

Biodiversity and Epsom & Ewell



Background Paper

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1. Introduction

This background paper considers the available evidence to develop an approach to biodiversity for the new Epsom & Ewell Local Plan 2017-2037, taking account of national planning policy guidance, relevant legislation and case law, local and regional monitoring data.

The new Local Plan will consider all aspects of planning for Epsom & Ewell's natural environment. While this background paper specifically focuses on the protection and enhancement of biodiversity in Epsom & Ewell, biodiversity and related matters will also be considered within other Local Plan evidence on open space, green infrastructure and as part of the health and well-being of residents.

Key biodiversity related terms are explained in a glossary in Appendix 1.

1.1 Biodiversity

Biodiversity encompasses the whole variety of life on Earth. It includes all species of plants and animals, their genetic variation, and the complex ecosystems of which they are part. It is not restricted to rare or threatened species but includes the whole of the natural world from the commonplace to the critically endangered. Reports indicate that global biodiversity has declined by more than a quarter in the last 35 years, and that more than one in ten UK species are threatened with extinction.¹

The 2016 update of the *State of Nature Report* identified 10 key factors leading to changes to the UK's wildlife over the last few decades, including modifications in the management of agriculture, forestry, water sources and habitats as well as habitat loss and fragmentation from climate change and urbanisation. Many habitats in England are now more fragmented than they were 50 years ago with smaller and more isolated patches of habitat. The report identifies that: *"many of the natural connections in our countryside have been degraded or lost, leading to isolation of sites... Many species are largely restricted to wildlife sites simply because they have mostly been lost from everywhere else. We need to take steps to rebuild nature."*²

While biodiversity is valued in its own right, the consequences of failing to conserve biodiversity would also lead to a range of adverse impacts on human life. The loss of biodiversity alters the capacity of ecosystems to deliver the 'goods and services' vital to sustaining well-being and future economic and social development. Ecosystem 'goods' include food, water, fuels and timber, while 'services' include provisions for air purification, wastes recycling, pollination and climate control. See Figure 1 for more details. To give one example, the decline of pollinator insects would have serious implications for agricultural production with an estimated 84% of Europe's crops having some degree of dependence on insect pollination. Pollinating insects are thought to contribute up to £440m to the UK economy every year.³

¹ PERFECT Interreg Europe (2018) Green infrastructure and biodiversity factsheet 2, p4

² RSPB (2016) State of Nature Report. Available from: <https://www.rspb.org.uk/our-work/stateofnature2016/>

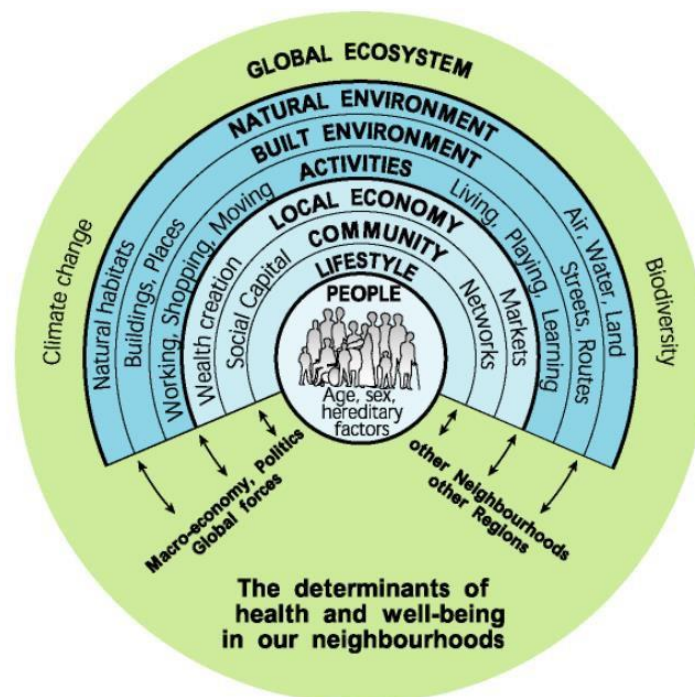
³ Dr Adam. J. et al (July 2014) status and value of pollinators and pollination services. A report to Defra

The global ecosystem and biodiversity are key overarching determinants of human health; the 'health map' in Figure 2 shows the interactions and relationships between people, their quality of life and their local and global environment.

Figure 1: Categories of ecosystem service:

- **Provisioning services** - these take the form of the physical products we obtain from the system such as construction materials, food, water, fuel etc.
- **Regulating services** - these are the benefits arising from the regulation of ecosystem services such as maintaining air quality, climate regulation, water purification and pollination.
- **Cultural services** - the non-physical benefits that the natural environment has for people such as mental wellbeing, spiritual wellbeing, spaces for recreation and social interaction and contributions towards heritage and cultural identity of places.
- **Supporting services** - this final category of services is different to the first three as their benefits are generally indirect for people, or expressed over much longer timescales. These are the services that support the provision of other ecosystem services, including photosynthesis, soil formation and maintenance, habitat provision, water/nutrient cycling.

Figure 2: Health Map⁴



⁴ Barton, H. and Grant, M. (2006) A Health Map for the Local Human Habitat, Journal for the Royal Society for the Promotion of Public Health, 126.

1.2. Biodiversity in Epsom & Ewell

Epsom & Ewell's biodiversity is a product of its geology, climate and human activity over thousands of years.

A broad range of habitats and species can be found across the Borough and the neighbouring Surrey districts of Mole Valley and Reigate and Banstead and the London Boroughs of Kingston-Upon-Thames and Sutton. The Borough includes Sites of Special Scientific Interest (SSSI) as well as non-statutory designations including Local Nature Reserves, Ancient woodlands and Sites of Nature Conservation Importance (SNCIs). Together they help form a network of biodiverse areas both within and outside the Borough, including 'Biodiversity Opportunity Areas' for both chalk grassland, woodland and rivers.

Epsom & Ewell has a range of priority habitat falling under the broad categories of grasslands, woodlands, wood-pasture and parkland, arable, orchards, hedgerows, ponds and rivers.

Epsom & Ewell, despite its dense urban environment benefits from a greenbelt that includes some very large managed public open spaces such as Epsom Downs, Epsom Common Local Nature reserve, Nonsuch Park, the Hogsmill Local Nature Reserve and Horton Country Park Local Nature Reserve. The Epsom and Ashted Commons Site of Special Scientific Interest is both of national and international importance for very rare insects associated with an exceptional collection of veteran trees.

The Epsom & Ewell Local Plan policies will aim to minimise the impact upon designated sites and seek to ensure new development results in a biodiversity net gain. In doing so, the Local Plan will in parallel mitigate the adverse impacts of climate change.

2 Policy context

Planning for biodiversity in Epsom & Ewell and neighboring areas is undertaken in the context of the information in this chapter.

2.1 Natural Environment and Rural Communities (NERC) Act (2006)

Section 40 of NERC Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions, including restoring or enhancing species populations or habitats. This is commonly referred to as the 'biodiversity duty'. This duty includes seeking to make a significant contribution to the achievement of the commitments made by government in its *Biodiversity 2020* strategy.

Local authorities must have regards to the potential effects of a development on the habitats or species listed in S.41 of the Act.

2.2 EU Directives and International Agreements

The *Conservation of Habitats and Species Regulations 2010* (as amended) transposes two pieces of European law - Directive 2009/147/EC on the conservation of wild birds ('the Birds Directive') and Directive 92/43/EEC on the conservation of natural habitats and of wild fauna ('the Habitats Directive') – into domestic law. This legal framework seeks to protect the sites that provide ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species of exceptional importance within the European Union. These

habitat sites consist of:

- Special Areas of Conservation (SACs), designated under the Habitats Directive
- Special Protection Areas (SPAs), designated under the Birds Directive

National planning policy guidance⁵ adds protection equal to the above for the following sites:

- Listed and proposed Ramsar⁶ sites - designated under the Convention on Wetlands of International Importance (UNESCO, 1971)
- Potential SPAs and possible SACs; and
- Sites identified, or required, as compensatory measures for adverse effects on SACs, SPAs, potential SPAs, possible SACs, and listed or proposed Ramsar sites.

