of redevelopment and regeneration. Consequently, it is essential to preserve and protect the borough's existing trees which sit on or adjacent to development as well as plant new trees. Works should:

- cause no harm or loss to any trees covered by a TPO or which provide significant biodiversity value;
- provide adequate separation between trees and the built form; and
- give priority to large, shade-producing trees of native origin.

Objective 8: To manage the highway and housing soft estates to maximise its their biodiversity value

6.42 This objective should be reviewed, in collaboration with council operations management staff to ascertain whether this can be revised to include the housing as well as highways soft estate.

6.43 The vast majority of soft verges are concentrated in the west of the borough, with very little green highway provisions in the east. Many of Enfield's soft verges fall within the extents of the B-Line.

6.44 Figure 5.10 illustrates the B-Line and the areas of highways and housing soft landscape estate. Soft verges which fall within the extents of the B-Line offer primary opportunity for pollinator-friendly sowing utilising native wildflowers as part of an extensive cross-boundary strategy. Roll-out beyond the B-Line can support these species dispersal into the wider landscape – areas of tree planting, urban greening features, residential gardens, etc.

6.45 Council guidance on the management of roads and transport infrastructure would benefit from review in light of best practice guidance from Plantlife⁵⁴, which is referenced in the Mayor of London's Transport Strategy and implemented by TfL. This addresses both sowing and planting, and long-term management. Reduced mowing regimes can benefit

⁵¹ <http://betterstreets.co.uk/enfields-street-trees/>

⁵² Enfield Council (2020) Enfield Blue and Green Strategy

⁵³ <https://www.forestresearch.gov.uk/tools-and-resources/ecological-site-classification-decision-support-system-esc-dss/>

⁵⁴ Plantlife (2019) Managing Grassland Road Verges: A best practice guide <https://www.wildlifetrusts.org/sites/default/files/2019-09/Managing%20grassland%20road%20verges.pdf>

biodiversity, reduce the cost of maintenance and slow flood run-off.

6.46 Objective 8 recognises the value to biodiversity of hedgerows, trees and wetland features within the soft estate as well as grasslands. The Salmons Brook Healthy River Challenge provides an example of SuDS - a swale of wildflowers - provided within the soft estate as a result of Enfield council and Thames21 partnership project.

6.47 Similar to street tree planting, these type of verge upgrades could be prioritised for delivery alongside the planned programme of highway works to reduce the amount of disruption and cost.

6.48 The housing soft estate offers potential for provision of habitat creation and management with the particular function to benefit health and wellbeing of residents. The design of appropriate target habitats – such as urban greening interventions - would therefore require different focus but the principals of centrally coordinated long-term management would be similar, with opportunity for lessons to be learnt across both teams.

Objective 9: To ensure that new developments result in a net biodiversity gain

6.49 It is recommended that the policies of the emerging Enfield Local Plan clarify the requirement for delivery of BNG in accordance with national and London-wide policies (see **Chapter 4**).

Emerging National Standard

6.50 The Environment Bill requires development to deliver at least 10% BNG (see **Chapter 4**), which is anticipated to become mandatory in late 2022 (subject to receiving royal assent in late 2020 at the earliest, plus subsequent two-year transition period).

6.51 The DEFRA Metric is the emerging national standard for calculation of BNG and appropriate metric to be reference in Enfield policies⁵⁵. To reflect proportionality for small schemes and/or urban schemes, assessment of BNG for 'minor development' applications may be simplified⁵⁶. 'Minor development' is defined for residential where the number of proposed dwellings is between one and nine on a site of less than 1ha, or where no. proposed dwellings is not known and the site area less than 0.5 hectares. For non-residential this is

defined as where the site area is less than 1ha or the floor space to be created less than 1,000m².

6.52 It is recognised that the DEFRA Metric includes a bias of 'strategic significance' (maximum of 15% on calculated credits) to encourage BNG to be delivered in an appropriate location, as defined in the Local Plan. Paragraph 5.30 of the DEFRA Metric, states that "*Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement e.g. Nature Recovery Areas, local biodiversity plans, NCA objectives & GI Strategies*". It is therefore important that these documents site BNG delivery accurately.

Compatibility with the London Urban Greening Factor

6.53 As described in **Chapter 4**, the replacement London Plan policy G5 requires the provision of urban greening to be calculated within major developments using the standard UGF metric. The plan permits that urban greening provision can also deliver against BNG requirements. To provide a consistent London-wide approach, it is recommended that emerging Enfield policy requires UGF targets of at least 0.4 for predominantly residential and 0.3 for predominantly commercial developments.

Legacy of Beneficial Management

6.54 The Environment Bill requires a 30 year management for BNG. This may be secured, for example, as a habitat management plan under a planning condition. Use of a conservation covenant, may also deliver BNG outside of development. Monitoring and enforcement would need to be delivered by the 'responsible body' - potentially a conservation charity or public body.

6.55 Whilst BNG cannot be delivered at a designated site (where favourable status inherently forms a requirement), this may be achieved at other parks and greenspaces. Sites at which substantial BNG is delivered may form candidates as additional SINC to expand the SINC network (as recommended in the review of objective 1). Subsequent designation as a SINC offers opportunity to secure BNG in perpetuity, at sites accessible to the local community.

Objective 10: To screen all planning applications for the need for an ecological assessment, not determining them until the

⁵⁵ Current iteration Metric 2.0 continues to undergo review, led by DEFRA and informed by consultation with practitioners. It is supported by best practice guidance issued by the collective chartered bodies of IEMA, CIEEM and

CIWEM, and will be compatible with the future biodiversity credit system (see objective 11).

⁵⁶ The simplified assessment process for minor sites is in progress, led by DEFRA

likely ecological impact has been fully understood

6.56 It is recommended that the policies of the emerging Enfield Local Plan clarify the requirement for a planning application to be assessed in accordance with current legislation and policy. Key considerations include:

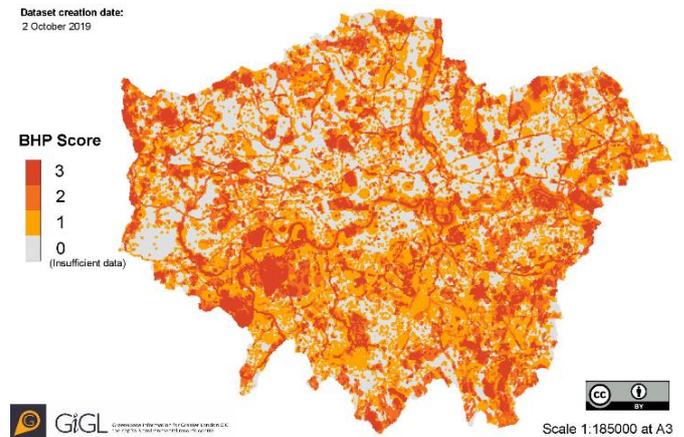
- potential direct or indirect impact/s on international or European designated sites including consideration of cumulative impacts beyond the borough boundary;
- potential impact/s on national designated sites;
- potential impact/s on local designated SINC, on protected or notable habitats including ancient woodland;
- potential impact/s on protected species;
- potential impact/s on wider ecological resources; and
- the requirement to deliver BNG (see objective 9).

