

BIM Transmittal Disclaimers

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- ✳ M/2 unit
- ✳ Affordable unit



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7. **Handwritten:** *Handwritten*The Canopies
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WIDER CONTEXT

ADDITIONAL COMMENTS

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Appendix 2

Relevant Legislation & Policy

This document is intended to provide summary information on legislation and planning policy relevant to biodiversity in England and is believed to be correct at the date of publication, but should not be relied upon as a substitute for professional legal advice.

Legislation

The Environment Act 2021

The Environment Act 2021 placed a requirement on the Secretary of State to make regulations setting out long-term targets for air quality, water, biodiversity, resource efficiency and waste reduction. It also required the Government to produce an Environmental Improvement Plan, to report on progress towards its goals annually, to meet the targets that are set in relation to the improvement of the natural environment and to produce remedial plans should this not be achieved.

In relation to water quality, the Act placed new duties on the Government, Environment Agency and sewerage undertakers to reduce the frequency and harm of discharges from storm overflows on the environment, and for monitoring the quality of watercourses affected by those overflows.

It also included a requirement for an independent Office for Environmental Protection (OEP) to be established, with responsibilities for monitoring and reporting on progress against environmental improvement plans and targets. The OEP also has investigation and enforcement powers against public authorities failing to comply with environmental law when exercising their functions.

The Act made provision for 10% biodiversity gain to become a condition of planning permission in England, through amendments to the Town and Country Planning Act 1990. These amendments came into force on the 12th February 2024 (delayed to 2nd April 2024 for 'small sites') and are implemented through a series of new statutory instruments collectively referred to in this document as the 'Biodiversity Net Gain Regulations' (detailed further below). The 10% biodiversity gain is measured through a biodiversity metric published by the Department of the Environment, Food and Rural Affairs (DEFRA) on behalf of the Secretary of State. The Act also establishes Biodiversity Net Gain as a requirement for Nationally Significant Infrastructure Projects (NSIPs).

The Act also strengthens the biodiversity duty placed on public authorities through amendments to the Natural Environment and Rural Communities Act 2006 Section 40, requiring such authorities to not only conserve but also enhance biodiversity when exercising their functions. Public authorities will also be required to publish summary reports of actions taken under Section 40 at least every five years.

The Act provides the legal basis for the creation of Local Nature Recovery Strategies (LNRs) for England (including specifying their content), and the preparation and publication of species conservation strategies and protected sites strategies.

The Act also created a new legal vehicle known as a 'Conservation Covenant' which is a voluntary, legally binding private agreement between landowners and responsible bodies (the latter designated by the Secretary of State) which conserve the natural or heritage features of the land, enabling long-term conservation. Conservation Covenants are designed to 'run with the land' when it is sold or passed on and are intended to become a primary mechanism for the delivery of Biodiversity Net Gain (BNG).

The Act provides new powers for the Government to amend in future Regulation 9 and Part 6 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') – but “only if satisfied that the regulations do not reduce the level of environmental protection provided by the Habitats Regulations”.

Several aspects of protected species licencing have also been adjusted by the Act. These include the removal of several inconsistencies between the Habitats Regulations and the Wildlife & Countryside Act 1981 (as amended), ensuring that licences issued under the former piece of legislation also apply under the latter, and making it now possible for licences to be issued under Section 16(3) of the Wildlife & Countryside Act 1981 (as amended) for purposes of overriding public interest. The maximum term of a licence that can be issued by Natural England has also been extended from 2 to 5 years.

The Biodiversity Net Gain Regulations

The Biodiversity Net Gain provisions of the Environment Act 2021 referred to above were implemented through several pieces of secondary legislation, collectively referred to in this document as the 'Biodiversity Net Gain Regulations', that came into force on 12 February 2024 (delayed to 2 April 2024 for sites meeting the published definition of a 'small site'). The Biodiversity Net Gain Regulations are as follows:

- The Biodiversity Gain (Town and Country Planning)(Modifications and Amendments)(England) Regulations 2024
- The Biodiversity Gain (Town and Country Planning)(Consequential Amendments) Regulations 2024
- The Biodiversity Gain Site Register Regulations 2024
- The Biodiversity Gain Site Register (Financial Penalties and Fees) Regulations 2024
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024
- The Biodiversity Gain Requirements (Exemptions) Regulations 2024
- The Environment Act 2021 (Commencement No. 8 and Transitional Provisions) Regulations 2024

Collectively, these Regulations implement the requirement under the Environment Act 2021 for a 10% biodiversity gain, as measured by a metric, to become a condition of planning permission in England.

A publicly accessible register of Biodiversity Gain Sites was published on the date that these Regulations came into force, along with the Statutory Biodiversity Metric (produced by Defra on behalf of the Secretary of State) and associated guidance (see below).

The required biodiversity gain can be delivered on and/or offsite (subject to adherence to a biodiversity net gain hierarchy detailed in guidance – see below) and establishes the basis for purchasing off-site credits to meet the 10% obligation if required. In most cases the land used to deliver biodiversity gain must be maintained for at least 30 years, and the biodiversity gain planning condition requires a Biodiversity Gain Plan to be submitted to and approved by the planning authority prior to commencement of development.

Off-site biodiversity gains must be secured either through a Section 106 Agreement or Conservation Covenant, and 'significant' on-site biodiversity gains must be secured either through a Section 106 Agreement or a planning condition.

The legislation also clarifies that the baseline biodiversity value of a site should be taken from the date on which planning consent is granted, unless otherwise agreed with the LPA. This excludes any activities undertaken without planning permission (or other relevant permissions) after 30 January 2020 which have had the effect of reducing the biodiversity value of the land. In such cases, "the pre-development biodiversity value is to be taken to be its biodiversity value immediately before the carrying on of the activities."

Through the above Regulations, the Government has established an initial list of 'irreplaceable habitats' that must be recorded in the metric if present on site but which cannot be 'traded' through the biodiversity net gain process. Defra has confirmed the intention to consult on this initial list of habitats during 2024 and adjust it if necessary.

Guidance on Biodiversity Net Gain

To help those involved in the planning process, the Defra and the Department for Levelling Up, Housing and Communities (DLUHC) have published guidance on the technical aspects of biodiversity net gain and planning practice guidance respectively, available at the links below:

<https://www.gov.uk/guidance/understanding-biodiversity-net-gain>

<https://www.gov.uk/guidance/biodiversity-net-gain>

Biodiversity net gain (BNG) is already enshrined in the key principles of the National Planning Policy Framework (NPPF), and some local planning policies include a requirement to deliver net gain above the minimum statutory 10% figure.

In addition to the above, British Standard BS: 8683:2021 *Process for Designing and Implementing Biodiversity Net Gain – Specification* builds on and adds to previous UK Good Practice Guidance on Biodiversity Net Gain produced by CIEEM, CIRIA and IEMA.

In addition to habitat creation or enhancement undertaken to achieve biodiversity net gains, the NPPF (and often local policy) also seeks general biodiversity enhancement measures, which often include measures not directly accounted for in the Defra Metric, such as the provision of nest boxes.

The Conservation of Habitats and Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations 2017 (as amended) (known as the "Habitats Regulations") were originally drawn up to transpose the European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") into UK legislation. Following the UK's exit from the European Union, the Habitats Regulations – as amended by Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – remain in force until such a time as they are superseded by new or updated domestic legislation.

The Habitats Regulations provide for the designation of both Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the UK, which previously formed part of the Natura 2000 network of protected areas across Europe and are now part of the UK's "National Sites Network". New National Sites may be designated under the Regulations.

The Regulations also prohibit certain actions relating to European Protected Species (EPS), which include *inter alia* Hazel Dormouse *Muscardinus avellanarius*, Great Crested Newt *Triturus cristatus*, European Otter *Lutra lutra*, Sand Lizard *Lacerta agilis*, Smooth Snake *Coronella austriaca* and all native species of bat.

Further information on SPAs, SACs and European Protected Species is provided in the relevant sub-sections of this Appendix.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 is a key mechanism for the legislative protection of wildlife in Great Britain. Various amendments have occurred since the original enactment. Certain species of bird, animal and plant (including all of the European Protected Species listed above) are afforded protection under Schedules 1, 5 and 8 of the Act. Reference is made to the various Schedules and Parts of this Act (**Table A1.1**) in the section of this Appendix dealing with Legally Protected Species. The Act also contains measures for the protection of the countryside, National Parks, Sites of Special Scientific Interest (SSSIs) and public rights of way as well as preventing the establishment of invasive non-native species that may be detrimental to native wildlife.