National planning policy also confirms that where development requires Appropriate Assessment under the Habitat Directive, due to the potential impacts on a proposed or planned habitat site, the 'presumption in favour of sustainable development' does not apply.⁷

2.3 Habitat Regulations Assessment

Under the Habitats Directive, Habitat Regulations Assessment (HRA) is required for all plans and projects which are not wholly directly connected with, or necessary to, the conservation management of the site's qualifying features. An HRA incorporates the following stages:

Stage 1: Screening for likely significant effects

This will include formal screening for any *Likely Significant Effects* either alone or in combination with other plans or projects.

Stage 2: Appropriate Assessment

Where these effects cannot be excluded (by selecting alternative sites), assessing them in more detail through an *Appropriate Assessment* (AA) is required. This is to ascertain whether an adverse effect on the ecological integrity of the site can be ruled out, either individually or in combination with other plans or projects, in view of the site's conservation objectives. The assessment takes a *precautionary principle* approach.

Stage 3: Mitigation measures and alternative solutions

Where an adverse effect on the site cannot be ruled out, and no *alternative solutions* can be identified, the project can then only proceed if there are *imperative reasons of over-riding public interest* (IROPI) and if the necessary mitigation or compensatory measures can be secured. The process should consider alternatives to the proposed actions and explore mitigation opportunities, whilst adhering to the precautionary principle.

2.4 Revised National Planning Policy Framework (Jul 2018) and National Planning Policy Guidance on the Natural Environment (2014)

⁵ MHCLG (July 2018) National Planning Policy Framework para. 176

⁶ The Ramsar Convention on wetlands is an international treaty for the conservation and sustainable use of wetlands. It is named after the city of Ramsar where the treaty was originally signed.

⁷ MHCLG (July 2018) National Planning Policy Framework para. 177.

Improving biodiversity, as part of protecting and enhancing the natural environment, is listed as one of the key objectives for achieving sustainable development in national planning policy. The National Planning Policy Framework states that planning policies and decisions should contribute to, and enhance, the natural and local environment by:

- Recognising the intrinsic character and beauty of the countryside, and **the wider benefits from natural capital and ecosystem services**, including the economic benefits of trees and woodland (para.170 b).
- **Minimising impacts on and providing net gains for biodiversity**, including by **establishing coherent ecological networks** that are more resilient to current and future pressures (170d);

Local Plans should therefore (para.171):

- **distinguish between the hierarchy of international, national and locally designated sites.**
- **Allocate land with the least environmental or amenity value**, where consistent with other policies in this Framework;
- Take a strategic approach to **maintaining and strengthening networks of habitats and green infrastructure**; and
- Plan for the **enhancement of natural capital⁸ at a catchment or landscape scale** across local authority boundaries.

Specifically for the enhancement and protection of biodiversity (and geodiversity), plans should (para. 174):

- **Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks**, including the hierarchy designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;
- **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 applications should be considered in terms of the following principles for biodiversity (para. 175):

- Refusal of planning permission if significant harm to biodiversity cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for.
- For Sites of Special Scientific Interest (SSSI), proposed development (within or outside the designation) likely to have an adverse effect (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development, in the location proposed, clearly outweigh both its likely impact on the site's qualifying features and any broader impacts on the national network of SSSIs;
- Supporting development where the primary objective is to conserve or enhance biodiversity;
- Encouraging opportunities to incorporate biodiversity improvements in and around

⁸ Natural capital is the sum of our ecosystems, species, freshwater, land, soils, minerals, our air and our seas. These are all elements of nature that either directly or indirectly bring value to people and the country

developments (such as the wider biodiversity network) especially where this secures measurable net gains.

It is advised that local planning authorities should seek opportunities to work collaboratively with other partners, including Local Nature Partnerships, to develop a strategic approach to protecting and improving the natural environment based on local priorities and evidence.⁹

Further advice on the legal obligations relating to European sites, protected species and Sites of Special Scientific Interest is set out in government circular *Biodiversity And Geological Conservation – Statutory Obligations And Their Impact Within The Planning System*.

2.5 Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011)

Biodiversity 2020 is a national strategy for England's wildlife and ecosystem services; it details how the UK will implement its international commitments to biodiversity conservation and is referenced in the current National Planning Policy Guidance on the Natural Environment (updated 2014). The Strategy sets out the government's ambition to halt the overall loss of England's biodiversity by 2020, support healthy well-functioning ecosystems and establish coherent ecological networks and with 'more and better places' for nature for the benefit of wildlife and people. These ambitions are to be delivered by the following actions.

- a more integrated large-scale approach to conservation on land and at sea;
- putting people at the heart of biodiversity policy;
- reducing environmental pressures; and
- improving our knowledge.

The UK's previous biodiversity strategy, *The UK Biodiversity Action Plan*, focused on the conservation of priority habitats and species. While this approach helped to ensure that important species and habitats were maintained and enhanced, overall biodiversity was still found to be declining. The approach of the Biodiversity 2020 strategy is based on key research that concluded that a larger scale approach to conservation was needed, of whole natural ecosystems, in order to support a greater diversity of species.

The more recently published *25-year Environment Plan* (Jan 2018) confirms that a new strategy for nature, building on the existing *Biodiversity 2020* strategy, is to be prepared.

2.6 25 Year Natural Environment Plan (Jan 2018)

The 25 Year Environment Plan details how the UK Government intends to 'leave our environment in a better state than we found it'. It identifies six key areas for actions which will affect, either directly or indirectly, biodiversity:

- Using and managing land sustainably
- Nature and enhancing the beauty of landscapes
- Connecting people with the environment to improve health and wellbeing
- Increasing resource efficiency, and reducing pollution and waste
- Securing clean, productive and biologically diverse seas and oceans
- Protecting and improving the global environment

⁹ National Planning Policy Guidance on the Natural Environment (updated March 2014) para.008

The Plan notes the 'complimentary relationship' with the UK Industrial Strategy (Nov 2017) which includes 'clean growth' as one of four major challenge areas for Local Industrial

Strategies to tackle. The concept of natural capital evaluation, which has been incorporated into the revised NPPF (July 2018), is also a key cross cutting theme in this document¹⁰

2.7 Surrey Infrastructure Study 2017 Update

The Surrey Infrastructure Study¹¹ includes a section on Green Infrastructure provision across the County. It sets the future requirements to meet growth to 2031 across Surrey as:

- 106 ha Suitable Alternative Natural Green Space
- 42 ha New Parkland
- 21 ha Allotments.

2.8 Epsom & Ewell Local Biodiversity Action Plan (2010-2020)

The Epsom & Ewell Local Biodiversity Action Plan 2010-2020 (LBAP) describes the Borough's biodiversity and sets key objectives, targets and actions. Every year a Biodiversity Progress Report is published. The plan agreed back in 2010 contains 7 objectives, comprising 23 targets with 45 actions. These progress reports are available [on our website](#).

The seven objectives of the plan are as follows:

Objective 1

Develop partnerships to ensure that the conservation and enhancement of biodiversity in Epsom and Ewell is maintained in the long term.

Objective 2

Ensure the conservation and enhancement of habitats and species, as specified nationally and in the Surrey Habitat Action Plans

Objective 3

Ensure opportunities for the conservation and enhancement of the whole biodiversity resource in Epsom and Ewell are identified considered and acted upon

Objective 4

Raise awareness, appreciation and involvement in the conservation and enhancement of biodiversity in Epsom and Ewell

Objective 5

Provide on-going monitoring of biodiversity in Epsom and Ewell

Objective 6

Seek to increase the funding available for the long term conservation, enhancement and monitoring of biodiversity in Epsom and Ewell

Objective 7

¹⁰ Natural Capital Committee (Jan 2018) Economic valuation and its applications in natural I management and the Government's 25 Year Environment Plan

¹¹ https://www.surreycc.gov.uk/_data/assets/pdf_file/0007/163348/180307-Surrey-Infrastructure-Study-2017.pdf

Seek to identify the wider benefits to the community of improving biodiversity

The currently (LBAP 2010) identified semi natural and urban habitats within Epsom & Ewell are set out below. A full list of sites in Epsom & Ewell is in [Appendix 3 of the LBAP](#):

Semi Natural habitats:

- Chalk Grassland
- Farmland
- Lowland Heathland
- Meadows
- Standing Open Water and large Reedbeds
- Wetland
- Woodland
- Wood Pasture and Parkland

Urban habitats:

- Managed Greenspace
- Regenerating habitats
- Areas of Urban semi-natural habitat
- Urban Wetlands

3 Epsom & Ewell Local Plan

The current approach to biodiversity and the natural environment in Epsom & Ewell is set out in *Epsom & Ewell Local Plan Core Strategy (2007) Policy CS3: Biodiversity and designated conservation areas* and the *Development Management Policies Document (2015)*.