6.57 Whilst there is currently little change to English nature conservation law anticipated as a result of Brexit, policies will need to be sufficiently flexible (or subject to further review) in light of future changes to legislation which may arise as a result of departure from the European Union.

6.58 Internal council guidance and training in support of these policies may reference the GIGL Biodiversity Hotspots for Planning⁵⁷, which indicate the presence of biodiversity that may be sensitive to development as a tool to support planning decision-making (**Inset 6.1**). The grain is mapped as 100m hexagon tiles based on the following (features within Enfield are as described in **Chapter 5**):

- national and international designated sites +100m buffer;
- priority habitats +50m buffer;
- protected and priority species - presented as three categories of European and national protected species with impact buffer of +50 to +500m.

Inset 6.1: GIGL Biodiversity Hotspots for Planning in Greater London



Objective 11: To explore opportunities for funding biodiversity and green infrastructure projects through developer contributions

Funding Mechanisms

6.59 The requirement for delivery of biodiversity net gain (BNG) under the draft Environment Bill is proposed to be delivered through continued use of the Community Infrastructure Levy and section 106 funding (or equivalent) and/or through use of a conservation covenant.

6.60 Funds may also be made available where requirement to deliver suitable alternative natural green space (SANGS) is identified to mitigate specifically for potential impact on European designations. Such funds must be spent prescriptively on the specified SANGS to ensure the target habitats establish and maintained, and that the qualifying features of the designation remain in favourable conservation status.

6.61 Longer-term, the bill describes use of a national market of biodiversity credits to fully support the delivery of BNG. In autumn 2020, DEFRA appointed research into the function and development of this market, in support of the bill becoming mandatory. In principle, the market will enable BNG which cannot be delivered on or adjacent to a development site to instead be transferred to biodiversity credits which fund BNG delivery at wider distance through a national scheme. Note that one of the founding principles of BNG is that offsite delivery is considered a 'last resort'. This objective will need to

⁵⁷ <https://data.london.gov.uk/dataset/biodiversity-hotspots-for-planning>

be kept under review in light of the future biodiversity credit market as it emerges.

Strategic Delivery of Offsite BNG

6.62 It is anticipated that local authorities will seek to ensure BNG is delivered at sites within their administrative area or as collaborative cross-boundary network projects. Identification of sites for future strategic delivery of BNG is being progressed by a number of local authorities, nationally, and the methods for identification of sites is evolving. Some authorities lead sites selection in-house whilst others have opted to include a call for 'green sites' alongside the call for development sites as part of the Local Plan process. Green sites have, for example, been promoted by charitable trusts and/or private landowners able to offer delivery of BNG at scale.

6.63 Within Enfield, preliminary identification of sites may be informed using the habitat survey information recommended in objective 3, and the suite of London-wide data held by GIGL which can be accessed via data sharing agreement (also recommended in objective 24) or by individual paid request. Site selection would be informed by discussion across relevant council departments (such as flood management and landscape specialists leading the strategic woodland and wetland creation sites described in **Chapter 5: 'Wider Habitat Network'**) and potentially also landowners or land managers. The importance of consultation in this process is recognised in the 2019 CIEEM best practice guidance⁵⁸ for local planning authorities on the delivery of BNG.

6.64 Strategic BNG sites can deliver wider benefits, overlapping the multifunctional 'services' typically associated with blue and green infrastructure. However, their role must primarily be to achieve the BNG which cannot otherwise be achieved onsite within development/s.

6.65 BNG aims to deliver habitats of similar type to those impacted by development, to ensure the diversity is maintained. Open grasslands supporting a good assemblage of farmland birds, for example, that may be lost to development, should in principle be accommodated within the provision of gain.

6.66 It will be important for the council to have a mechanism to centrally record and monitor the delivery and maintenance of BNG across the borough. This may be supported through the collation of ecological records obtained through the planning application and condition process (objectives 26 and 27).

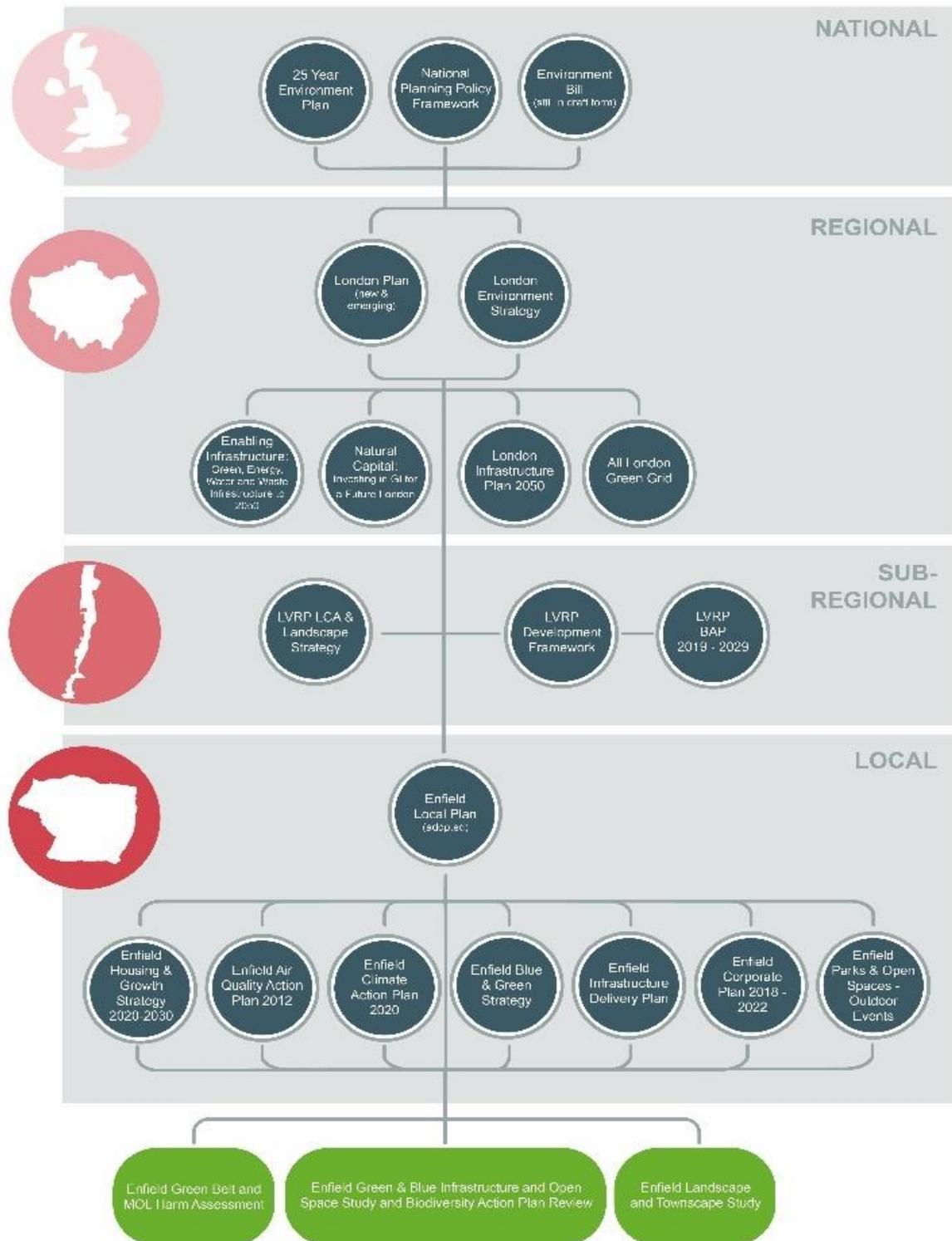
Objective 12: To ensure that policies and plans refer to biodiversity conservation and the BAP where appropriate