Table A1.1: Relevant Schedules of the Wildlife & Countryside Act 1981 (as amended)

Schedule	Protected Species
Schedule 1 Part 1	Protects listed birds through special penalties at all times
Schedule 1 Part 2	Protects listed birds through special penalties during the close season
Schedule 5 Section 9.1 (killing/injuring)	Protects listed animals from intentional killing or injuring
Schedule 5 Section 9.1 (taking)	Protects listed animals from taking
Schedule 5 Section 9.2	Protects listed animals from being possessed or controlled (live or dead)
Schedule 5 Section 9.4a	Protects listed animals from intentional damage or destruction to any structure or place used for shelter or protection
Schedule 5 Section 9.4b	Protects listed animals from intentional disturbance while occupying a structure or place used for shelter or protection
Schedule 5 Section 9.5a	Protects listed animals from being sold, offered for sale or being held or transported for sale either live or dead, whole or part
Schedule 5 Section 9.5b	Protects listed animals from being published or advertised as being for sale
Schedule 8	Protects listed plants from: intentional picking, uprooting or destruction (Section 13 1a); selling, offering for sale, possessing or transporting for the purpose of sale (live or dead, part or derivative) (Section 13 2a); advertising (any of these) for buying or selling (Section 13 2b).
Schedule 9	Prohibits the release of species listed in the Schedule into the wild.
Schedule 9a	Allows environmental authorities to issue species control orders to landowners, obliging them to control/eradicate invasive and/or non-native species.

Further information on legally protected species, designated wildlife sites and invasive non-native species is provided in the relevant sub-sections of this Appendix.

Countryside & Rights of Way Act 2000

Many of the provisions of the Countryside and Rights of Way (CRoW) Act 2000 have been incorporated as amendments into the Wildlife and Countryside Act (1981) and some provisions have now been superseded by later legislation such as The Natural Environment and Rural Communities Act (2006).

The most relevant changes provided by the CRoW Act include the added protection given to SSSIs and other important sites for nature conservation. Importantly, under the Act it became a criminal offence to "recklessly disturb" Schedule 1 nesting birds and species protected under Schedule 5 of the Wildlife and Countryside Act. It also enabled heavier penalties on conviction of wildlife offences.

The Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act 2006 was intended to raise the profile of biodiversity amongst all public authorities (including local authorities, and statutory undertakers) and to

make biodiversity an integral part of policy and decision-making processes. The NERC Act also improved wildlife protection by amending the Wildlife and Countryside Act 1981.

Section 40 (S40) of the Act places a 'Biodiversity Duty' on all public bodies to have regard to the conservation of biodiversity when carrying out their normal functions. This includes giving consideration to the restoration and enhancement of species and habitats.

Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of Principal Importance for the conservation of biodiversity in England. This was published in 2007 and is commonly referred to as the "S41 list". Public authorities have a responsibility to give specific consideration to the S41 list when exercising their normal functions. For planning authorities, consideration for Species and Habitats of Principal Importance will be exercised through the planning and development control processes. Further information on Species and Habitats of Principal Importance is provided in the relevant sub-sections of this Appendix.

The Water Environment Regulations 2017

Currently, the overriding legislation relating to freshwater is the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. The Regulations set out objectives to deliver a better water environment based upon achieving a 'good status' for freshwater bodies. The concept of 'good status' is a more rigorous measure of environmental quality than previous measures, which now takes into account not just the chemical status but also the ecological health and the extent of artificial physical modification to rivers.

The Regulations are based upon the concept of protecting water through the management of river basin districts (RBDs) and require the implementation of River Basin Management Plans (RBMPs). Regulation 33 requires public bodies to 'have regard' to the RBMP when making planning decisions, for example through the granting of planning permission with appropriate planning conditions and/or obligations. These could require measures to be implemented (e.g. Sustainable Urban Drainage Systems (SUDS), grey water recycling etc.) or funds to be provided for habitat enhancement schemes.

The Regulations also affect planning policy through the implementation of Programmes of Measures for each river basin district. This involves bringing together funding from various sources and co-ordination of the activities of organisations with an interest in the use of land and water, including developers.

Sites Designated for the Conservation of Nature

There is a hierarchy of nature conservation sites which is based on the level of statutory (legal) protection and the administrative level of importance. Other features of nature conservation interest outside designated sites may also be a material consideration in the determination of planning applications.

Statutory Sites: International

Ramsar Sites, Special Areas of Conservation (SAC) and Special Protection Areas (SPA)

The Conservation of Habitats and Species Regulations 2017 (as amended) provide the primary legal basis for the protection of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK.

SACs are sites which support internationally important habitats and/or species listed as being of Community Importance in the Annexes of the European Habitats Directive 92/43/EEC. SPAs are sites which support internationally important numbers of bird species listed as being of Community Importance in the Annexes of the European Birds Directive 2009/147/EC. Following the UK's exit from the EU, these now form part of the "National Sites" network rather than the EU Natura 2000 network.

Ramsar sites are wetlands of international importance designated under the Ramsar Convention held in Iran in 1971 and although not covered under the Habitats Regulations they are, as a matter of national planning policy, subject to the same strict protection as SACs and SPAs. The majority of terrestrial Ramsar sites in England are also notified as SPAs, SACs and/or Sites of Special Scientific Interest (SSSIs).

To avoid confusion with the nationally designated sites described below, EPR refers to SACs and SPAs as 'International sites', given the reasons for their designation.

Any plan or project considered likely to affect an International site (SAC, SPA or Ramsar) must be subject to a Habitats Regulations Assessment (HRA), as set out under Regulation 63 (and Regulation 105 in respect of Land Use Plans) of the Conservation of Habitats and Species Regulations 2017 (as amended) and the National Planning Policy Framework (NPPF) 2024.

The 'competent authority' determining whether a plan or project should proceed carries out the HRA, but the onus is on the developer to provide the necessary information to inform this process, usually in the form of a report.

Under the Conservation of Habitats and Species Regulations 2017 (as amended), the competent authority must determine in the first instance whether a proposed development is 'likely to have a significant effect on the International Site, either alone or in combination with other plans and projects'. This stage of the HRA process is known as 'screening', and 'measures intended to avoid or reduce the harmful effects' of the subject plan or project cannot be taken into account at this stage.

If a likely significant effect cannot be precluded (screened out) on the basis of objective information, the competent authority must undertake an 'Appropriate Assessment' to fully assess these implications against the site's conservation objectives, to determine if there would be an adverse effect on the integrity of the affected International Site(s). A precautionary approach must be taken with respect to determining whether or not there would be an adverse effect, and the appropriate nature conservation body (in most cases Natural England) should be consulted. Except in certain exceptional circumstances prescribed by the Regulations where there are imperative reasons of overriding public interest for allowing a development to proceed and no alternative to achieving the objectives of these reasons that are less harmful to the International Site(s), the competent authority may not undertake or authorise the plan or project until they have established (based on the conclusions of the Appropriate Assessment) that the activity will not adversely affect the integrity of the International Site. This should be the case where no reasonable scientific doubt remains as to the absence of such effects.

Regulation 16A of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 sets out the management objectives of the National Site Network, which can be summarised as follows:

- to maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive within the UK's territory to a favourable conservation status (FCS); and
- contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

The appropriate authorities must also have regard to:

- the importance of protected sites in meeting the above objectives, including breeding, moulting, staging and wintering areas for in the case of migratory bird species;
- their importance for the coherence of the national sites network; and
- the threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

Government guidance³ also states that competent authorities have a duty to help protect, conserve and restore the designated features of SACs and SPAs when carrying out their statutory work, including taking decisions that might affect a site. They also have a duty to consider how they can help to prevent the deterioration of the site's habitats from human activity or natural changes, including habitats that support designated species, and prevent significant disturbance of the site's designated species from human activity or natural changes.

Depending on which entity is responsible for authorising a plan or project, competent authorities can include (but are not limited to) local planning authorities, planning committees, the Secretary of State and statutory agencies such as Natural England and the Environment Agency.