3.1 Core Strategy 2007

The Core Strategy Policy CS3 is as follows:

The biodiversity of Epsom and Ewell will be conserved and enhanced through the support for measures which meet the objectives of national and local biodiversity action plans in terms of species and habitat.

Sites that are designated for their nature conservation attributes will be afforded protection appropriate to their designation.

Sites of Special Scientific Interest and Ancient Woodland will be afforded the highest level of protection. Development which harms the scientific interest of these areas will not be permitted.

Development that would harm Grade 2, Grade 3 SNCIs or Local Nature Reserves will not be permitted unless:

- *suitable mitigation measures are put in place, and*
- *it has been demonstrated that the benefits of a development would outweigh the harm caused.*

Elsewhere, development that is detrimental to the Borough's biodiversity will be minimised, and where it does take place, adequate mitigating measures should be provided. Wherever possible, new development should contribute positively towards the Borough's biodiversity.

Policy CS3 has the following indicators, targets and delivery mechanism:

Indicators:

- *% of SSSIs in favourable condition or improving*
- *Number and area of Sites of Nature Conservation Importance (Grade 2), Sites of Nature Conservation Importance (Grade 3), and ancient woodlands*
- *Number of new developments providing mitigation for loss of biodiversity or / and incorporating features to improve existing biodiversity*

Targets:

- *95% of the SSSIs should be in a favourable or recovering condition by 2010 (Government Public Service Agreement target)*
- *Appropriate targets will be developed in the Development Control Policies DPD, informed by the local Biodiversity Action Plan*

Delivery Mechanism:

- *Through development control decisions and negotiation (for mitigation measures)*
- *By the effective management of designated sites*
- *By maintaining up to date information on local biodiversity (including the value of contributions from previously developed land)*
- *Production of a local Biodiversity Action Plan*

3.2 Development Management Policies Document 2015

The Development Management Policies document sets out more detailed policies for use by the Development Management function of the planning department when determining planning applications. This is reproduced below:

Policy DM4: Biodiversity and New development

Development affecting existing or proposed nature conservation sites and habitats of international, national or local importance will only be permitted if:

- (i) The development would enhance the nature conservation potential of the site or is proven to be necessary for the conservation management of the site; or*
- (ii) there is no alternative location for the development and there would be no harm to the nature conservation potential of the site; or*
- (iii) there are imperative reasons of overriding public interest for the development*

Elsewhere in the Borough:

Development affecting any site or building that supports species protected by Law, including their habitats, will only be permitted if appropriate mitigation and compensatory measures are agreed to facilitate the survival of the identified species, keep disturbance to a minimum and provide adequate alternative habitats to ensure no net loss of biodiversity.

Mitigation and compensatory measures will be secured through planning obligations or conditions, with priority for such measures to be provided within the development.

Whether or not there are any species or habitats that enjoy statutory protection, every opportunity should be taken to secure net benefit to the Borough's biodiversity. To this end, an

assessment of the existing nature conservation assets on a development site should be undertaken at the application stage and suitable biodiversity enhancements proposed.

3.2 Key Issues for the new Local Plan

The new Local Plan will replace the existing Core Strategy and Development Management Policies. In summary, the new Local Plan will need to consider the following:

- Importance of biodiversity for a range of planning objectives - ranging from the protection of the environment, health and well-being and economy to climate change.
- Protection and enhancement of Epsom & Ewell's unique environment, in collaboration with key consultees and partners, through the identification and protection of Epsom & Ewell's ecological networks.
- Minimising the impacts of development on biodiversity (such as the effects relating to urbanisation, recreational disturbance, climate change and changes to air and water quality) through Local Plan policies, partnership working and other sub-regional strategies, as part of ensuring and promoting the conservation, restoration and enhancement of habitats in Epsom & Ewell.
- Actively seeking biodiversity enhancements and overall net gains for biodiversity in Epsom & Ewell.
- Application of the 'mitigation hierarchy' ('avoid-mitigate-compensate') for development proposals that would result in significant harm to designated habitat sites and biodiversity in the Epsom & Ewell area.
- Appropriate monitoring to measure the effectiveness of biodiversity policy in achieving the above aims.

4 Epsom & Ewell's Ecological Networks

This section identifies the areas and species of significance for biodiversity in the Epsom & Ewell which form the 'Epsom & Ewell ecological networks' for protection in the Epsom & Ewell Local Plan. These Epsom & Ewell ecological networks are elements of wider networks across Surrey and represent part of the 'landscape-scale' approach to biodiversity conservation in the county.

4.1 International and National Habitat Sites

International Sites

There are no Natura 2000 ('international habitat sites') within the Borough. However, the Epsom & Ashted Commons SSSI scores at the level of international importance for invertebrates associated with decaying wood.

The nearest sites to Epsom & Ewell are Wimbledon Common, the Mole Gap to Reigate Escarpment and the Thames Basin Heaths.

Habitat Sites of National Importance

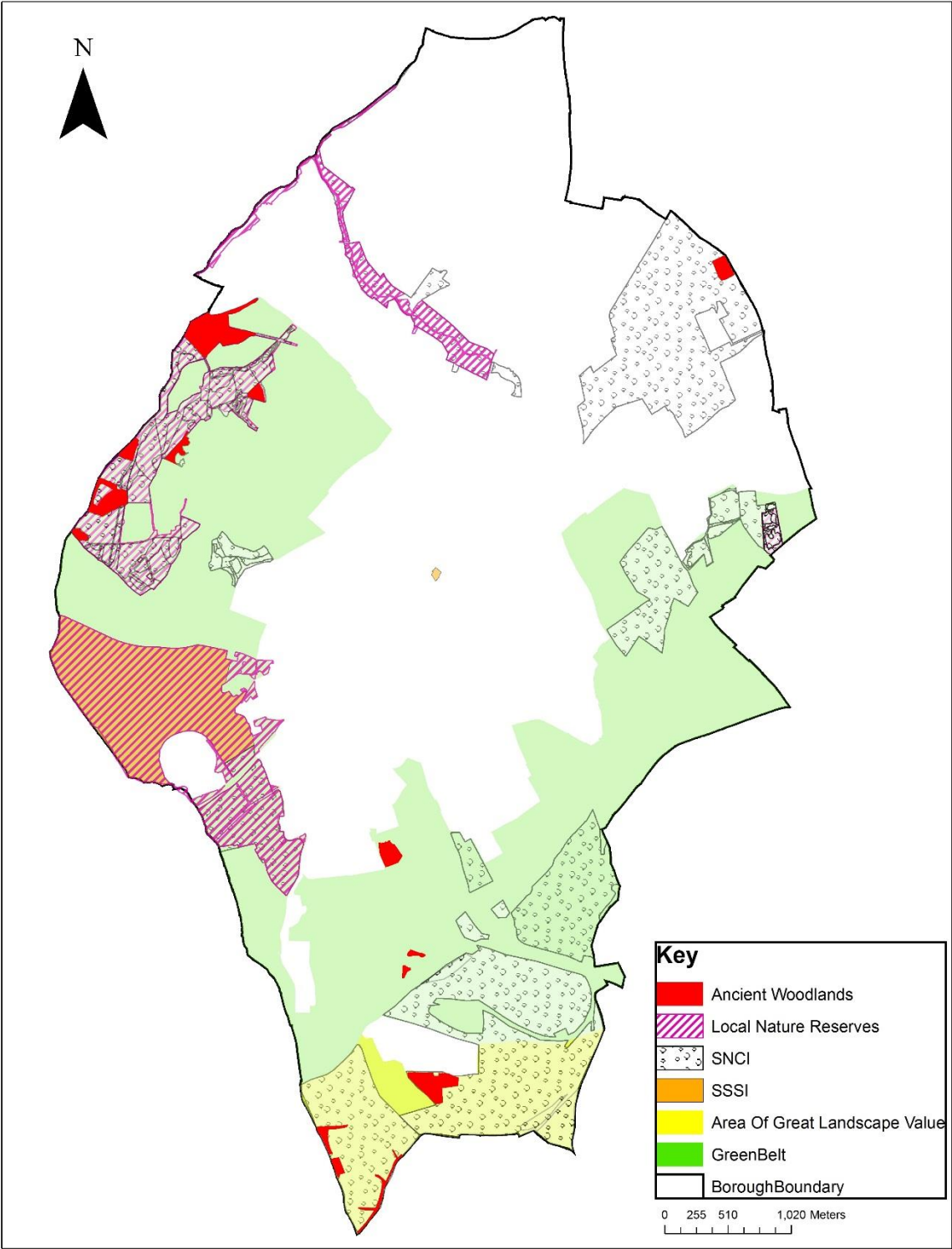
Epsom & Ewell includes Sites of Special Scientific Interest (SSSI), a national level statutory habitat designation¹². A Site of Special Scientific Interest (SSSI) is an area of land given statutory protection by virtue of its examples of the UK's best fauna, flora, geological or physiographical / geomorphological features. They often underpin other national and international nature conservation designations. There are two SSSIs within Epsom & Ewell totalling 176ha in 2019/20. Their condition is monitored by Epsom & Ewell Borough Council.