6.67 Figure 6.1: summarises the national, regional, London and local policy relevant to biodiversity as part of the wider environmental consideration. Objective 12 highlights the need for biodiversity to be considered from the outset in these plans, if biodiversity gains are to be maximised. Biodiversity is recognised as one of the seven themes in the 2020 BGI audit and forms an integral component of the local strategies and actions plans which support the Enfield Local Plan.

⁵⁸ CIEEM, IEMA & CIRIA (2019) Biodiversity Net Gain. Good practice principles for development: A practical guide <https://cieem.net/wp->

<content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

Figure 6.1: Infographic of planning policy relevant to biodiversity and blue and green infrastructure in Enfield



Cross-boundary Networks

6.68 Recognising the cross-boundary nature of the biodiversity assets within Enfield, objective 12 also highlights the need to ensure relevant cross-boundary strategies and the BAP complement each other. Please note that the London Plan and relevant proposed policies of the replacement Plan have been considered within the recommendations of this review (e.g. objectives 9 and 14).

6.69 The prioritisation of a network-led approach to nature recovery sits at the heart of the government's 25YEP. Importance is given not only to biodiversity across geographic boundaries but also 'functional' boundaries – as importance is given to optimising the value not only for biodiversity but wider environmental benefits such as carbon sequestration and flood alleviation. Currently, the recognition of multifunctional benefits is coordinated through the Blue and Green Strategy (refer to objective 15). Any future cross-boundary LNRS should be recognised in future iteration of the strategy and supported in future Local Plan policy.

Policy to Deliver Thriving Biodiversity

6.70 Current CIEEM best practice guidance (2019) for local planning authorities on the delivery of BNG reflects the mitigation hierarchy i.e. the requirement to deliver BNG onsite and only where this is not possible to address off site delivery.

6.71 The requirement to ensure emerging policy accurately references current legislation, including the requirement for at least 10% BNG, is addressed under objective 14. The importance of the DEFRA metric as the emerging national standard to calculate BNG is addressed under objective 9.

6.72 Identification of sites for the strategic delivery of offsite BNG is addressed under objective 11.

6.73 The importance of early consideration of biodiversity and of BNG within place-shaping and the development design process is addressed under objective 19.

6.74 Opportunities for local authorities to support delivery of BNG through the planning process extends from early consultation (such as the pre-application process), through impact assessment (to inform development siting, layout and design as must accompany a planning application), through detailed design to construction and long-term maintenance and monitoring. Standard design guidance provided by the council can help to ensure best practice measures are implemented and innovative design encouraged. The council landscape and flood management teams are, for example, developing an example specification for rain gardens⁵⁹. The benefits lie not only in appropriate design and accurate

construction but in supporting transfer to adoption (where appropriate). This would be of benefit, for example, at Meridian Water where new parklands are intended for long-term maintenance by the council. Specifications may also be developed, for example, in relation to street tree soil volume and protection.

Enforcement

6.75 It is recognised that policy requirements or standard design guidance are dependent on enforcement to be successful. As recognised under objective 3, expertise is held across a number of council departments. It is therefore recommended that the role to oversee the development and implementation of policy to deliver thriving biodiversity and nature recovery, be clearly defined within the council staff.

Objective 13: To raise awareness of the value of biodiversity for the natural services it provides and to ensure that biodiversity is given the appropriate weight when decisions are made

6.76 Objectives 10 and 12 require the awareness of biodiversity to underpin council policies, plans and determination of planning applications. To address objective 13, it is recommended that these steps also recognise the ecosystem services delivered as result of thriving biodiversity to create understanding of its value.

6.77 Measuring the loss or gain of biodiversity within the borough, for example through delivery of objectives 1 to 9, should be paired with recognition for the loss or gain of associated services.

6.78 The 2020 Natural England Natural Capital Atlas for Greater London (NCA15)⁶⁰ describes the current condition of the natural capital assets and the ecosystem services they provide in a manner consistent with the rest of the nation. It is recommended that future monitoring of the assets and services is pursued in similar London-wide scale, through partnership working across the region.

6.79 It may be appropriate for Council staff in related disciplines to be offered training on:

- the importance of biodiversity and the principal aims behind biodiversity action in the borough;
- the threats posed to biodiversity in a local, national, and global context; and

⁵⁹ Senior Landscape Architect, pers. comm.

⁶⁰ <http://publications.naturalengland.org.uk/file/6236406991290368>

- the measures and mechanisms available to, and required of, them to help address such threats in a constructive way.

Objective 14: To ensure that all partners are aware of and fulfil their legislative duties in respect to biodiversity (such as ensuring that development proposals do not adversely impact upon protected species and habitats)

6.80 The current context for legislation and policy in respect of biodiversity is provided in **Chapter 4**. This includes forthcoming legislation (such as the Environment Bill) and policy (such as the replacement London Plan).