Statutory Sites: National

Nationally important sites include Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs). A development proposal that is likely to affect a nationally important site will be subject to special scrutiny by the local planning authority and Natural England. Certain operations may be permitted. Any potentially damaging operations that could have an adverse effect directly or indirectly on the special interest of the site will not be permitted unless the reasons for the development clearly outweigh the nature conservation and/or geological value of the site itself and the national policy to safeguard such sites, as set out in Section 15 of the National Planning Policy Framework (NPPF).

Sites of Special Scientific Interest

The Wildlife and Countryside Act 1981 (as amended) and the CROW Act 2000 provide the primary legal basis for the protection of Sites of Special Scientific Interest (SSSIs). These sites have been designated to capture the best examples of England's flora, fauna, geological or physiographical diversity. Natural England are responsible for assessing the condition of these areas and agreeing management plans for their conservation.

Public bodies have a duty to take reasonable steps to conserve and enhance the special features of sites of special scientific interest (SSSIs) when carrying out their statutory duties and giving others permission for works, such as reviewing planning applications.

³ <https://www.gov.uk/guidance/duty-to-protect-protect-protect-and-restore-european-sites>

Natural England has produced, for every SSSI in England, a list of 'Operations Requiring Natural England's Consent' (ORNECs). Activities listed as ORNECs cannot be carried out within the relevant SSSI unless Natural England has issued their written assent to the activity taking place.

National Nature Reserves

National Nature Reserves (NNRs) are declared under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981, as amended by the Environmental Protection Act 1990. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. NNRs represent the very best parts of England's SSSIs. The majority of NNRs also have European nature conservation designations.

Statutory Sites: Regional/Local

Local Nature Reserves

Local Nature Reserves (LNRs) are declared by local authorities under the National Parks and Access to the Countryside Act 1949 as living green spaces in towns, cities, villages and countryside. They provide opportunities for research and education, or for simply enjoying and having contact with nature. LNRs are usually protected from development through local planning documents which may be supplemented by local by-laws.

Non-Statutory Sites

Local Wildlife Sites

Local planning authorities may designate non-statutory sites for their nature conservation value based on important, distinctive and threatened habitats and species within a national, regional and local context. Guidance for selecting and designating such sites have been produced by Defra. These sites are not legally protected but are given some protection through the planning system. These sites may be declared as 'County Wildlife Sites' (CWSs), 'Sites of Importance for Nature Conservation' (SINCs), or 'Sites of Nature Conservation Importance' (SNCIs) in local plans. Non-statutory sites are a material consideration when planning applications are being determined. The precise amount of weight to be attached, however, will take into account the position of the site in the hierarchy of sites as set out above. Further information is typically provided in local level planning policy and related guidance.

Nature Conservation in Areas Outside Designated Sites

Various other features exist outside designated sites that are important for the conservation of nature and which are a material consideration in the planning system.

Habitats of Principal Importance in England

Fifty-six habitat types have been identified as Habitats of Principal Importance for the conservation of biodiversity in England under Section 41 (S41) of the NERC Act 2006. Although these habitats are not legally protected, the NPPF, Government Circular 06/05, good practice guidance, the NERC Act 2006 and the Environment Act 2021 place a clear responsibility on planning authorities to further the conservation of these habitats. They can be a material consideration in planning decisions, and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent their net

loss and to enhance them where possible. Additional guidance to developers is typically provided in local level planning policy.

The S41 list also includes species as explained below under 'Species of Principal Importance in England'.

Networks of Natural Habitats

Networks of natural habitats link sites of biodiversity importance and provide routes or stepping stones for the migration, dispersal and genetic exchange of species in the wider environment. Examples include rivers with their banks, traditional field boundary systems (such as hedgerows), ponds and small woods. Local planning authorities are encouraged through the NPPF to maintain networks by avoiding or repairing the fragmentation and isolation of natural habitats through planning, policies and development control.

Hedgerows

Hedgerows can act as wildlife corridors that are essential for migration, dispersal and genetic exchange of wild species. Hedgerows that qualify as a Habitat of Principal Importance under S41 of the NERC Act 2006 are a material consideration in the planning system.

Under the Hedgerow Regulations 1997, it is an offence to remove a hedgerow classed as 'important' under the criteria set out by the Regulations without submitting a notice to the Local Planning Authority and waiting for their decision. The Regulations are aimed at countryside hedges and do not apply to hedges around private dwellings or where planning permission has been granted for a project that includes hedge removal. Hedgerows that satisfy wildlife, archaeological, historical or landscape criteria qualify as 'important' under the Regulations. If a hedgerow is not important, the Local Planning Authority may not prevent its removal; however, Local Planning Authorities are required under the Regulations to protect and retain important hedgerows unless satisfied that the circumstances justify their removal.

Tree Preservation Orders

Tree Preservation Orders (TPOs) may be declared under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999 to protect individual trees and woodlands from development and cutting. TPOs are primarily put in place to preserve amenity or for landscape conservation reasons. The importance of trees as wildlife habitat may be taken into account, but alone is not sufficient to warrant a TPO. For this reason, TPOs do not fit comfortably under the remit of nature conservation and are generally dealt with by an arboricultural consultant rather than an ecologist. Further guidance on TPOs in relation to development is available from the Department for Levelling Up, Housing and Communities.

Ancient Woodland & Veteran Trees

Ancient woodlands are defined in England as areas continuously wooded since at least 1600 AD (although certain open areas such as rides and glades within woodlands are also considered part of a woodland and brief periods of tree cover removal will not remove ancient woodland status). Even an ancient wood which has been replanted may still have remnants of ancient woodland wildlife and historical features and has potential to be restored. For this reason, Natural England's Provisional Ancient Woodland Inventory (PAWI) draws a distinction between Ancient and Semi Natural Woodland

(ASNW) and 'Plantation on an Ancient Woodland Site' (PAWS). The inventory also lists ancient pasture woodland.

Ancient woodland is not a statutory designation and does not provide legal protection, but local authorities are directed under the NPPF and National Planning Practice Guidance (NPPG) not to grant planning permission for any development that would result in the 'loss or deterioration' of irreplaceable habitats such as ancient woodland, ancient trees or veteran trees unless there are 'wholly exceptional reasons' and 'a suitable compensation strategy in place'. Local Planning Authorities must take into account Natural England and the Forestry Commission's *Standing Advice for Ancient Woodland and Veteran Trees*, available at: <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

Surface & Ground Waters

Surface waters (including flowing and standing water) and ground water can directly and indirectly impact upon the conservation of nature.

Guidance on pollution prevention is hosted on the Government's website and focuses on regulatory requirements. This covers topics including the prevention of pollution if you are a business, managing business and commercial waste, oil storage, working on or near water, and managing water on land. Careful planning and the application of these guidelines can help reduce the risk of construction and maintenance work causing pollution to surface and ground waters. Some activities with the potential to impact watercourses or groundwater may require consent under the Water Resources Act 1991.

Water Resources Act (WRA) 1991 (as amended)

Under the WRA there is strict regulation of discharges (including sediment, chemicals, nutrients) to rivers, lakes, estuaries and groundwaters. It also aims to ensure that polluters cover the costs associated with pollution incidents.

Species Protection

Legally Protected Species

The species listed in the following subsections are protected by law in England. When preparing a planning application, it is essential to determine the presence or likely absence of legally protected species and the extent to which they may be affected by a proposed development. This can best be achieved by undertaking surveys early in the planning process. Impact avoidance and/or mitigation measures may be required to address any predicted impacts upon protected species and may necessitate the obtaining of a licence. The Government website offers standing advice from Natural England and DEFRA which can be applied to planning applications that affect protected species.

Bats

There are 18 species of bat native in the UK, seven of which are Species of Principal Importance in England under S41 of the NERC Act 2006. All bats and bat roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Bats are also a European Protected Species protected under the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to:

- Intentionally or deliberately kill, injure or capture bats;
- Intentionally, deliberately or recklessly disturb bats in such a way as to be likely to significantly affect the ability of any significant group of bats to survive, breed, or rear or nurture their young or the local distribution of or abundance of a species of bat;
- Intentionally, or recklessly damage, destroy or obstruct any place used for shelter or protection (i.e. bat roosts) or intentionally or recklessly disturb a bat whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a bat; and
- Possess, sell or transport a bat, or anything derived from it.

Development proposals affecting bats or their roosts require a European Protected Species mitigation licence from Natural England.