Epsom Common **SSSI** lies to the west of Epsom Town Centre and is Surrey's largest local nature reserve. The site is designated (1955) for breeding bird habitat and invertebrates associated with decaying wood. The other half of the SSSI is Ashted Common National Nature Reserve, located in Mole Valley and which is owned and managed by the City of London.

Stones Road **SSSI** lies to the north of Epsom Town Centre. The site is very small (<1ha) and is part owned by both Surrey Country Council and Epsom & Ewell Borough Council. The site is designated for a population of Great Crested Newts that make use of the large and deep pond associated with former brick works. .

¹² Designated under the *Wildlife and Countryside Act 1981*, as amended by the *Countryside and Rights of Way Act 2000*.

Map 1: Sites designated for their biodiversity and landscape value in Epsom & Ewell



Sites designated for their biodiversity and landscape value in Epsom & Ewell

4.2 Local Habitat Sites

Areas of importance for wildlife in Epsom & Ewell.

Local Nature Reserves (LNRs)

LNRs are statutory designated areas for managed nature conservation, and provide opportunities for research and education and for the public to have contact with nature. LNRs are declared by local authorities after consultation with the relevant statutory nature conservation agency. There are currently three LNR in Epsom & Ewell: Epsom Common LNR, Horton Country Park LNR and Hogsmill LNR (See Map 1).

Epsom Common is the largest LNR in Surrey and the Borough's three LNR's total 313ha or approx. 9% of Epsom & Ewell. All three reserves have current management plans that take a one hundred year approach and are agreed Council policy documents.

Local Sites (LS)

Local Sites are non-statutory designations for species and habitats considered to be valuable at a county level; these are also known as 'Sites of Nature Conservation Importance' in Surrey.(SNCI). In 2017 there were 761 SNCI in Surrey of which 13 are in Epsom & Ewell (See Map 1) Local Sites were identified in the 'Lawton Report', a major independent review, as being vital components in England's ecological network that help to conserve important and distinctive habitats and species on sites that fall outside of European or national conservation designations. SNCIs can also:

- Act as stepping stones for species to move across landscapes
- Offer protection for species from surrounding land uses
- Provide sanctuaries for people to experience nature locally.

A list of the sites and their features of value are set out in Appendix 3.

SNCIs have their origin in the 1975 Surrey Structure Plan and since then a system of identification, selection and recommendation for protection in the planning system has been in place, initially under the remit of the Surrey Nature Conservation Liaison Group (SNCLG). Following the recommendations of the DEFRA guidance this body was renamed in 2010 as the Surrey Local Sites Partnership (SLSP). Surveys are carried out periodically and may identify potential new SNCIs or amend existing SNCIs. If the site is found to meet the criteria for selection, the landowner is notified by SLSP and the site is recommended to the Council for designation.

As these local sites are not statutorily protected, their designation within the Epsom & Ewell Local Plan is important for their protection.

Since 2009 the management of Local Sites has been made accountable as National Indicator 197, now termed Single Data List 160-00. This records the number of sites 'in positive management' and in consequence, a general awareness of the importance of these sites has been raised. In 2017 49% of Surrey's SNCI were in positive management, in Epsom & Ewell the figure was 77%.

4.3 Priority Habitats and Species

Habitats and species of principle importance for the purpose of conserving biodiversity in England are listed in the *Natural Environment and Rural Communities Act 2006, Section 41*.

A variety of flora and fauna are found in the borough's ancient woodland, wildflower meadows, heathlands, chalk downland and river valleys. Out of the priority habitats for Surrey, 58 types are found in Epsom & Ewell, including grasslands, woodland, wood pasture, hedgerows and wetlands.

Table 3 sets out the specific types and quantities of priority habitat in Epsom & Ewell.

Table 3: Priority habitats in Epsom & Ewell (EEBC, as of September 2019)

Priority habitat	Extent (ha)
Grasslands	
Lowland Calcareous Grassland	55
Lowland Dry Acid Grassland	7
Lowland Meadows	20
Woodland, wood-pasture and parkland	
Lowland Mixed Deciduous Woodland	8
Wet Woodland	1
Wood Pasture and Parkland	10
Arable, orchards and hedgerows	
Hedgerows	66 (km)
Wetlands	
Reedbeds	21
Total:	122 (+66km of hedgerow)

In 2016 the latest national 'State of Nature' report compiled by over fifty UK conservation organisations was published with its key findings as follows:

- 56% of UK wildlife species have shown a declining population trend between 1970 and 2013;
- 15% of all UK wildlife is either threatened with extinction (IE Red Listed - 13%), or is extinct already (2%);
- The UK Priority Species Indicator shows a post-1970 declining population trend index of 67% across the tranche of species with priority conservation status;
- The report has introduced a new index of global 'Biodiversity Intactness' to attempt to measure the planet's descent from its notional pristine natural state. In this the UK compares very badly in the international league table included in the study.

In 2017 the Surrey Nature Partnership published its 'State of Surrey's Nature' report. The report is intended to provide a current stock-take of the county's biodiversity, to include as many of its wildlife species and their habitats as possible. The overall aim was to quantify what has been lost in recent history and what remains most threatened, to help clarify where responsibilities to national and international biodiversity conservation lie and serving to further prioritise conservation efforts at the county level.

The overall results indicated that in Surrey of the entire species sample of 4,242 species 11.5%, or slightly below 1 in 9 of species native to the county are now locally extinct. This is worse than the national 2% concluded by State of Nature 2016. 4.4% of species are threatened with extinction as decided by IUCN3 Red List criteria, while a further 2.8% narrowly miss these and qualify as near-threatened in Surrey. A further 13.8% of species are over a perceived threshold of rarity in the county with demonstrable evidence to show their historic and/or continuing decline. Only 3.1% are of comparable rarity but in contrast appear to be increasing; 15.2% comprise those Species of Conservation Concern that for now at least appear stable. Just under half of the sample consists of species that are not of conservation concern for us at the present time indicating that an overall 23.7% of extant species are in some degree of trouble in Surrey.

In Epsom & Ewell it is likely that the current situation is similar to the rest of the county and therefore highlighting the need to conserve and improve the management of the Borough's green infrastructure at every opportunity.

4.4 Biodiversity Opportunity Areas

'Biodiversity Opportunity Areas' (BOAs) contain the major concentrations of Priority Habitat in Surrey together with identified areas with potential for habitat expansion and re-connection where resources can be focused to have the greatest positive impact for wildlife. The BOAs have been produced by the Surrey Biodiversity Information Centre (SBIC) and are identified to a common standard across the south-east of England. They are compiled using data gathered from various sources including local environmental records centres, local historic, habitat and geological maps and through significant consultation with stakeholders. They are not a statutory designation.

There are presently 50 BOAs, covering 39% of Surrey. However that land within the other 61% can also have significant biodiversity interest as BOAs do not include the entire Priority habitat audit within the county. A small number of statutory protected sites fall outside of the network. Where appropriate the Surrey BOAs link with those identified in neighbouring counties, but currently end at the outer edge of strongly urbanised land-uses. Ecological connectivity cannot be achieved if urban areas are permanently exempted from the network and Green Infrastructure strategies (see next) can play a significant role in establishing and maintaining wildlife corridors.