6.81 The current network-led approach set by government bodies to deliver the goals of nature recovery set out in legislation and policy are provided in **Chapter 2**.

6.82 Collectively, this information updates the 2011 BAP (Section 2: 'Background' and Appendix 1).

6.83 As described in objective 13, it may be appropriate for council staff in related disciplines to be offered training.

Objective 15: To produce and deliver a blue and green infrastructure GI plan, consolidating these GI elements in existing policies and plans

6.84 Enfield's Blue and Green Strategy consolidates and updates the GI elements of other council workstreams, such as those relating to flood alleviation, to provide a single comprehensive strategy for the borough. Three of the seven multifunctional themes relate to the BAP:

- biodiversity;
- urban greening; and
- woodland and trees.

6.85 The remaining themes are:

- landscape and cultural heritage;
- blue infrastructure;
- access and connectivity; and
- open space, sport and recreation.

6.86 The Blue and Green Strategy will sit alongside an action plan to ensure successful delivery.

Objective 16: To raise awareness of the links between climate change and biodiversity and ensure that biodiversity is referred to in climate change policies and plans

6.87 In July 2019, Enfield council declared a climate emergency. Actions to address the emergency have since underpinned the policy development and activities of the council.

6.88 In July 2020, Enfield council adopted the Climate Action Plan, which sets out a commitment to becoming a net zero organisation by 2030 and create a carbon neutral borough by 2040.

6.89 Alongside this, the long-term vision for the natural environment is: *"By 2030, we will have a natural environment that enhances biodiversity, provides significant protection against flooding and which helps to mitigate overheating in London. By 2040 we will have achieved a net increase in green infrastructure of 25% compared to today."*⁶¹

6.90 National policy, principally the government's 25YEP, requires biodiversity conservation to be planned and coordinated using a network-led approach, trickling down from the national nature network, to ensure more local detail and delivery reflects the scale of our river catchments, aquifers or carbon sinks, and is compatible between delivery bodies.

6.91 The increase in blue and green infrastructure across Enfield, as identified in the Climate Action Plan includes:

- developing a green infrastructure planting programme across urban areas;
- delivering a 10-year tree planting and woodland creation programme in the north of the borough;
- continuing to develop wetland capacity to increase flood resilience; and
- integrating blue and green infrastructure features into the Meridian Water development and naturalising the Pymmes Brook.

6.92 This target has also been embodied into the Enfield Blue and Green Strategy vision.

⁶¹ Enfield Council (2020) Enfield Climate Action Plan. Available at: <https://new.enfield.gov.uk/services/environment/enfield-climate-action-plan-2020-environment.pdf>

Objective 17: To reduce the area of deficiency in access to nature (as defined in the London Plan) and to semi-natural greenspaces

6.93 It is recommended that this objective be amended to also include consideration of semi-natural greenspaces, in recognition of their value, alongside the SINC network, to both biodiversity and people.

6.94 Figure 5.2 maps the AoD of access to nature and to semi-natural greenspace within Enfield, respectively. Recommendations for the expansion and enhancement of the SINC network to address the AoD are described under objective 1.

6.95 Figure 5.3 maps the AoD of access to green spaces within Enfield. Measures to address this AoD can be summarised as follows:

- creation of new open space, such as Edmonton Marshes and Brooks Park;
- upgrade of existing open space by creating wildlife features or enhancing management;
- enhanced connectivity to nature, such as active travel networks to enable easy access to these sites. This could also tie in with wildlife corridors (e.g. along watercourses and railsides); and
- identification of 'flagship' access to nature sites, such as the north portion of Lea Valley SINC with cross-boundary connections to Gunpowder Country Park, to encourage people to engage with biodiversity in a managed way and without causing harm.

6.96 Objective 20 addresses public access to parks and open spaces.

Objective 18: To ensure that Local Area Action Plans and local strategic partnership frameworks working are informed by up to date ecological information, opportunities for habitat creation, the potential to enhance and create GI and priorities set out in the Enfield BAP

6.97 Enfield council has prepared statutory Area Action Plans (AAP) across the following strategic growth areas: North East Enfield, North Circular and Central Leaside.

6.98 As part of the review of the area action plans, the council should as a minimum:

- ensure the local area partnerships remain engaged and proactive in delivering thriving biodiversity as an integral part of social and economic renewal;
- review against the strategic opportunity mapping provided in Figures 5.8 to 5.10 to ensure all proposed interventions of the 2020 Blue and Green Strategy are accommodated, and cross-boundary opportunity mapping is fully considered;
- review against the additional potential SINC sites identified in the 2020 BGI audit to accommodate expansion of the SINC network, where appropriate;
- ensure allowance is made for the delivery of at least 10% BNG (see objective 9);
- recognise the natural capital assets set out in Natural England Atlas NCA15 to optimise the ecosystem services locally available (see objective 13).

6.99 The principles of using ecological data to inform decision-making should also inform local strategic partnership working⁶², including that which may inform future delivery of a cross-boundary LNRS.

Objective 19: To ensure that all place-shaping and other masterplan documents have a strong focus on biodiversity enhancements and accommodate biodiversity net gain from inception

6.100 It is recommended that this objective be amended to explicitly reference BNG and the need to accommodate this from the earliest stages of masterplanning. Early consideration of BNG within a landscape-led design process markedly increase the likelihood of successful delivery – in retaining and enhancing viable ecosystems, in managing expectation of future growth options, and informing the vision for a healthy, resilient and vibrant borough of distinct character and sense of place.

6.101 The strategic biodiversity opportunities should be updated in line with current aspirations for biodiversity and expanded to include the wider environmental assets, as described under objective 18.

62
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/83334/1193492.pdf

Objective 20: To ensure that our parks and open spaces are accessible by the public

6.102 Objective 17 addresses the spatial extent of access to nature and to semi-natural greenspaces across the borough – both urban and in the wider countryside.

6.103 The Blue and Green Strategy now provides the primary framework for delivery of access to natural areas across Enfield. Key delivery projects in place and in progress include:

- Enfield healthy streets programme (formerly known as “Cycle Enfield”) delivering key cycle routes and quietways, incorporating raingardens and planting;
- the Walk London Network, London Loop circular Walk and Inspirational London routes, all of which contribute to the 40 miles of public footpaths and bridleways in the borough;
- the Green Loop – a proposed continuous walking and cycling route– extending along the Pymmes Brook corridor to Barnet, along the Salmons Brook corridor to Turkey Brook and completing the circuit back through the Lea Valley Regional Park.