Great Crested Newt

The Great Crested Newt *Triturus cristatus* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Great Crested Newts;
- Intentionally, deliberately or recklessly disturb Great Crested Newts in such a way as to be likely to significantly affect the ability of any significant group of Newts to survive, breed, or rear or nurture their young or the local distribution of or abundance the species;
- Intentionally or recklessly damage, destroy or obstruct any place used by Great Crested Newts for shelter or protection, or intentionally or recklessly disturb a Great Crested Newt whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a Great Crested Newt; and
- Possess, sell or transport a Great Crested Newt, or anything derived from it.

Development proposals affecting the Great Crested Newt require a European Protected Species mitigation licence from Natural England.

Hazel Dormouse

The Hazel Dormouse *Muscardinus avellanarius* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Dormice;
- Intentionally, deliberately or recklessly disturb Dormice in such a way as to be likely to significantly affect the ability of any significant group of Dormice to survive, breed, or rear or nurture their young or the local distribution of or abundance of the species;

- Intentionally or recklessly damage, destroy or obstruct access to places used by Dormice for shelter or protection (whether occupied or not) or intentionally or recklessly disturb a Dormouse whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a Dormouse;
- Possess or transport a Dormouse (or any part thereof) unless under licence; and
- Sell or exchange Dormice.

Development proposals affecting the Dormouse require a European Protected Species mitigation licence from Natural England.

European Otter

The European Otter *Lutra lutra* is a Species of Principal Importance in England. It is legally protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded significant further protection as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Collectively, this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Otters;
- Intentionally, deliberately or recklessly disturb Otters in such a way as to be likely to significantly affect the ability of any significant group of Otters to survive, breed, or rear or nurture their young or the local distribution of or abundance of Otters;
- Intentionally or recklessly damage, destroy or obstruct access to places used by Otters for shelter or protection (whether they occupied or not) or intentionally or recklessly disturb an Otter whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of an Otter;
- Possess or transport an Otter (or any part thereof) unless under licence; and
- Sell or exchange Otters.

Development proposals affecting the Otter require a European Protected Species licence from Natural England.

Reptiles

All four of the widespread British species of reptile, namely the Common Lizard *Zootoca vivipara*, Slow-Worm *Anguis fragilis*, Grass Snake *Natrix helvetica* (previously *Natrix natrix*) and Adder *Vipera berus*, are Species of Principal Importance in England. They are protected under Schedule 5 (Sections 9.1, 9.5a, 9.5b) of the Wildlife & Countryside Act 1981 (as amended) from intentional killing, injury and trade. The habitat of the four widespread reptiles is not legally protected; however the replacement of habitat lost through development may be required through the planning system. Mitigation for these species is not subject to licensing by Natural England but should nonetheless be planned to minimise disturbance and potential project delays.

The Smooth Snake *Coronella austriaca* and the Sand Lizard *Lacerta agilis* are the rarest reptile species in Britain. In addition to the protection that is afforded to the widespread species of reptile listed above, these species are protected further under Schedule 5 (Sections 9.4b and 9.4c) of the Wildlife and Countryside Act 1981 (as amended). They are also European Protected Species protected under the

Conservation of Habitats and Species Regulations 2017 (as amended). This legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture Sand Lizards or Smooth Snakes;
- Intentionally, deliberately or recklessly disturb Sand Lizards or Smooth Snakes in such a way as to be likely to significantly affect the ability of any significant group of Sand Lizards or Smooth Snakes to survive, breed, or rear or nurture their young or the local distribution or abundance of either species;
- Intentionally or recklessly damage, destroy or obstruct any place used by Sand Lizards or Smooth Snakes for shelter or protection, or intentionally or recklessly disturb a Sand Lizard or Smooth Snake whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a Sand Lizard or Smooth Snake;
- Keep, sell, or exchange Sand Lizards or Smooth Snakes or their eggs; and
- Deliberately take or destroy their eggs.

Development proposals affecting Smooth Snake or Sand Lizard require a European Protected Species mitigation licence from Natural England.

Water Vole

The Water Vole *Arvicola terrestris* is a NERC Act 2006 S41 Species of Principal Importance in England. The legal protection for Water Voles was increased in 2008 to fully cover the species under Section 5 of the Wildlife and Countryside Act 1981 (as amended). The legislation makes it an offence to:

- Intentionally or deliberately (but not recklessly) kill, injure or take Water Voles;
- Intentionally, deliberately or recklessly damage, destroy or obstruct access to any structure or place used by Water Voles for shelter or protection;
- Intentionally, deliberately or recklessly disturb Water Voles whilst they occupy a structure or place used for that purpose;
- Sell Water Voles or offer or expose for sale or transport for sale; and
- Possess or control live or dead Water Voles or derivatives.

Developers who wish to maintain, build on or alter areas used by Water Voles must ensure that unnecessary damage is avoided and all reasonable steps are taken to minimise impacts on Water Voles and their burrows. The Wildlife and Countryside Act provides a defence against the offences listed above, provided the action is the incidental result of an otherwise lawful operation and could not reasonably have been avoided.

A licence to displace Water Voles must be obtained from Natural England before conducting any activities involving displacement operations (this is different to a conservation licence, which is required for survey methods that involve disturbing Water Voles or their burrows, or capturing them). To obtain a displacement licence, it is necessary to demonstrate that the activity/activities will result in a conservation benefit for Water Voles.

Birds

49 species of bird are listed as Species of Principal Importance in England. All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence, with certain exceptions (e.g. game birds), to intentionally kill, injure or take any wild bird and to take, damage or destroy their nests or eggs.

Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) affords extra protection for certain species and applies harsher penalties for offences. Any intentional or reckless disturbance of a Schedule 1 bird, whilst it is nesting or rearing dependent young, constitutes an offence.

Regulation 10 of the Conservation of Habitats and Species Regulations 2017 (as amended) requires appropriate authorities and conservation bodies, in the exercise of their functions, to take such steps that they consider appropriate in order to secure “*the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom, including by means of the upkeep, management and creation of such habitat (...)*”.

European Badger

The Protection of Badgers Act 1992 (as amended in Scotland) offers considerable protection to both Badgers and Badger setts. This legislation was enacted to protect the European Badger *Meles meles* against baiting and not as a means of species recovery as it is common in England. It is an offence to cruelly treat, kill or take Badgers, but it is also illegal to intentionally or recklessly damage or disturb a Badger sett while it indicates signs of current use by a Badger.

The Government website contains information to help developers and their proponents avoid sett disturbance and to identify setts that are in current use. It is important to maintain adequate foraging territory in development proposals affecting Badgers as the destruction or severance of large areas of foraging territory could also be taken to include habitat loss. Licences to disturb Badgers and their setts in respect of development may be issued by Natural England provided provisions are made to minimise disturbance.

Wild Mammals

All wild mammals are protected against cruelty under the Wild Mammals (Protection) Act 1996, which makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

Licences for Development

Licences are required to permit activities prohibited under wildlife legislation, namely the disturbance or capture of protected species or damage to their habitats. Natural England is the licensing authority in England. Licences are only issued for certain purposes, which are set out in the legislation, and only where there is a valid justification. The licences most relevant to development scenarios are discussed below.

European Protected Species Mitigation Licences

A European Protected Species mitigation licence (EPSML) is required from Natural England to undertake any development that is reasonably likely to result in an offence in respect of a European Protected Species protected under Schedule 2 of the Conservation of Habitats and Species Regulations

2017 (as amended); including *inter alia* all species of bats, Hazel Dormouse, Great Crested Newt, Sand Lizard, Smooth Snake, European Otter and Eurasian Beaver. Natural England must be satisfied that the following three tests are satisfied before it will issue a licence covering a European Protected Species:

1. The proposal is necessary to preserve public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
2. There is no satisfactory alternative; and
3. The proposal will have no detrimental effect to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Other Protected Species Mitigation Licences

Natural England can issue mitigation licences for reasons of “overriding public interest” in respect of animal and plant species listed on Schedules 5, 6 and 8 of the Wildlife and Countryside Act 1981 (as amended), excluding birds and European Protected Species (as these have separate licensing systems). In the context of development, the most relevant species are likely to include Adder, Grass Snake, Common Lizard, Slow-worm and several species of plant.