Section 1.3 of the 2015 Surrey Nature Partnership *Biodiversity Opportunity Areas: the basis for realising Surrey's ecological network*, states "The policy approach to BOAs emerging through a growing number of Local Plans is to avoid, on principle, development that would compromise achieving the overarching purpose and specific objectives of a BOA. This clearly involves protecting the designated and Priority habitats and species in the BOA, but consideration should also be given to whether development will affect existing or potentially improved habitat connectivity, both across and beyond it. It is important to note however, that this does not preclude all development within a BOA; these are primarily spatial planning tools to focus and realise opportunities, not offer further superfluous constraint. As with any eligible development, proposals within or adjacent to a BOA would be required to deliver biodiversity enhancements, but within a BOA such enhancements will be most effective when they are tailored to meet the stated objectives of that BOA. As ever, the scale of enhancements should

be guided by the size and impact of the development; their achievability must be assured and they may also draw on the multiplier metrics currently being piloted to guide Biodiversity Offsetting.

Examples of measures that might be involved include:

- Restoration or maintenance of Priority habitats through suitable management secured by planning obligations;
- Priority habitat creation projects linking fragmented habitats;
- Funding towards conservation initiatives ongoing within the BOA, secured by planning conditions and obligations; and
- Provision of capital items needed to secure biodiversity enhancements (such as fencing to allow grazing).

When a development could potentially impact, either positively or negatively, on the known biodiversity interest of a BOA, a biodiversity survey and report should always be required from applicants, to identify both constraints and opportunities. In some circumstances an Environmental Impact Assessment may be needed.

There is obvious commonality around the aspiration for enhancing habitat connectivity within and between BOAs with that for the successful function of **Green Infrastructure** as a network of inter-connected green spaces. Indeed one of the stated outcomes of well-planned, multi-functional Green Infrastructure is to improve habitat connectivity for biodiversity. Depending on decisions appropriate to their individual character, local authorities may decide to incorporate this aspect of biodiversity conservation policy within their strategy for planning Green Infrastructure. If so, it will remain important to reference the methodology and justification underlying BOAs and to cross-refer their existence in a clear and consistent manner. In depth guidance on the synergies of planning for Green Infrastructure and biodiversity is published by the TCPA/Wildlife Trusts.

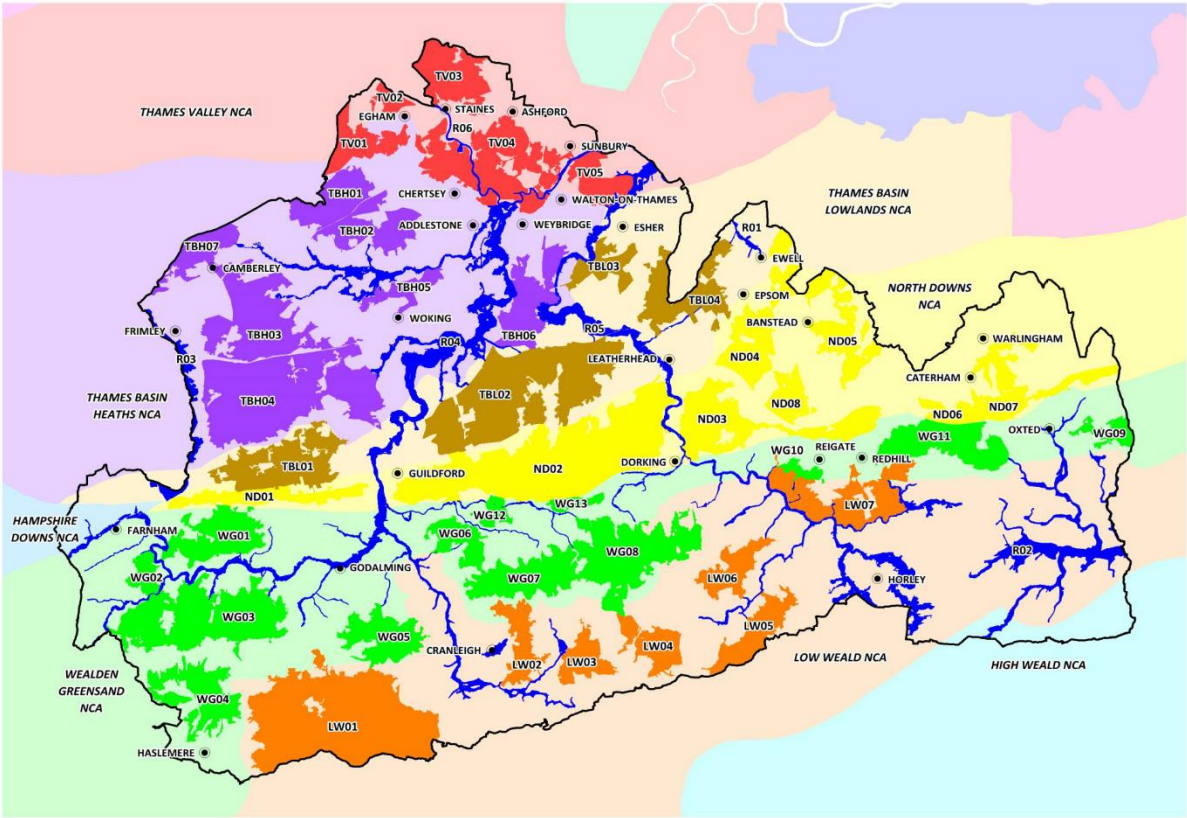
BOA in Epsom and Ewell

Parts of Epsom & Ewell fall within three separate BOA, these are:

ND04	North Downs; Epsom Downs & Nonsuch Park	Epsom & Ewell	Eastern Green corridor Cheam-Epsom Downs	Opportunities to enhance corridor linking Nonsuch Park, Howell & Priest Hill to Epsom Downs & wider countryside.
			Epsom Downs	Priority habitat restoration on racecourse & Juniper Hill (Small blue recovery project relevant)
			Langley Vale Farm (Woodland Trust)	Calcareous grassland/Native woodland/Arable margin creation opportunities.
R01	Hogsmill River	Epsom & Ewell	Epsom & Ewell High School/private & public authority	Opportunities for wetland creation/riparian enhancements throughout river corridor & cross- border into GL
TBL04 (& ND04)	Ashtead & Epsom Commons Woodland, Prince's Coverts & Horton Country Park; Epsom Downs to Nonsuch Park	Epsom & Ewell	Woodcote Stud Farm	Priority habitat restoration to link TBL04 to ND04 (Calcareous grassland, Hedgerows)
		Mole Valley	Farmland centred on Chace Stud. Variety of ownerships - MVDC/Merton College etc.	Corridor linking separate BOAs, includes proposed development sites. Potential for Priority habitat creation
		M25 corridor	Highways Agency	Green bridge over M25 at Teazle Wood

Source: Surrey Nature Partnership Biodiversity Opportunity Areas: *the basis for realising Surrey's ecological network 2015*