Objective 21: To facilitate access to nature through encouraging voluntary, community and educational activities which take people to natural places

6.104 The healthy parks initiative continues to increase in prominence in the UK and Europe, alongside the recognised benefits of social prescribing through the healthcare system. It is recommended that the council include the concept of healthy parks as part of each park management plan and/or through involvement of the friends of parks groups.

6.105 A number of natural asset enhancement and creation projects led by the council have successfully, or are currently, informed by community modelling i.e. modelling based on recorded interviews with members of stewardship groups and other engaged residents to encourage residents to engage with the decision-making process. Example projects include:

- Enfield Community Mapping for Water Management Project⁶³ (mitigation of water quality issues);
- Enfield Chase Restoration Project (tree planting)
- Montague Recreation Ground;
- Weir Hall Recreation Ground.

6.106 It is recommended that community engagement in the decision-making and design process continues to expand,

cascading down from Local Plan consultation. Further recommendation, specifically in relation to young people, is provided under objective 22.

Objective 22: To support educational activities that encourage students to understand and access nature

6.107 Redevelopment and new development offer opportunity to engage with young people in the making and managing of their local neighbourhoods. The ‘Voice Opportunity Power Toolkit’⁶⁴ was recently launched by the TCPA, Sport England, ZCD Architects, select London boroughs and other contributing bodies to provide a format for public engagement with young people through a series of five workshop sessions. Opportunities to engage young people of Enfield in this way range from redevelopment of the housing soft estate, of public and civic spaces, ‘rethinking the high street’ and, potentially, further development of the strategic growth areas.

6.108 Provision of natural spaces within and in close proximity to education facilities provides immediate resources for students to engage with. Recent project examples include:

- Prince of Wales wetlands - providing 3,000m³ of flood storage, whilst improving biodiversity and educational resources for nearby schools; and
- SuDS for Schools project – delivering SuDS within ten schools in the Pymmes Brook catchment, mimicking the function of natural wetlands (Enfield council / WWT partnership).

6.109 Regarding the role of natural spaces as part of Enfield’s resilience to climate change, the Enfield Climate Change Action Plan includes commitment to raise awareness in schools, as well as engaging with residents to promote low carbon transport and energy efficiency within their homes.

6.110 Modelling climate change resilience as well as teaching the subject helps to inspire buy-in. The Bowes Primary School’s ivy green wall has proved to reduce the level of pollutants in the playground by 22% since installation and has successfully bid for funding as part of the Mayor of London’s Schools and Nurseries Air Quality Audit Programme to further expand climate and health benefits such as additional cycle parking, extension of the green wall and installation of raingardens in the local area.

6.111 Trent Park Forest School (established c2019 with formal OFSTED arrangement) is the first to be hosted in the council’s park estate. In addition to forest school support, it is recommended that the council encourage buddying of schools with local nature conservation providers to deliver activities

⁶³ CAMELLIA (2020) CAMELLIA progress report, June 2020

⁶⁴ <https://voiceopportunitypower.com/>

within the classroom and / or in the field. It is recognised that feasibility will vary on a case-by-case basis dependent, for example, on the proximity of greenspaces to a school or the age and mobility of students, the availability of teaching resources in-school or of outreach programmes offered by local conservation bodies. However, the use of established toolkits and training packages should be maximised, such as those offered by the Wildlife Trust or local greenspace manager.

Objective 23: To maintain and develop establish a partnerships with the region's higher and further educational institutions to involve students in biodiversity projects

6.112 Forty Hall Farm is successfully run by Capel Manor College. Certified organic, this supports livestock, a community orchard, market garden and London's only organic commercial vineyard. The Farm serves as an educational resource for Capel Manor's students, across a range of part and full-time courses, including those within the College's Animal Care, Countryside Management and Horticulture departments. It offers a number of practical land management and food/foraging courses, in essence serving students of ages beyond those of Capel College. The farm also supports a number of community volunteer groups as part of a wider social enterprise. Principals of the Forty Hall Farm model which may be developed with wider education institutions range from organic food production to local low carbon business development to social healthcare provisioning.

6.113 Opportunities for the council to encourage buddying of schools with local nature conservation providers more widely across the borough to deliver activities within the classroom and / or in the field are described in objective 22.

Objective 24: To control invasive species where practicable and to take a coordinated partnership led approach to their management

6.114 The London Invasive Species Initiative (LISI) provides a coordinated approach to raise awareness of, and best practice management principles to address invasive non-native species (INNS).

6.115 LISI is a cross-sector organisation hosted by GIGL, which acts under the direction of the LISI Business Group (currently chaired by the Environment Agency). It is recommended that the planning and delivery of actions to address INNS within Enfield are developed in collaboration

with LISI and, where appropriate, with neighbouring local authorities.

6.116 The London Invasive Species Plan provides the overarching guidance document and action plan for LISI. The recording, mapping and monitoring of INNS across Greater London is coordinated by GIGL. The map can be made available via data sharing agreement (as recommended in objective 11) or by individual paid request.

6.117 Ecological management plans (as referenced in objective 2) should recognise the presence of, and map as accurately as possible, INNS flora and fauna⁶⁵. Records of INNS should be submitted to GIGL to facilitate coordinated planning, resourcing and monitoring of management measures, thereby increasing the likelihood of success.

Objective 25: To undertake partnership projects with other boroughs to enhance biodiversity and ensure that BAPs are coordinated

6.118 As acknowledged in objective 3: 'Leadership of delivery', partnership working is no longer directed by the London Biodiversity Partnership. Consequently, a new mechanism for collaborative working with London-wide partnership will be established.

6.119 As outlined in the Blue and Green Strategy, the council will be establishing a new cross-cutting partnership to lead on the delivery of nature recovery network, with representatives from public, private and voluntary sectors. This body will:

- champion the benefits of biodiversity net gain to a wider audience, including government departments, arms-length bodies and national charities;
- support grassroots level involvement;
- increase the extent and quality of the priority habitats and species; and
- establish appropriate funding and delivery mechanisms.

Objective 26: To facilitate collation of ecological records held by partners and the public and encourage them to pass on this information to London's Environmental Records Centre

6.120 As exemplified in objective 24, centralised coordination of ecological records is necessary to support the identification of important habitat and species (both beneficial and invasive), the monitoring of trends in decline, recovery and growth, and

⁶⁵ <http://www.londonisi.org.uk/what-and-where/species-of-concern/>

coordinate conservation efforts (both resource and funding sources).

6.121 The importance of collating records to maintain a current and relevant baseline that can inform planning and land management decision-making, is also a recommendation of the 2019 CIEEM best practice guidance to support the delivery of BNG.