Applicants must demonstrate that the licence is for the purpose of overriding public interest, and also that there are “no other satisfactory solutions”. In practice, therefore, this type of licence is likely to be difficult to obtain for most types of development.

Conservation Licences

In the context of development, conservation licences are normally only relevant to mitigation involving the capture of Water Voles or White-Clawed Crayfish. Conservation licences are granted to permit the trapping and translocation of these species on the condition that the development activity is properly planned and executed and thereby contributes to the conservation of the population of the species.

Badger Licences

Licences to disturb Badgers and their setts in respect of development (including closure of setts if required) may be issued by Natural England, provided provisions are made to minimise disturbance.

Species of Principal Importance in England

943 species have been identified as being of Principal Importance for the conservation of biodiversity in England under Section 41 (S41) of the NERC Act 2006. The S41 list includes species found in England which have been identified as requiring action under the now superseded UK Biodiversity Action Plan 2007 (plus the Hen Harrier). While many of these species may not be legally protected (some are protected under the legislation described above), there is a clear responsibility on local planning authorities to further their conservation. These species can be a material consideration in development control decisions and so developers are advised to take reasonable measures to avoid or mitigate impacts to prevent the net loss of these species, and to enhance their habitats where possible. Additional guidance to developers is typically provided in local level planning policies.

Invasive Non-Native Species (INNS)

There are a number of species not ordinarily resident in the UK, such as Japanese Knotweed, Himalayan Balsam and others. Those which pose a significant threat, if uncontrolled, to our ecology and economy are listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). For an offence to be committed, a species must be released or allowed to escape into the wild. For example, if a plant listed on Schedule 9 is not adequately controlled by a land owner, once they are aware that it is present, and the species is allowed to spread into adjoining areas, then this could potentially constitute an offence.

Further guidance on INNS can be found on the website of the GB Non Native Species Secretariat: <https://www.nonnativespecies.org/>

Japanese Knotweed is also classed as 'controlled waste' under the Environment Protection Act 1990 (as amended) and if taken off site it must be disposed of safely at a licensed landfill site. Soil containing rhizome material should also be regarded as contaminated and treated accordingly.

Species Control Orders

A new schedule 9A was inserted into the Wildlife and Countryside Act 1981 (as amended) by Sections 23 to 25 of the Infrastructure Act 2015. This gives environmental authorities (in England the Secretary of State, Environment Agency, Natural England and the Forestry Commission) the power to offer 'species control agreements' to landowners in respect of invasive and/or non-native species, such as Japanese Knotweed. If the landowner does not comply with a species control agreement, or refuses to enter into one, the environmental authority may issue a 'species control order', requiring the owner to eradicate or control the species, or to allow the environmental authority access to carry out these operations themselves.

Planning Policy & Guidance

This section set out the main planning policy and government guidance that relates to the conservation of nature at all levels of government.

National Level

National Planning Policy Framework 2024

The National Planning Policy Framework (NPPF) 2024 sets out the Government's planning policies for England and how these should be applied in local-level policy and decision making. The NPPF has a clear "presumption in favour of sustainable development" (paragraph 11), with economic, social and environmental objectives. This presumption does not apply where a plan or project has failed the 'appropriate assessment' test under the Habitats Regulations (paragraph 195).

Section 15 of the NPPF provides guidance on conserving and enhancing the natural environment through the planning system, as summarised below.

Firstly, planning policies and decisions should contribute to and enhance the natural and local environment by applying the following key principles:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; and
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

Section 15 also requires planning policies and decisions to limit the impact of artificial light pollution on nature conservation.

Secondly, when determining planning applications, local planning authorities should apply the following key principles:

- if significant harm resulting from a development cannot be avoided, adequately mitigated or (as a last resort) compensated for, then planning permission should be refused;
- proposed development that is likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should normally be refused;
- planning permission should normally be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and ancient or veteran trees, unless there are 'wholly exceptional reasons' and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported, while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

In the case of SSSIs and irreplaceable habitats, exceptions may be made if it can be demonstrated that the benefits of the development, in that location, clearly outweigh the costs in terms of loss or adverse impacts.

Section 15 specifies that listed or proposed Ramsar sites, potential European sites, and sites identified or required as compensatory measures for adverse effects on designated/listed or potential/proposed European and Ramsar sites should be given the same protection as designated European sites.

Section 15 includes the following text on air quality:

- Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas;

- Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications; and
- Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.

The NPPF also sets out principles for plan-making, including the allocation of land with the least environmental or amenity value, and taking a strategic approach to maintaining and enhancing networks of habitats and green infrastructure by identifying, mapping and safeguarding components of local wildlife-rich habitats, wider ecological networks, wildlife corridors and stepping stones, and those areas identified by national and local partnerships for habitat management, enhancement, restoration or creation.

Government Circular 06/05: Biodiversity and Geological Conservation

The Government produced Circular 06/05 to provide guidance on the application of the law to the conservation of nature. Although the document is in the process of being updated, Paragraphs 98 and 99 remain relevant as they set out the following principles and obligations:

- The presence of protected species is a material consideration when determining a development proposal;
- Local authorities should consult with Natural England before granting permission, and consider imposing planning conditions or obligations to secure the long-term protection of the species;
- The presence of protected species, and the extent to which they may be affected by the proposed development, must be established before permission is granted;
- Given the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development.

Planning Practice Guidance

Revised and updated Planning Practice Guidance (PPG) was launched by the Department for Communities and Local Government (now the Department for Levelling Up, Housing and Communities) as a web-based tool in March 2014 to accompany the NPPF. The webpages are set out in a Q&A format. The PPG consolidates and supersedes existing guidance on a range of planning-related topics, clarifies some of the statements made in the NPPF, and provides links to relevant legislation and other sources of advice.

The Guidance outlines a number of important principles in relation to nature conservation and biodiversity, including the need to integrate biodiversity into all stages of the planning process and to consider opportunities to enhance biodiversity and contribute to the Government's commitments and targets set out in *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*.

The guidance also requires that "an ecological survey will be necessary in advance of a planning application if the type and location of development are such that the impact on biodiversity may be significant and existing information is lacking or inadequate", and recommends that "local planning

authorities should only require ecological surveys where clearly justified, for example if they consider there is a reasonable likelihood of a protected species being present and affected by development.”

Other guidance

In addition to the Planning Practice Guidance, various other forms of guidance and standards are available in relation to biodiversity and the development process. Of particular note is *British Standard BS42020:2013 Biodiversity – Code of practice for planning and development*, published in August 2013, which replaces *Planning to Halt the Loss of Biodiversity (PAS 2010): Biodiversity conservation standards for planning in the United Kingdom*.

This document is designed to complement the NPPF and is aimed at organisations concerned with ecological issues throughout the planning process, including local authorities, developers, planners and ecological consultants. It sets out step-by-step recommendations on how to incorporate biodiversity considerations at all stages of the planning process, with a focus on the provision of consistent, high quality and appropriate ecological information, effective decision making, and high standards of professional conduct and competence.

Regional Level

Regional plans (such as the South East Plan Regional Spatial Strategy) have been revoked, but some specific policies have been saved. The only policy saved from the South East Plan is Policy NRM6, which relates to the Thames Basin Heaths Special Protection Area (TBH SPA).

Local Level

Wokingham Borough Local Development Framework Core Strategy, Adopted January 2010

The Wokingham Borough Local Development Framework Core Strategy includes the following policies that relate to ecology and nature conservation and are of particular relevance to the Proposals:

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or
- B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife river corridors), whether directly or indirectly, or
- C) That compromises the implementation of the national, regional, county and local biodiversity action plans

will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

- i) Mitigation measures can be put in place to prevent damaging impacts; or
- ii) Appropriate compensation measures to offset the scale and kind of losses are provided.

CP8 – Thames Basin Heaths Special Protection Area

Development which alone or in combination is likely to have a significant effect on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

Wokingham Borough Development Plan Adopted Managing Development Delivery Local Plan, February 2014

The Wokingham Borough Development Plan includes the following policies that relate to ecology and nature conservation and are of particular relevance to the Proposals:

Policy CC03: Green Infrastructure, Trees and Landscaping

1. Green Routes and Green Route Enhancement Areas are defined on the Policies Map.
2. Development proposals should demonstrate how they have considered and achieved the following criteria within scheme proposals:
 - a) Provide new or protect and enhance the Borough's Green Infrastructure networks, including the need to mitigate potential impacts of new development
 - b) Promote accessibility, linkages and permeability between and within existing green corridors including public rights of way such as footpaths, cycleways and bridleways
 - c) Promote the integration of the scheme with any adjoining public open space or countryside
 - d) Protect and retain existing trees, hedges and other landscape features
 - e) Incorporate high quality, ideally native planting and landscaping as an integral part of the scheme.
3. Development proposals which would result in the loss, fragmentation or isolation of areas of green infrastructure will not be acceptable.