Map 2: Surrey Biodiversity Opportunity Areas

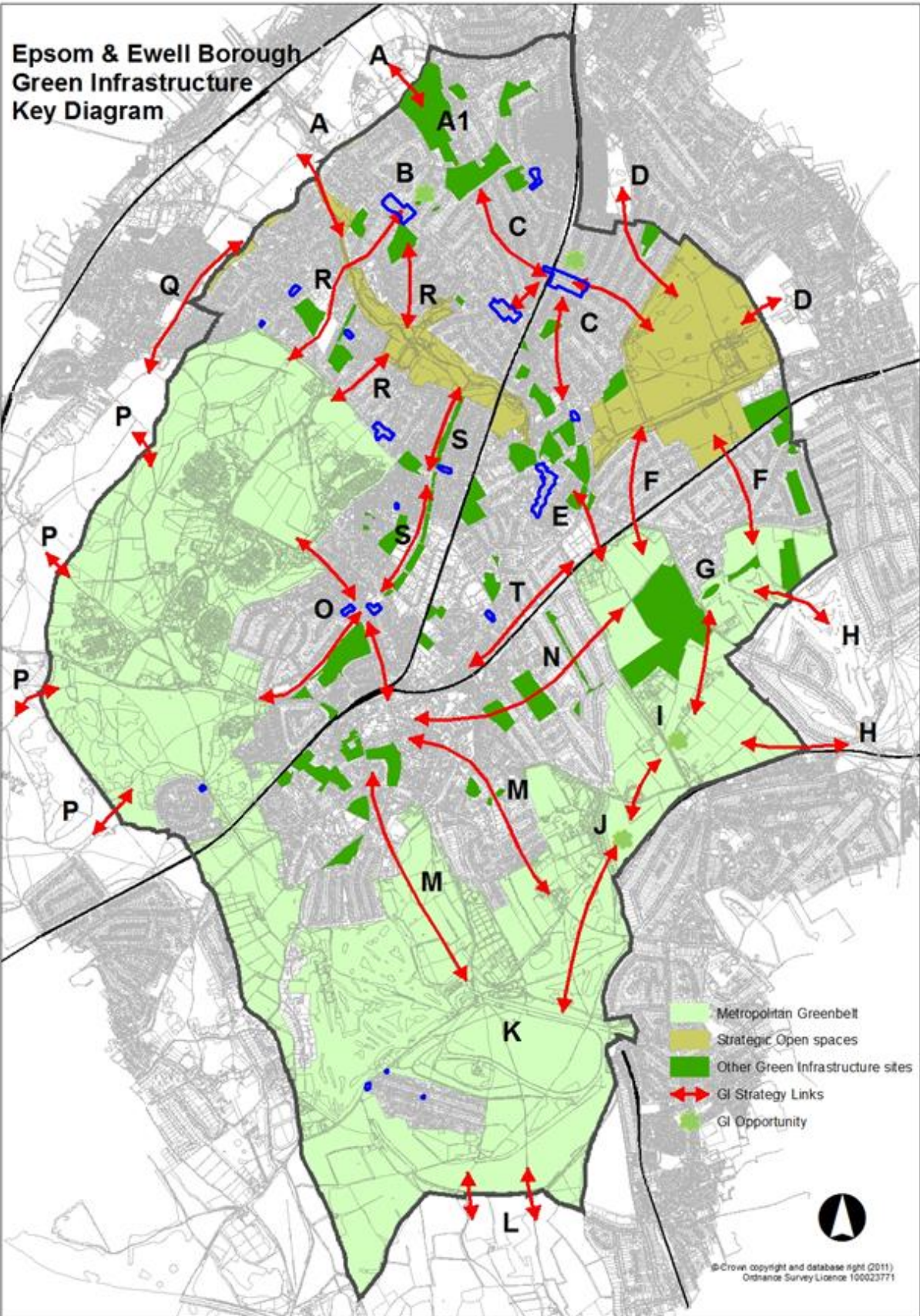


4.5 Green Infrastructure

A 'Green Infrastructure network' is considered to be multi-functional, offering benefits not only to biodiversity but to public realm, health and quality of life. 'Green infrastructure' is an important part of Epsom & Ewell's capital. It consists of a network of green spaces such as parks, open spaces, playing fields and woodlands as well as street trees, allotments, private gardens, water bodies and features such as green roofs and walls.

A well-developed and managed green infrastructure network helps to improve biodiversity by providing spaces for flora and fauna to thrive and by boosting ecological connectivity and permeability. In turn this reduces the impacts of habitat fragmentation, allowing species to move between areas and helping populations to maintain their genetic diversity and adapt to the changing climate.

Green infrastructure in Epsom & Ewell is connected by potential 'green corridors'. These green corridors serve to strengthen the existing GI network and allow species to move between areas, as well as potentially facilitating sustainable travel routes through the Borough. A draft map of potential green corridors in Epsom & Ewell is shown in Map 3 below.



Map 3 Potential Green Corridors In Epsom & Ewell

4.6 Epsom & Ewell's Ecological Assets- Actions for the Local Plan:

1. Identify the following local networks as the Epsom & Ewell ecological network' for protection in the new Local Plan:
 - a. **International, national and locally designated sites of importance for biodiversity:**
Epsom & Ashted Commons SSSI, Stones Road SSSI All Local Nature Reserves, Sites of Nature Conservation importance and 'Ancient Woodland' within Epsom & Ewell.
 - b. **Surrey Biodiversity Opportunity Areas within Epsom & Ewell**
 - c. **Habitat buffer zones, wildlife corridors and the stepping stones that connect them**
 - d. **The draft Epsom & Ewell GI network**
The GI network will incorporate areas including veteran trees, important hedgerows, watercourses and designated local green spaces.
2. Require development proposals to provide information on the ecological value of all sites (not just those listed above) to ensure decline is not simply shifted to other areas or species.
3. Recognise that the 'Epsom & Ewell ecological network' forms part of wider ecological networks across Surrey and neighbouring London Boroughs, and require proposals to consider the potential impacts beyond the Epsom & Ewell area as appropriate.

5 Minimising Impacts on Biodiversity

The national planning policy framework states that planning policies and decisions should enhance the natural environment by minimising impacts on biodiversity¹³. This section details a number of current and emerging strategies that seek to address, mitigate or monitor the wider factors that can lead to biodiversity losses.

Increasing levels of development and urbanisation can indirectly have a range of impacts upon biodiversity through, for example, recreational disturbance, changes to water and air quality, climate change and the 'urban heat island effect' and through green space and biodiversity network losses. Coastal defence works, needed to protect planned and existing homes, businesses and infrastructure can also impact upon the extent of coastal habitats.

5.1 Recreational Disturbance

Wildlife can be disturbed by additional dwellings or intensified uses of land close to their associated habitats arising from additional recreational visits, dog walking, sports, fishing and other activities. Recent examples in Epsom & Ewell have included the need for significant repairs to the crest of a dam, where erosion caused owners persistently allowing their dogs to enter a pond was putting the safety of the dam at risk. This was despite the pond being in a nature reserve. Other smaller ponds have also had to have fences installed to protect wildlife. Publically accessible 'Ancient Woodland' on one of our nature reserves is showing signs of strain, with the spring time show of Bluebells retreating away from path edges due to disturbance. Ground nesting birds such as Skylarks have disappeared from a former farm that is now owned and managed as publically accessible open space.

5.2 Water Quality

It is important that future development does not have a negative impact on the water quality of the catchment. This is particularly the case around the Hogsmill and Bonesgate Rivers and applies both during the construction phase and after.

The River Basin Management Plan Thames River Basin District River Basin Management Plan (2015) focuses on the protection, improvement and sustainable use of the water environment. The Plan (which is renewed every 6 years) describes the river basin district, the pressures that the water environment faces and proposed actions. The environmental objectives of the Water Framework Directive (WFD) are:

- to prevent deterioration of the status of surface waters and groundwater;
- to achieve objectives and standards for protected areas;
- to aim to achieve good status for all water bodies or, for heavily modified water bodies and artificial water bodies, good ecological potential and good surface water chemical status;
- to reverse any significant and sustained upward trends in pollutant concentrations in groundwater;
- the cessation of discharges, emissions and losses of priority hazardous substances into surface waters;
- progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants.

¹³ MHCLG (July 2018) National Planning Policy Framework, para 170 (d).

Section 3.4 of the River Basin Management Plan sets out a series of actions for local government in order to achieve the objectives.

5.3 Air Quality

Further intensification of residential uses within the urban area is considered likely to initially contribute towards a decline in air quality and an increase in noise and light pollution. However, it is assumed as the local plan period moves forward and new development brings modern and efficient construction techniques, and residents begin to lead more sustainable lifestyles – specifically in relation to travel and energy usage – that there will be a shift in terms of impacts.

Air Quality and Biodiversity - Actions for the Local Plan:

1. Take account of any emerging evidence on air pollution and the impacts on habitat sites from the HRA of the Local Plan and other sources.
2. Highlight air quality concerns as key issue for the Council's HRA and Sustainability Appraisal.

5.4 Climate Change

During July 2019 the Borough Council made a commitment to respond to the tackle the adverse impacts of climate change; particularly in respect of reducing carbon emissions. In response the Borough Council is preparing an Action Plan that sets a target that all of the Council's operations will be net carbon neutral by 2035. The scale of growth anticipated through the Local Plan will have an impact on climate change – specifically through the construction and use of new development and the future travel requirements and patterns of residents and visitors. The Action Plan includes objectives that will be achieved through the Local Plan.

Climate Change – Actions for the Local Plan:

1. Develop and deliver a Local Plan and associated policies that contribute positively and demonstrate the Council's commitment to climate change.
2. Through the Local Plan process identify potential locations and developers to build the borough's carbon neutral homes.
3. Devise opportunities to shift away from reliance on cars to travel in the borough.
4. Increase walking as an alternative to car use.
5. Increase number of safe cycle routes throughout the borough.
6. Enable more people to switch from car to bus travel.