6.122 Submission of records to GIGL can be facilitated through the following streams:

- requirement for records of protected and notable species, and INNS to be submitted to GIGL as a condition of planning consent (similar to the requirement of Natural England for protected species licence applications);
- submission of records, at least annually, as a requirement of all ecological management plans (see objective 2);
- ensure the importance of and method to submit records is shared with all voluntary, community and educational groups (as part of objective 21); and
- encourage the submission records and analysis of collected data through curricular and extra-curricular activities at local schools and colleges (as part of objectives 22 and 23).

6.123 It is recommended that Enfield council establishes a data-sharing agreement with GIGL, as a swift and cost-effective means for the council to access data ranging from local species records to future London-wide network mapping, that can further in from decision-making.

Objective 27: To pass on ecological records submitted with planning applications to London's Environmental Records Centre

6.124 Objective 27 has been addressed as a component of objective 26.

Summary

6.125 Table 6.2: provides a rapid-reference matrix to summarise the review of the 27 objectives originally set in the 2011 BAP, as described above.

Table 6.2: Summary of 2011 BAP Objective Review

Ref.	Objective summary	Revised text	Yet to commence	No longer applicable	In progress	Complete	Extend scope
1	SINC network	Y	-	-	Y	-	Y
2	SINC network	Y	-	-	Y	-	Y
3	London-wide targets	-	-	-	Y	-	Y
4	Agri-environment	Y	-	-	Y	-	Y
5	Delivery funding & partnerships	-	-	-	Y	-	Y
6	Green flag sites	Y	-	-	Y	-	Y
7	Trees	Y	-	-	Y	-	Y
8	Highways soft estate	Y	-	-	Y	-	Y
9	BNG	-	-	-	Y	-	Y
10	Policy & decision-making	-	-	-	Y	-	Y
11	Policy & decision-making	-	-	-	Y	-	Y
12	Policy & decision-making	-	-	-	Y	-	Y
13	Policy & decision-making	-	-	-	Y	-	Y
14	Policy & decision-making	-	-	-	Y	-	Y
15	Multifunctional benefits & GI	Y	-	-	-	Y	n/a
16	Climate change	-	-	-	Y	-	Y
17	Access & education	Y	-	-	Y	-	Y
18	AAP & place shaping	Y	-	-	Y	-	Y
19	AAP & place shaping	Y	-	-	Y	-	Y
20	Access & education	-	-	-	Y	-	Y
21	Access & education	-	-	-	Y	-	Y
22	Access & education	-	-	-	Y	-	Y
23	Access & education	Y	-	-	Y	-	Y
24	Invasive Species	-	-	-	Y	-	Y
25	Cross-boundary Partnerships	-	-	-	Y	-	Y
26	Ecological records	-	-	-	Y	-	Y
27	Ecological records	-	-	-	Y	-	Y

Chapter 7

Glossary

Table 7.1: Glossary

Term	Description
Agri-environment schemes	Voluntary agreements that provide annual payments to farmers and land managers to ensure they manage their land in an environmentally sensitive way that goes beyond the minimum required of them by regulation. Under the Agricultural Bill, ELMS (see below) is proposed to provide a results-based payment scheme, anticipated to be in place in 2024.
ANGSt (Accessible Natural Green Space Standards)	Published by Natural England in 2010, ANGSt recognises the value of greenspaces, principally in relation to the 'cultural' ecosystem services of health, wellbeing, etc. ANGSt recommends that everyone, wherever they live, should have access to natural greenspace as follows: Of at least 2ha in size, no more than 300m (5min walk) from home; <ul style="list-style-type: none"> • At least one accessible 20ha site within 2km of home; • One accessible 100ha site within 5km of home; • One accessible 500ha site within 10km of home; plus • A minimum of 1ha of statutory Local Nature Reserve (LNR) per 1,000 population.
Biodiversity	The variability among all living organisms - terrestrial and aquatic - and the ecosystems that they are part of. Biodiversity includes the diversity within species, between species and of ecosystems.
Biodiversity Action Plan (BAP)	The UK BAP was drawn up to reflect the UK's commitment to the Rio Convention 1992. Habitat and species to be prioritised for conservation were described, with actions and typically delivery partners identified. Local BAPs reflect local priorities. The UK's commitment is now embedded in legislation through the NERC Act 2006. Section 41 (s42 in Wales) lists the habitats and species of Principal Importance. However, local BAPs remain of value in the identification of actions and delivery partners, and to enable monitoring of progress.
Biodiversity metric	A proxy measure or index of biodiversity to allow comparison over time or space. Metrics are used in recognition that it is not possible to finitely inventory the state of all biodiversity present. In relation to development, the metric is used as a measure of predicted impact(s) on habitats and how much new or restored habitat, and of what type, is required to deliver sufficient net gain. Use of metrics does not replace the need for a detailed biodiversity assessment (as would accompany any individual planning application) or monitoring.
Biodiversity Net Gain (BNG)	Increase in the quality and/or quantity of habitats in comparison to the original condition or baseline i.e. enhancement over and above the level required to mitigate or compensate for detrimental impact, or which is otherwise prescribed or committed to happen (e.g. as part of pre-existing planning consent).
Biodiversity off-set	Compensation for the unavoidable and immitigable loss, fragmentation or other detrimental effect on an ecological receptor. Off-setting seeks to ensure that no net loss in ecological value is achieved.
Biodiversity Opportunity Areas (BOA)	BOA were originally identified at county or regional scale. Some LPA have now progressed a more refined ecological network (see below) which identifies 'opportunity areas' therein. Both have a common aim though scale and age of data is different. BOA remain relevant especially, when considering cross-boundary and wider strategic connectivity.
Biodiversity unit	A unit as measured by the biodiversity metric which represents a combined measure of habitat distinctiveness, area and condition. The production of a biodiversity unit in the habitat market refers to an increase in the biodiversity value of land by one unit.
Blue infrastructure	Green infrastructure relating to aquatic habitats such as rivers and canals.
Compensation	The protection of biodiversity assets should be achieved through avoidance and mitigation wherever possible. Compensation, the next step in the hierarchy, should only be used in exceptional circumstances