Policy TB23: Biodiversity and Development

1. Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.
2. Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:

- a) Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing
- b) Provide appropriate buffer zones between development proposals and designated sites as well as habitats and species of principle importance for nature conservation
- c) Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network.

Wokingham Borough Local Plan Update 2023-2040 Proposed Submission Plan

The Wokingham Borough Local Plan Update includes the following policies that relate to ecology and nature conservation and are of particular relevance to the Proposals:

Policy NE1: Biodiversity and Geodiversity

1. Development proposals should protect and enhance biodiversity and/or geodiversity features of conservation value and implement appropriate conservation management. The degree of protection will be proportionate to the status of the site or species in terms of its international, national and/or local importance.
2. Development proposals should demonstrate through a suitable level of ecological survey information and assessment how they conserve and enhance biodiversity and/or geodiversity including their long-term management.
3. Development will only be supported where it:
 - a) Avoids fragmentation of existing habitats and provides coherent ecological connectivity and permeability that is integrated and linked to the wider green and blue infrastructure network, through the restoration, enhancement and connection of: linear features such as wildlife corridors; stepping stones; and any nature recovery networks (including links to habitats outside the borough);
 - b) Incorporates beneficial biodiversity and/or geodiversity conservation features and enhances existing features through design, layout and landscaping;
 - c) Provides or retains appropriate buffer zones between development proposals and designated sites, protected species, priority species or priority habitats or main rivers, which are informed by detailed site-based assessment;
 - d) Seeks to eradicate or control any invasive non-native species present on site; and
 - e) Is compatible with any national, regional, county, and local biodiversity action plans, Local Nature Recovery Strategy and/or other strategic conservation management plans for species or habitats. In addition to the above, where specific identified sites are likely to be affected, the following will be taken into account:

Internationally Designated Sites

4. Development proposals likely to result in a significant effect on internationally designated sites either alone or in combination with other plans or projects, will not be supported unless it can be demonstrated that the adverse effects on the integrity of the designated site can be fully avoided, mitigated and/or compensated.

Nationally Designated Sites

5. Development proposals that are likely to have an adverse effect on the notified features of a nationally designated site will only be supported in exceptional circumstances, and provided it has been clearly demonstrated that:
 - a) A suitable alternative site with a lesser impact than that proposed is not available;
 - b) The on-site biodiversity or geodiversity benefits of the proposal including, where applicable, the overall site or wider habitats network, clearly outweigh the impacts on the notified features of the site; and
 - c) All appropriate avoidance and mitigation measures have been proposed and secured.

Irreplaceable Habitats

6. Development proposals that are likely to result in the loss or deterioration of an irreplaceable habitat, (such as ancient woodland, ancient or veteran trees) will only be supported in exceptional circumstances, where:
 - a) A suitable alternative with a lesser impact than that proposed is not available;
 - b) It has been adequately demonstrated that the irreplaceable habitat cannot be retained within the proposed development scheme;
 - c) The need and benefits of the proposed development in that location and form clearly outweigh the loss or deterioration; and
 - d) Adequate compensation measures are provided on site wherever possible, and offsite where this is not feasible. The scale and quality of the compensation measures required will be commensurate to the loss or deterioration of the irreplaceable habitat and will be considered on a site-by-site basis, including their long-term management and maintenance.

Sites of Local Importance

7. Development proposals which are likely to have an adverse effect on a site of local importance (including priority species or priority habitats, and sites that meet the criteria for designation as a Local Wildlife Site or Local Geological Site) will only be supported where they accord with the following sequential approach:
 - a) No alternative with a lesser impact is available;
 - b) The need and benefits of the proposed development in that location and form clearly outweigh the loss or deterioration;

c) All proportionate mitigation measures to minimise adverse effects are included within the development proposal; and

d) As a last resort, secure appropriate compensation measures on-site wherever possible, and off-site where this is not feasible, including their long-term management and maintenance.

Policy NE2: Biodiversity Net Gain

1. All development proposals should demonstrate a minimum biodiversity net gain of 10% (unless specified in another site allocation policy) calculated via the most up-to-date national biodiversity accounting metric and provide details of the long-term maintenance and management of the net gain. This should be delivered on site in the first instance, or through biodiversity off-setting where appropriate.

Policy NE3: Thames Basin Heaths Special Protection Area

1. Development proposals, which either alone or in combination with other plans or projects, are likely to have a significant adverse effect on the ecological integrity of the Thames Basin Heaths Special Protection Area (SPA) without appropriate avoidance and mitigation measures will be refused.
2. Development proposals that are likely to have a significant adverse effect on the integrity of the SPA must demonstrate that adequate measures will be put in place to avoid or mitigate any such effects. Such measures must be agreed with the council and Natural England. To assist the council in carrying out a Habitats Regulations Assessment, the applicant will be required to provide such information as the council may reasonably require for the purpose of the assessment. Development proposals for larger residential development may need to undertake an air quality assessment of the likely significant effects on the SPA and other habitats sites. Applications for non-residential development will be considered on a case by case basis.

Zones of influence

3. Where Suitable Alternative Natural Greenspace (SANG) and Strategic Access Management and Monitoring (SAMM) mitigation measures are required for residential development proposals, a consistent approach will be taken regarding mitigation, based on the following zones of influence, as measured in a straight line distance from the SPA boundary, and as defined in the Policies Map:
 - a) 0-400m;
 - b) 400m-5km; and
 - c) 5km-7km.
4. Within the 0-400m zone, mitigation is unlikely to be capable of protecting the integrity of the SPA. Development proposals for a net increase in dwellings within this zone will not be supported unless it can be demonstrated through a Habitats Regulations Assessment that there will be no adverse effect on the integrity of the SPA.
5. Within the 400m-5km and 5km-7km zone, development proposals for a net increase in dwellings will be supported which secure the SANG and SAMM standards set out below.

SANG Standards

6. The provision of SANG will meet the following standards and arrangements:

a) Within the 400m – 5km zone a minimum of 8 hectares of SANG land (after discounting to account for current access and capacity) will be provided per 1,000 new occupants.

i. Development proposals of net 9 dwellings or fewer will not be required to be within a specified distance of SANG land provided a sufficient quantity of SANG land is in place to cater for the consequent increase in residents.

ii. Development proposals of 10 or more net dwellings will need to be within the catchment of a specified SANG and a sufficient quantity of SANG land must be in place to cater for the consequent increase in residents.

iii. Development proposals for a net increase of fewer than 50 dwellings will be required to provide financial contributions towards strategic SANG facilitated by the council subject to available capacity, or towards SANG facilitated by a third party landowner.

iv. Development proposals for a net increase of more than 50 dwellings are expected to provide their own bespoke SANG.

b) Development proposals for a net increase of more than 50 dwellings within the 5-7km zone may be required to provide mitigation measures based on a combination of SAMM and the provision of SANG to a lower standard than within the 400m - 5km zone. This will be assessed on a case-by-case basis in consultation with Natural England and, where appropriate, a Habitats Regulations Assessment may be required to ascertain whether the proposal could have an adverse effect on the SPA.

c) Development proposals for non-residential development will be assessed on a case by case basis.

Development proposals which wish to rely on SANG in third party ownership must demonstrate that this has been agreed and secured with the landowner and that there is sufficient capacity in the correct location to mitigate the proposal.

SAMM contributions

7. A developer contribution will be made towards the SAMM Project for each net additional dwelling. This will provide an SPA wide wardening and education service and monitor the effectiveness of the avoidance and mitigation measures and visitor pressure on the SPA.

Loss of SANG

8. There is a presumption against the loss of SANG land for other uses. The loss of SANG will only be accepted where the applicant can demonstrate that sufficient alternative avoidance measures for all relevant submitted and/or approved plans and projects within the borough taking account of Natural England's advice on SANGs.