6 Delivering Net Gains in Biodiversity

In-line with national policy¹⁴, planning policies and decisions should provide measurable net gains in biodiversity. Biodiversity net gain is an approach to development that aims to leave the natural environment 'in a measurably better state than beforehand'.

The government published a consultation paper in December 2018¹⁵ which seeks views on whether mandatory requirements should be introduced to the planning system in England so

¹⁴ MHCLG (July 2018) National Planning Policy Framework, para 170 (d).

¹⁵ DEFRA (December 2018) Net gain consultation proposals

that development must deliver biodiversity net gain. Net gain would be quantified through a standardised approach using the "DEFRA metric" system¹⁶, which assesses (and quantifies) levels of biodiversity with the aim of providing certainty and clarify for developers whilst delivering benefits to biodiversity. Applicants should follow the 'mitigation hierarchy' approach as per current national planning policy, which prioritises options that avoid harm to biodiversity, followed by mitigation measures, then compensation as a last resort. If the developer is unable to provide net gains or avoid, mitigate or compensate on-site, a tariff rate would be used to fund other habitat creation projects in-line with other local or national conservation priorities.

The Council will explore the necessary interventions and actions required to achieve biodiversity net gains in development proposals. Below are examples of how biodiversity net gains could be achieved through development proposals.

Biodiversity Net Gain Examples: Green Infrastructure

The Local Plan's background paper on Green Infrastructure (GI) considers green and blue¹⁷ infrastructure to be an integral consideration in the design of new proposals, and for GI features to be multi-functional as possible including the capability to achieve a net gain in biodiversity, amongst a range of other benefits. The background paper identifies potential green corridors which could be strengthened and how development proposals could demonstrate how they will contribute towards these green corridors, which again could include net gain in biodiversity.

Achieving Net Gains in Biodiversity - Actions for the Local Plan:

1. Require all development proposals to seek net gains in biodiversity (include this as a component of the Strategic Viability Assessment).
2. Include outline advice on achieving net gains in development proposals in the Local Plan, based on a knowledge of the local ecological networks and include reference to examples.
3. Advise that the Council's approach to biodiversity will be supplemented by further advice in an SPD at a later date.

7 Appraisal of the Local Plan

Potential impacts upon biodiversity as well as opportunities for biodiversity net gains, arising from the new Local Plan proposals will be considered and assessed under the following:

Habitat Regulations Assessment (HRA)

The Issues and Options consultation was accompanied by a Stage 1 Habitats Regulations Assessment (HRA) screening report (October 2017). It considered whether the options put forward in the 2017 Issues and Options document would have a likely significant effect on any of the protected sites.

¹⁶ Natural England (November 2018) Defra Biodiversity Metric - Introduction to the Proposed Updated Metric (BD2020-10) available from:

<http://publications.naturalengland.org.uk/publication/602020453888819>

¹⁷ Blue infrastructure can include natural or semi-natural assets such as watercourses, pools, ponds, flood mitigation basins and reed beds.

HRA screening concluded that the four strategic options set out in the consultation paper have the potential to result in significant effects on the protected sites. An additional screening report for the subsequent Regulation 18 stage consultation, which lists potential site options had similar findings. These will be explored further through the stage 2 of the HRA process, which will be carried out alongside the development of the Local Plan.

We will ensure Habitats Regulations Assessment and Sustainability Appraisal are fully integrated into plan-making, including the consideration of strategic projects, and informs the development of the Local Plan at all stages.

Sustainability Appraisal

As a required by legislation, the Local Plan will to be subject to Sustainability Appraisal (SA) and where relevant, must meet the requirements of the [Strategic Environmental Assessment \(SEA\) Directive 2001/42/EC](#).

An essential consideration when drawing up planning documents is their effect on the environment and people's quality of life, both now and in the future.

The aim of SA is to set out how sustainable development will be achieved through better integration of economic, environmental and social considerations into the preparation and adoption of Local Plan documents. To be effective, a SA must be fully integrated into the plan making process. The SA will be applied at each stage of document production and audit key decisions. SA will be used to monitor the effectiveness of the plan during its implementation in order to inform revisions of the plan that will be more conducive to achieving sustainable development.

An Appraisal must be conducted in line with Government guidance, 'Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks' (ODPM, 2005). While there have been changes to national planning policy, namely the introduction of the National Planning Policy Framework, this guidance is still considered relevant as it incorporates the European Directive¹⁸ requirements for Strategic Environmental Assessment.

A Sustainability Appraisal (SA) will assess the extent to which the emerging Local Plan will help to achieve key environmental, economic and social objectives for the Borough. The SA Scoping Report sets the 'baseline' evidence on sustainability topics and provides a framework for the appraisal.

Health and Well Being

The impacts of planning on health and well-being are wide ranging. The emerging new Local Plan will take full account of health and well-being across the Borough and consider the key themes for the Local Plan in terms of healthy housing, transport and accessibility, healthy Environments (including biodiversity) and social infrastructure.

¹⁸ Directive 2001/42/EC of the European Parliament and of the Council on the assessment of the effects of certain plans and programmes on the environment

8 Proposed actions for new Local Plan

This paper has identified a range of actions to be followed as part of bringing forward the new Local Plan. Together, these approaches are considered necessary to ensure that biodiversity implications, threats and opportunities offered by the new Local Plan are addressed in a comprehensive manner.

The Council will continue to collaborate, consult and engage with key consultees and local partnerships to ensure a comprehensive approach to strategic planning for biodiversity in Epsom and Ewell.

The key actions from this background paper are as follows:

Epsom and Ewell Ecological Assets

1. Identify (or confirm) the following local networks as the 'Epsom and Ewell ecological network' for protection in the new Local Plan:
 - a. International, national and locally designated sites of importance for biodiversity;
 - b. Surrey Priority Habitat and Species (and their habitats);
 - c. Habitat buffer zones, wildlife corridors and the stepping stones that connect them.

Recreational Disturbance

2. Measures should be proposed to ensure sites of biodiversity significance are protected from excessive disturbance that could lead to more erosion or pollution that is acceptable.

Water Quality

3. Acknowledge the water quality issues and gaps in the evidence base in the Local Plan, and that it will be necessary to respond to emerging evidence to determine whether housing in the later stages of the plan period would require appropriate mitigation
4. Pursue higher water efficiency standards in the new Local Plan in order to be consistent with other local authorities in the sub-region and to recognise the water stress issue in the south-east of England.

Air Quality

5. Take account of any emerging evidence on air pollution and the impacts on habitat sites from the HRA of the Local Plan and other sources.
6. Highlight air quality concerns as key issue for the Council's HRA and Sustainability Appraisal.

Achieving Net Gains in Biodiversity

7. Include outline advice on achieving net gains in development proposals in the Local Plan, based on a knowledge of the local ecological networks and include reference to examples.

8. Advise that the Council's approach to biodiversity will be expanded through further guidance at a later date.

Appraisal of the Local Plan

9. Ensure Habitats Regulations Assessment and Sustainability Appraisal are fully integrated into plan-making, including the consideration of strategic projects, and informs the development of the Local Plan at all stages.

Appendix 1: Glossary

Appropriate Assessment: An assessment required by the habitats Directive to determine whether a plan or project is likely to have a significant impact on a Natura 2000 site.

Assemblage Species: A species assemblage is a number of characteristic species which together form the feature and usually share similar ecological or habitat requirements

Ecosystem: A dynamic functional unit consisting of all plants and animals (biodiversity) in an area, together with the non-living, physical components of the environment (water, soil and air) with which they interact.

Ecological Network: An ecological network is a group of habitat patches that species can move easily between.

Ecosystem services: Services provided by the natural environment which benefit people.

Eutrophication: when a body of water becomes overly enriched with minerals and nutrients which induces an excessive growth of plants and algae. This process may result in oxygen depletion of the water body.

Fauna: The animals of a particular region, habitat, or geological period.

Flora: the plants of a particular region, habitat, or geological period.

Habitat Site: Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

Imperative reasons of over-riding public interest (IROPI): Having established there are no feasible alternative solutions, the competent authority must be able to identify “imperative reasons of overriding public interest” (IROPI) that justify the plan or project despite the environmental damage it will cause. The type of IROPI that a competent authority can consider will depend on the nature of the site that will be affected.