Term	Description
	and as a last resort, after all options for avoidance and mitigation have been fully considered. Compensatory measures should, therefore, only be used to address any residual impact that cannot be avoided or mitigated.
Conservation covenants	Voluntary but legally binding agreements under the Environment Bill between a landowner and a designated "responsible body" such as a conservation charity, public body or for-profit body to conserve the natural or heritage features of the land.
Ecological network	<p><i>"An ecological network can be understood as a number of core, well connected, high quality areas of well-functioning ecosystems, together with those parts of the intervening landscape that are 'wildlife-friendly' and which, collectively, allow wildlife to thrive"</i> (NERR082, 2020⁶⁶).</p> <p>An ecological network typically includes core biodiversity areas, buffer zones, corridors, stepping stones and opportunity areas.</p> <p><i>"Local ecological networks can make a significant contribution to developing the [national] Nature Recovery Network. Local ecological networks can be identified and mapped as a part of the plan-making process, with policies identifying appropriate levels of protection and opportunities to create, restore or enhance habitats or improve connectivity"</i> (MHCLG, 2019⁶⁷).</p> <p>NB: Contrast the term 'nature network' which serves both nature and people as interdependent functions.</p>
Ecosystem	A dynamic complex of plant, animal and micro-organism communities, and their non-living environment interacting as a functional unit (CIEEM, 2018).
Ecosystem services	<p>Benefits provided to people by natural capital (ecosystems and the biodiversity they contain). Services broadly comprise:</p> <ul style="list-style-type: none"> • Provisioning services e.g. food, fibre, fuel and clean water; • Regulating services e.g. climate control, flood regulation, carbon storage, pest control and pollination; • Cultural services e.g. recreation, spiritual, educational, intrinsic and aesthetic value. <p>Supporting services (e.g. soil formation, photosynthesis, biodiversity) originally distinguished are now typically seen as functions or processes associated with natural capital 'stocks'.</p> <p>Ecosystem services may be described as 'flow'.</p>
Effect	The effect (e.g. population decline) of a given impact (e.g. habitat loss) on an ecological receptor. Effects may be beneficial or detrimental.
Environmental Land Management Scheme (ELMS)	<p>Founded on the principle of "public money for public goods", ELMS will be the cornerstone of agricultural policy now the UK has left the EU. The Agriculture Bill will provide the underpinning legislative framework for the ELMS. ELMS will provide farmers, foresters and other land managers with an opportunity to secure financial reward in return for delivering environmental benefits.</p> <p>ELMS is currently undergoing testing but is anticipated to be in place in 2024.</p>
Favourable conservation status (of a species)	<i>When "Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and the natural range of the species is neither being reduced nor is likely to be reduced in the foreseeable future; and there is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis"</i> (Habitats Directive, Article 1(i)).
Fragility	<p>One of the Ratcliffe criteria (Ratcliffe, 1977⁶⁸) used to describe nature conservation value.</p> <p><i>"Some habitats and geological features are more sensitive to change and are at greater risk of being lost or damaged due to the direct or indirect impacts of climate change, human activities or other influences"</i> (MHCLG, 2019⁶⁹).</p>
Geodiversity	The variability of rocks, minerals, fossils, landforms, geomorphological processes and soils which collectively underpin the habitats and species which develop thereon. Protection of geodiversity and biodiversity typically sit together, for example, protection of SSSI under the Wildlife & Countryside Act 1981 or protection of non-designated assets in the NPPF.

⁶⁶ Natural England (2020) Natural England Research Report NERR082: Nature Networks: A Summary for Practitioners <http://publications.naturalengland.org.uk/publication/5144804831002624>

⁶⁷ MHCLG (2019) Planning Practice Guidance: Natural Environment – How do local ecological networks relate to the Nature Recovery Network? www.gov.uk/government/collections/planning-practice-guidance

⁶⁸ Ratcliffe, D.A. (1977) A Nature Conservation Review. Cambridge University Press

⁶⁹ MHCLG (2019) Planning Practice Guidance: Natural Environment – Standard Criteria for LWS <https://www.gov.uk/guidance/natural-environment>

Term	Description
Green infrastructure	<p>"A network of multifunctional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities" (NPPF, 2019⁷⁰).</p> <p>"Green infrastructure is the ecological framework for environmental, social, and economic health – in short, our natural life support system" (Benedict & McMahon, 2006⁷¹).</p> <p>Different types of GI will contrast in the functions they serve, such as the distinction between urban green space and wider GI. Some types will score very poorly or not at all, for select functions and this can be entirely acceptable. It is the range of functions that is important to capture in any analysis.</p> <p>Note that green infrastructure may include artificial features such as green roofs, green bridges, wildlife under/overpasses or fish ladders.</p> <p>Green infrastructure is the tool by which ecosystem services can be planned and delivered through policy.</p>
Habitat potential map	Identifies "the potential for an area to support specific habitat creation. Shows areas of lost habitat that need to be restored" (NERR082, 2020).
Impact	The impact (e.g. habitat loss) which causes an effect (e.g. population decline) on an ecological receptor. Impacts may be beneficial or detrimental.
Integrity	In relation to a designated site, 'integrity' refers to the "...coherence of ecological structure and function...that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified" (ODPM Circular 06/2005: Biodiversity and Geological Conservation ⁷²). In relation to species or habitats, 'integrity' refers to the maintenance of the conservation status of a habitat or species population at a specific location or geographical scale.
Landscape character area	<p>A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse⁷³.</p> <p>Identified through a Landscape Character Assessment - the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive.</p>
Local Nature Partnerships (LNP)	LNP bring together local organisations, businesses and people who want to improve their local natural environment. Established in the vision of the Government's 2011 'Natural Environment White Paper', there are 47 LNP across England.
Local Nature Recovery Strategies (LNRS)	LNRS are a new system of spatial strategies for nature under the Environment Bill, covering the whole of England. Locally led by an appropriate "responsible authority", these will identify the opportunities and priorities for enhancing biodiversity and supporting wider objectives such as mitigating or adapting to climate change in an area.
Mitigation	Adverse effects that cannot be avoided should be adequately mitigated. Mitigation measures negate the adverse impact of a plan or project, during or after its completion. In respect to development, mitigation should form part of the development proposal, but additional measures can be imposed by the decision-maker. All mitigation measures should be secured through the use of planning conditions or planning obligations ⁷⁴ .
Mitigation hierarchy	The mitigation hierarchy underpins planning policy and decision making. It requires that potential adverse impacts be avoided or, where this is not possible, mitigated and, as a final resort, compensated (off-set).
Natural capital	"The elements [assets or 'stocks'] of nature that directly and indirectly produce value or benefit to people [i.e. ecosystem services. Natural capital may include] ...ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and fluctuations" (NCC, 2016 ⁷⁵).
Naturalness	One of the Ratcliffe criteria (Ratcliffe, 1977) used to describe nature conservation value.