Policy NE4: Trees, Woodland, Hedges and Hedgerows

1. Development proposals should protect and incorporate existing trees, woodland, hedges and hedgerows and ensure they are well integrated within the public realm, in a suitably landscaped setting.
2. Development proposals should ensure the existing pattern of fields, hedges and hedgerows, woodland, trees, watercourses, water bodies, underlying topography and other landscape features are retained and that the design of the scheme is integrated into the landscape.
3. The design and layout of new development should:
 - a) Provide sufficient space to enable existing trees to thrive by maintaining adequate root protection areas and space for the trunk and branches to grow;
 - b) Ensure buildings are carefully sited to limit excessive shading to residential properties;
 - c) Provide appropriate buffer zones around woodlands, including semi-natural ancient woodlands, planted ancient woodland sites, orchards, hedgerows and individual trees;
 - d) Provide enhanced and additional tree and hedgerow planting wherever possible, but particularly where there are opportunities to restore or develop habitat and landscape links between woodlands and hedgerows and between these features and other landscape or habitat features such as river corridors;
 - e) Maximise opportunities for planting urban trees, shrubs and hedges within streets and greenspace to create rich urban landscapes; and
 - f) Proposals must also demonstrate sufficient rooting volume of soil, irrigation and drainage for trees to thrive in the long term.
4. Development proposals that are likely to affect trees, irreplaceable habitats (such as ancient woodland, ancient or veteran trees), hedges or hedgerows either on-site or nearby, should:
 - a) Assess the health of all trees, woodland, hedges and hedgerows affected, describing and assessing their value and the potential impact of the development as part of an Arboricultural Impact Assessment submitted with a planning application;
 - b) Provide an appropriate Arboricultural Method Statement, including a Tree Constraints Plan and Tree and Woodland Protection Plan; and
 - c) Ensure all tree and hedge/hedgerow protection measures are in place prior to works commencing on site, commensurate with any pre-commencement planning conditions.
5. The loss, threat or damage to any tree, woodland, hedge or hedgerow of visual amenity, heritage or nature conservation value, will not be permitted unless all the following criteria are met:
 - a) The development proposal has been designed to avoid, reduce or minimise impact; and

b) Mitigation measures are incorporated as part of a development proposal, that provide equivalent character, visual amenity, heritage value, as well as habitat connectivity.

6. The natural capital of sites should be protected. Any trees, woodland, hedges or hedgerows that are damaged as a result of the construction process should be reported and replaced with indigenous tree species and native hedgerow species, by agreement with the council. The developer must bear all associated costs.

Policy NE5: Landscape and Design

1. Development proposals will be supported where they adopt a landscape led approach which protects and enhances the character and distinctiveness of landscapes using the most up-to-date landscape studies (including the Landscape Character Assessment and Design Guide and any successor document).
2. Development proposals should be demonstrably informed by, and respond to, the distinctive characters set out in the Landscape Character Assessment and other relevant assessments, which provide an understanding of the valued characteristics, features and quality of local landscape character areas.
3. Development proposals should be accompanied by a landscape and visual impact assessment. The level of information provided should be proportionate to the scale and nature of the development proposed and should be sufficient to allow an informed assessment of the potential landscape and visual effects of the proposed development.
4. Landscape schemes should be set within an overall masterplan for the proposed development, and should:
 - a) Include a structural tree, hedge and shrub planting schedule;
 - b) Incorporate landscape spaces, public realm and green and blue infrastructure to achieve a sense of place, improve health and wellbeing and mitigate and adapt to the impacts of climate change;
 - c) Incorporate effective built form and landscape transitions for rural-urban transition areas; and
 - d) Set out a long-term landscape establishment and management plan, which prescribes and protects planting and its sustainability.

Development proposals on or in proximity to a Green Route will only be supported where existing trees, hedgerows and hedges are retained in depth and contribute to the improvement of Green Routes through landscape schemes, including tree and hedge planting.

Biodiversity Plans and Strategies

The NERC Act 2006 places a duty on local authorities to have due regard to biodiversity when exercising their normal functions, and the NPPF requires planning policies to “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”

(paragraph 174). These targets are set out in a range of biodiversity plans and strategies from the international through to the district level.

An overview of the key biodiversity plans and strategies in the UK, and their implications for development, are set out below.

National level

The Government's Environmental Improvement Plan 2023 is the first revision of the 25 Year Environment Plan published in 2018. It sets out ten goals aimed at restoring nature – of which the 'apex goal' is to halt the decline of biodiversity. The EIP 2023 includes targets and commitments to:

- Halt the decline in species abundance by 2030;
- Restore or create more than 140,000 hectares of wildlife-rich habitat outside protected sites by 2028;
- Improve the Red List Index for England by 2042;
- Achieve favourable condition for 48% of designated features in Marine Protected Areas by 2028;
- Complete update condition assessments for all SSSIs by 2028;
- Increase tree canopy and woodland cover by 0.26% by 2028;
- Reduce water pollution from agricultural nitrogen, phosphorus and sediments by at least 40% by 2038; and
- Reduce phosphorus loadings from treated wastewater by 80% by 2038.

Other targets have been set in relation to, water demand, residual waste, air quality, and. pollution from abandoned metal mines and agriculture.

The *UK Biodiversity Action Plan 2007* (UK BAP) has been superseded by the *UK Post-2010 Biodiversity Framework* and individual national biodiversity strategies. The UK Framework sets out the overarching vision, strategic goals and priority activities for the UK's work towards international biodiversity targets (known as the 'Aichi Targets'), as agreed by 192 parties at the UN Convention on Biological Diversity in 2010.

In England, *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* is the national biodiversity strategy, which has the stated mission "(...) to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people." In order to focus activity and assess performance in achieving this mission, Biodiversity 2020 sets out objectives relating to terrestrial and marine habitats and ecosystems, species and people.

Progress towards the National biodiversity targets are measured by the UK's Joint Nature Conservation Committee (JNCC) through a suite of biodiversity 'indicators', with annual reports published here: <https://jncc.gov.uk/our-work/uk-biodiversity-indicators/>

Blueprint for Halting and Reversing Biodiversity Loss: the UK's National Biodiversity Strategy and Action Plan for 2030

At the meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) in Montreal in 2022, 196 countries agreed the Kunming-Montreal Global Biodiversity Framework (GBF). This framework, an ambitious set of four goals and 23 targets to halt and reverse biodiversity loss by 2030, sets out the shared pathway towards the vision of a world living in harmony with nature by 2050. The Blueprint for Halting and Reserving Biodiversity Loss: The UK's National Biodiversity Strategy and Action Plan for 20230 (NBSAP 2030) sets out how the UK will implement each of the targets set by the GBG in the UK.

Approach to implementing the GBF in the UK and the UK Overseas Territories and Crown Dependencies (UKOTs and CDs)

Environmental policy is a devolved function in the UK, subject to a small number of reserved areas. This means that the four countries can implement the 23 targets of the GBF in a manner that suits their individual circumstances. However, all share the following priorities as described in the UK Biodiversity Framework (UKBF):

- Protecting and restoring nature;
- Sustainable use and resource management; and
- Mainstreaming and finance.

The UK-specific targets are set out in Annex A of the NBSAP 2030. These include ensuring that:

- At least 30% of degraded ecosystems are under effective restoration by 2030 (Target 2);
- At least 30% of inland, marine and coastal waters are under effective conservation and management by 2030 (Target 3);
- Urgent management actions are implemented to halt human-induced extinction of threatened species (Target 4);
- The impacts of invasive alien species are reduced by 2030 (Target 6);
- Risks and negative impacts of pollution from all sources are reduced by 2023 (Target 7);
- Area, quality, connectivity and access to green and blue space is significantly and sustainably increased through biodiversity-inclusive urban planning (Target 12); and
- Full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, poverty eradication strategies, strategic environmental assessments, environmental impact assessments and, as appropriate, national accounting (Target 14).

These targets were submitted to the Convention on Biological Diversity in August 2024. Progress towards targets will be monitored via a set of UK Biodiversity Indicators and reported on via an online tool, <https://ort.cbd.int/national-targets?countries=gb>.

Local level

Biodiversity Action Plans (BAPs)

While BAPs at the national level have now been superseded by *the UK Post-2010 Biodiversity Framework* and *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*, many county and district level BAPs still exist.