Local Nature Reserve (LNR): A site designated for local wildlife importance and protected under local authority local plans. The designation is agreed by the Local Sites committee.

Macroalgae: Large algae, often living attached in dense beds.

Mitigation: the preservation, enhancement, restoration or creation of a habitat conservation area which offsets, or compensates for, expected adverse impacts to habitat due to land development activities or other projects.

Natura 2000: *Natura 2000* is a network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected in their own right. It stretches across all 28 EU countries, both on land and at sea. The aim of the network is to ensure the long-term survival of Europe's most valuable and threatened species and habitats, listed under both the Birds Directive and the Habitats Directive.

Natural Capital: The sum of our ecosystems, species, freshwater, land, soils, minerals, our air and our seas. These are all elements of nature that either directly or indirectly bring value to people and the country. *HM Government (Jan 2018) A Green Future: Our 25 Year Plan to Improve the Environment.*

Off-Setting: Biodiversity offsets are conservation activities that are designed to give biodiversity benefits to compensate for losses - ensuring that when a development damages nature (and this damage cannot be avoided or mitigated) new nature sites will be created. Where appropriate, biodiversity offsetting is an option available to developers to fulfil their obligations under the planning system's mitigation hierarchy.

Precautionary Principle: The precautionary principle is designed to assist with decision-making under uncertainty and is a core principle of EU environmental law, enshrined in Article 191(2) of the Treaty on the Functioning of the EU. *"Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation"* (1992 Rio Declaration on Environment and Development) or 'better safe than sorry'.

Ramsar sites: These are wetland sites designated as being of international importance, especially those providing waterfowl habitat, under the Ramsar Convention.

Sites of Nature Conservation Importance (SNCI): Sites of Nature Conservation Importance (SNCIs), often termed Local Wildlife Sites elsewhere, form the cornerstone for biodiversity protection in the county. Surrey's SNCIs protect those sites of county, regional or national importance for wildlife that are not covered by these statutory designation.

Sites of Special Scientific Interest (SSSI): an area of land given statutory protection by virtue of its examples of the UK's best fauna, flora, geological or physiographical / geomorphological features.

Appendix 2: Epsom and Ewell Sites of Nature Conservation Importance (SNCI)

Name of site	Area	Grid Ref	Parish	Reason for selection
Downs Covered Reservoir	1.3 ha		Epsom	Chalk grassland, butterflies
Epsom Cemetery	8.5 ha	TQ215593	Epsom	Presence of calcareous grassland
Epsom Common South	50 ha	TQ195595	Epsom	Acidic grassland, species rich grassland, butterflies, veteran trees
Epsom Downs,	177 ha	TQ218582	Epsom	Presence of calcareous grassland, butterflies, Ancient Woodland
Epsom Downs Golf Course	56 ha	TQ222589	Epsom	Presence of calcareous grassland, Butterflies
Hogsmill Local Nature Reserve	38 ha	TQ210635	Epsom	Access to nature, Chalk Stream, Birds, Veteran Trees
Horton Country Park LNR,	100 ha	TQ191617	Epsom	Species rich grassland, amphibian interest, butterflies, ancient woodland
Howell Hill	4.7 ha	TQ239619	Epsom	Species rich grassland, Butterflies
Langley Bottom Farm	113 ha		Epsom	Arable plants, birds

Livingstone Park	9.7 ha	TQ196617	Epsom	Access to nature , veteran trees
Nonsuch park and Warren Farm	149 ha	TQ230635	Epsom	Species rich grassland, Reptiles, Butterflies, Ancient Woodland
Northey Fields	16 ha	TQ223621	Epsom	Arable plants
Priest's Hill	35 ha	TQ230614	Epsom	Species rich grassland, butterflies, access to nature

Appendix 3: Species recorded in Epsom and Ewell protected under the Natural Environment and Rural Communities Act, European Habitat Regulations and Wildlife and Countryside Act.

Species	Group	Status
Common Toad	Amphibian	×
Great Crested Newt	Amphibian	×
Brown Long-eared Bat	Bat	×
Noctule Bat	Bat	×
Daubenton's Bat	Bat	×
Serotine	Bat	×
Leisler's Bat / Lesser Noctule Bat	Bat	×
Nathusius pipistrelle	Bat	×
Common Pipistrelle	Bat	×
Whiskered bat	Bat	×
Natterer's Bat	Bat	×
Soprano Pipistrelle	Bat	×
Red-shanked carder bee	Bee	×
Mellet's downy-back	Beetle	×
Bull finch	Bird	×
Cuckoo	Bird	×
Curlew	Bird	×
Dunnock	Bird	×
Grasshopper Warbler	Bird	×
Grey Partridge	bird	×
Herring Gull	Bird	×
House Sparrow	Bird	×
Lapwing	Bird	×
Lesser Redpoll	Bird	×
Lesser spotted woodpecker	Bird	×
Linnet	Bird	×
Reed Bunting	Bird	×
Sky lark	Bird	×
Song thrush	Bird	×
Spotted Flycatcher	Bird	×
Starling	Bird	×
Tree Pipit	Bird	×
Turtle Dove	Bird	×
Wood Warbler	Bird	×
Yellowhammer	Bird	×

Key	
X	2010-19
X	1990-2009
X	records from Surrey biodiversity in planning report
ex	extinct

Brown Hairstreak	Butterfly	✕
Dingy skipper	Butterfly	✕
Grizzled skipper	Butterfly	✕
Small Blue	Butterfly	✕
Small Heath	Butterfly	✕
White Admiral	Butterfly	✕
White-letter Hairstreak	Butterfly	✕
Altantic Eel	Fish	✕
Hornet robberfly	Fly	✕
Phantom hoverfly	Fly	✕
Phoenix fly	Fly	✕
Bearded tooth	Fungi	✕
Oak polypore	Fungi	✕
Orchard tooth	Fungi	✕
Zoned rosette	Fungi	✕
Stag Beetle	Insect	✕
European Water Vole	Mammal	ex
Harvest Mouse	Mammal	✕
Hazel Dormouse	Mammal	✕
West European Hedgehog	Mammal	✕
Autumnal rustic	Moth	✕
Beaded chestnut	Moth	✕
Blood vein	Moth	✕
Brindled beauty	Moth	✕
Broom moth	Moth	✕
Brown-spot pinion	Moth	✕
Buff Ermine	Moth	✕
Centre-barred sallow	Moth	✕
Cinnabar	Moth	✕
Crescent	Moth	✕
Dark spinach	Moth	✕
Dark-barred twin-spot carpet	Moth	✕
Deep-brown dart	Moth	✕
Dot Moth	Moth	✕
Double dart	Moth	✕
Dusky brocade	Moth	✕
Dusky thorn	Moth	✕
Dusky-lemon sallow	Moth	✕
Ear moth	Moth	✕
Feathered gothic	Moth	✕
Figure of eight	Moth	✕
Flounced chestnut	Moth	✕
Garden dart	Moth	✕
Garden tiger	Moth	✕

Green-brindled crescent	Moth	×
Grey Dagger	Moth	×
Heart moth	Moth	×
Hedge rustic	Moth	×
Knot grass	Moth	×
Lackey	Moth	×
Large nutmeg	Moth	×
Latticed heath	Moth	×
Minor shoulder-knot	Moth	×
Mottled rustic	Moth	×
Mouse moth	Moth	×
Oak Hook-tip	Moth	×
Oak lutestring	Moth	×
Powdered quaker	Moth	×
Pretty chalk carpet	Moth	×
Rosy minor	Moth	×
Rosy rustic	Moth	×
Rustic	Moth	×
Sallow	Moth	×
September Thorn	Moth	×
Shaded Broad-Bar	Moth	×
Shoulder-striped wainscot	Moth	×
Small emerald	Moth	×
Small phoenix	Moth	×
Small Square-spot	Moth	×
Spinach	Moth	×
Sprawler	Moth	×
Streak	Moth	×
White Ermine	Moth	×
Basil thyme	Plant	×
Chalk eye-bright	Plant	×
Chamomile	Plant	×
Ground pine	Plant	×
Juniper	Plant	×
Man Orchid	Plant	×
Penny royal	Plant	×
Red Hemp Nettle	Plant	×
White helleborine	Plant	×
Adder	Reptile	×
Common Lizard	Reptile	×
Grass Snake	Reptile	×
Slow-worm	Reptile	×