⁷⁰ MHCLG (2019) National Planning Policy Framework. Ministry of Housing, Communities & Local Government, London, UK <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁷¹ Benedict, M.A. & McMahon, E. (2006) Green Infrastructure: Linking landscapes & communities. Island Press, Washington DC.

⁷² ODPM (2005) Government Circular: Biodiversity & Geological Conservation – Statutory Obligations & Their Impact within the Planning System. Office of the Deputy Prime Minister, London, UK www.gov.uk/government/publications/biodiversity-and-geological-conservation-circular-06-2005

⁷³ Natural England (2014) An Approach to Landscape Character Assessment. Defra

⁷⁴ BS 42020:2013: Biodiversity. Code of practice for planning and development

⁷⁵ NCC (2016) Natural Capital Protocol. Natural Capital Coalition, London, UK www.naturalcapitalcoalition.org/protocol

Term	Description
	"The degree to which a site supports natural features, including rock exposures revealing underlying geology, or demonstrates active or past natural processes" (MHCLG, 2019 ⁷⁶).
Nature network	A nature network may be distinguished from an 'ecological network' as, in addition to the primary role to support thriving wildlife, "a nature network should also enhance natural beauty and conserve geodiversity and opportunities should be taken to deliver benefits for people, such as flood alleviation, recreational opportunities and climate change adaptation and mitigation. These joint aims... are at the heart of nature networks and they are inter-dependent: networks for wildlife that also deliver benefits to people also tend to be more valued by people" (NERR082, 2020).
Nature Improvement Areas (NIA)	Twelve NIA were identified across England (launched 2012) to create joined up and resilient ecological networks at the landscape scale. NIA are run with the aid of LNP. Note that NIA are distinct from the nature recovery areas identified as part of the Nature Recovery Network (NRN) in the Government's 25 Year Plan. Nevertheless, the Monitoring & Evaluation of NIA Report (2012-15) ⁷⁷ remains the primary reference for the NRN.
Nature Recovery Network (NRN)	The NRN, as identified in the 25 Year Environment Plan (2018), is an expanded, enhanced and increasingly connected network of places that are richer in wildlife and more resilient to climate change, that is key to delivering the Government's Nature Strategy outside of designated sites. "It comprises a core network of designated sites of importance for biodiversity and adjoining areas that function as stepping stones or wildlife corridors, areas identified for new habitat creation and up to 25 nature recovery areas [at landscape or catchment scale] for targeted action" (MHCLG, 2019 ⁷⁸). Benefitting wildlife and people, the NRN will provide an integrated approach to nature recovery. The NRN national delivery partnership will be led by Natural England (launched in late 2020), supported by local partnerships. Local Nature Recovery Strategies (LNRS) will be piloted in 2021.
Nature Strategy	Introduced under the 25 Year Plan (2018), the Nature Strategy sets out the Government's approach to deliver our commitments under the Convention on Biological Diversity. The strategy will set the overall ambition and specific goals for habitat and species recovery over ten years: <ul style="list-style-type: none"> • Restoration of 75% protected sites to favourable condition by 2042, • Create or restore 500,000ha of wildlife-rich habitat outside of protected sites as part of a Nature Recovery Network, • Take action to recover threatened, iconic or ecologically important species, • Increase woodland cover, • Improve soil health and restore peatlands.
Offsetting	Biodiversity offsets are distinguished from other forms of ecological compensation by the formal requirements for measurable outcomes: the losses due to impact, and gains achievable through the offset, are measured in the same way, even if the habitats concerned are different ⁷⁹ .
Planning conditions	The Town and Country Planning Act enables the local planning authority to grant planning permission to impose "such conditions as they think fit" to ensure delivery as agreed. This power should be interpreted in light of material considerations such as the National Planning Policy Framework.
Planning obligations	Planning obligations are legal obligations under Section 106 of the Town and Country Planning Act entered into to mitigate the impacts of a development proposal by a person with an interest in the land and the local planning authority.
Position in the ecological mosaic	One of the Ratcliffe criteria (Ratcliffe, 1977) used to describe nature conservation value. The relationship or connectivity of a site or habitat parcel to adjacent areas of nature conservation value. This reflects not only contribution to a functional ecological resource but recognises the ecological character of the locality, county or region.

⁷⁶ MHCLG (2019) Planning Practice Guidance: Natural Environment – Standard Criteria for LWS <https://www.gov.uk/guidance/natural-environment>

⁷⁷ Collingwood Environmental Planning (2015) Monitoring & Evaluation of NIA: Final Report (2012-15). DEFRA Natural England <https://www.gov.uk/government/publications/nature-improvement-areas-improved-ecological-networks/nature-improvement-areas-about-the-programme>

⁷⁸ MHCLG (2019) Planning Practice Guidance: Natural Environment – How do local ecological networks relate to the Nature Recovery Network? www.gov.uk/government/collections/planning-practice-guidance

⁷⁹ DEFRA (2012) Biodiversity Offsetting Pilots. Technical Paper: the metric for the biodiversity offsetting pilot in England

Term	Description
Potential value	Sites or habitat parcels which could, through appropriate management or natural progression, develop greater nature conservation value.
Priority habitats &/or species	These are of Principal Importance in England and are listed in the Natural Environment and Rural Communities (NERC) Act 2006 Section 41 (s42 in Wales). The list includes UK BAP habitats and species (identified in response to the 1992 Rio Convention during the interim period until legislation came into place). Of the s41/42 species, many are also protected under UK legislation.
Rarity	One of the Ratcliffe criteria (Ratcliffe, 1977) used to describe nature conservation value. Rarity relates to the frequency of occurrence, or abundance, of a habitat, species or community. Rarity may be considered at a range of scales – local, county or national, for example.
Recombinant ecology	Flora and fauna not directly representative of an 'original' assemblage at a given locale but are nevertheless locally appropriate in the current context, or indeed as future target for management objectives.
Replacement	Creation of an acceptable substitute habitat for that which has or would be lost, fragmented or otherwise detrimentally affected.
Restoration	The process of assisting the recovery of an area or ecosystem that has been degraded, damaged or destroyed. The aim of ecological restoration is to re-establish the composition, structure and function to a close approximation of its pre-degraded state.
Typicalness	One of the Ratcliffe criteria (Ratcliffe, 1977) used to describe nature conservation value. <i>"Areas that exemplify a type of habitat, geological feature, or a population of a species, that is characteristic of the natural components of the landscape in which they are found"</i> (MHCLG, 2019 ⁸⁰).

⁸⁰ MHCLG (2019) Planning Practice Guidance: Natural Environment – Standard Criteria for LWS <https://www.gov.uk/guidance/natural-environment>