A Biodiversity Strategy exists for Berkshire: *The Natural Environment in Berkshire: Biodiversity Strategy 2014-2020*. This has high-level strategic objectives for protecting and enhancing the local natural environment, that incorporates aspects from England's Biodiversity Strategy thereby contributing towards the aims of achieving the national outcomes for biodiversity. The Berkshire objectives include for example, mechanisms to record and report on the condition of existing, created, enhanced and restored priority habitats outside of designated areas; promote the use of Biodiversity Opportunity Areas; promote better management of woodlands; maintain species records; identify key species for Berkshire that would help facilitate production of species objective plans; encourage the use of BS42020: Biodiversity Code of Practice for planning and development; and promote the use of green infrastructure in new development.

It is the responsibility of the LNP to coordinate, monitor and report on these objectives with input from lead organisations.

Biodiversity Opportunity Areas (BOAs)

Local Nature partnerships have in most areas of England now identified BOAs and produced documentation setting out the existing features of ecological importance within those areas, and a state of how opportunities to enhance biodiversity could be actioned. These provide a useful starting point when considering how individual planning applications might best go about contributing toward enhancements to the natural environment.

The Site falls outside a BOA.

Local Nature Recovery Strategies (LNRSs)

In pursuance of obligations under the Environment Act 2021, the Secretary of State for the Environment, Food and Rural Affairs identified 48 'strategy areas' that collectively cover the whole of England, and appointed a 'responsible authority' to produce an LNRS for each strategy area. An LNRS must contain a habitat map for the area and a statement of biodiversity priorities to include a descriptions of the opportunities that are available for recovering or enhancing biodiversity.

When complete, the LNRS for an area will effectively supersede earlier documents including local BAPs. The Defra Biodiversity Metric utilises multipliers to disincentivise development that causes the loss of habitats that are considered to be priorities under an LNRS for the area, and reward proposals that create or enhance them.

The boundary of the Berkshire LNRS partly extends onto the Site. The LNRS biodiversity measures that fall within the Site (as shown on the LNRS interactive map) include:

- PM01: Create and enhance hedgerows
- PM03: Restore Grassland – not relevant to the Site as this measure refers to monoculture pasture sward that does not occur on Site.
- PM07: Manage Woodlands, to improve their quality
- PM08: Veteranise Trees – refers to individual trees outside woodland
- PM11: Create Wet Woodland – not relevant to the Site as the local geology and hydrology is not suitable to support wet woodland
- PM18: Create Ponds

Other biodiversity measures, not shown on the LNRS interactive map, but of relevance to the Site include:

Priority 7 Improve the quality of urban habitats. Under this Priority, potential biodiversity measures include: managing public open space and trees within them for biodiversity; adapting mowing regimes of grassland, including road verges, to improve biodiversity; incorporate SuDS; install integrated bat and bird nest boxes; create ecological permeability in new development.

Priority 8 Increase canopy cover and habitat connectivity in urban areas. Under this Priority, potential biodiversity measures include: planting new (native) street trees, prioritising areas that will connect existing, noting that small amounts of non-native species may be needed to improve resilience.

Appendix 3

Detailed Methodology, Metadata & Results

EcIA Assessment

Methodology Overview

The approach to Ecological Impact Assessment (EcIA) taken in this report takes account of guidance in the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3 updated September 2024.' (CIEEM, 2018). The Preface of the CIEEM EcIA Guidelines states:

"Biodiversity: Code of practice for planning and development published by the British Standards Institute (BS 42020:2013) cites the CIEEM EcIA Guidelines as the acknowledged reference on ecological impact assessment. The Guidelines are consistent with the British Standard on Biodiversity, which provides recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring."

In accordance with the above guidance, EPR takes the following step-wise approach to EcIA:

- Prediction of the activities associated with a proposed scheme that are likely to generate biophysical changes which may lead to significant effects (either positive or negative) upon Important Ecological Features (IEFs);
- Identification of the likely Zone of Influence (Zoi) of those activities;
- Scoping to select the ecological features (habitats, species, ecosystems and their functions/processes) that are likely to fall within the predicted Zois and be affected by the activities;
- Evaluation of IEFs likely to be affected – both negatively and positively;
- Identification of likely impacts (positive and negative) on IEFs, together with an assessment of the geographic level at which effects are likely to be significant;
- Application of the mitigation hierarchy - refinement of the proposed scheme to incorporate impact avoidance and/or mitigation measures for negative effects on IEFs, and enhancements in order to deliver net gains;
- Assessment of the significance of residual effects and identification of any policy drivers for additional mitigation or compensation in the event of residual significant negative effects; and
- Advice on conformance with policy and legislation.

Ecological Evaluation Method

The evaluation method used in this EcIA uses the following geographic scale of importance for ecological features:

- International/European;

- National;
- Regional;
- County (or Metropolitan or Local Authority-wide area);
- Local; and
- Within the Zone of Influence.

With this in mind, features taken forward for detailed impact assessment are those which:

- Are evaluated as being of at least 'Local' ecological importance, or have the potential to be so; and
- Are likely to be affected, positively or negatively, by the proposals.

Ecological features deemed to be of less than 'Local' importance are considered throughout the EcIA process in the context of the national planning policy requirement for 'Biodiversity Net Gain'. The implications for those features that are protected by legislation are also discussed separately at the end of the EcIA report.

Ecological Importance is judged with reference to the following factors:

- Statutory requirements and policy objectives (e.g. site designations or the country lists of habitats and species of principal importance for the conservation of biodiversity); and
- Biodiversity value (e.g. diversity, rarity, scarcity, function within ecosystem, population trends).

Impact Assessment Method

The ecological features selected to be included in the assessment are those which both meet the importance threshold and are likely to be affected by the proposed scheme.

The first stage of the assessment is to determine the potential impacts upon each important ecological feature, with reference to the likely biophysical changes arising from the proposals. Impacts can be characterised according to their extent, magnitude, duration, timing, frequency, reversibility, and whether they are positive or negative.

The likelihood of cumulative impacts with other planned or consented projects is also taken into account at this stage.

An assessment is then made of whether the effect(s) of an impact upon an important ecological feature is likely to be considered 'significant' in EcIA terms.

Significant Effects

The EcIA Guidelines state that:

"Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in

general.....in broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).” [our emphasis]

Put simply, an effect is considered significant if it is likely to change the structure and function of defined sites and ecosystems or the conservation status of habitats and species.

Professional judgement about significance is informed by conservation objectives for the affected feature, where available (for example conservation objectives set by Natural England for European designated sites, or in habitat and species action plans). The ‘conservation status’ (habitats and species) or the degree to which a feature is exhibiting ‘integrity’ in terms of structure, function and condition (defined sites or ecosystems) is also considered. The predicted effect of natural and man-made trends in the absence of development is also taken into account in determining the conservation status or integrity of a feature and in considering whether otherwise insignificant effects may contribute to a significant cumulative effect.

The CIEEM Guidelines state:

“The evaluation of significant effects should always be based on the best available scientific evidence. If sufficient information is not available further survey or additional research may be required. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect should be assumed. Where uncertainty exists, it must be acknowledged in the EcIA.”

Opportunities for Biodiversity Net Gain

EPR will advise the applicant’s team about how a scheme may be refined, in accordance with the mitigation hierarchy, to achieve net gains in biodiversity. Once the biodiversity measures are agreed, EPR will assess any residual effects and advise on the degree of compliance with national and local policy and nature conservation legislation. This process may evolve with the design of the development. In some instances, it may not be possible to avoid all the significant adverse effects or to deliver biodiversity net gain within the development site. In that case, EPR will advise of any opportunities to contribute to wider (offsite) biodiversity strategies which would deliver the appropriate mitigation, compensation and/or enhancement.

The final agreed measures will be set out clearly, so that the LPA can readily understand what planning conditions or legal agreements are required to achieve the necessary level of policy and legal compliance.

UK Habitat Classification Surveys

Methodology

Prior to a Site visit OS Mastermap and an aerial of the Site was marked-up with potential habitat types, including potentially important ecological features, based on desktop study.

This was then ground-truthed during visits to the Site.

Habitats were mapped initially to UKHabitat Classification Level 3, together with information on land use, any priority/potential priority habitats and indicator plant species, any non-native invasive species were recorded, and the potential for habitats to support protected fauna species noted.

Habitat information was subsequently refined, including on a precautionary basis for those habitats where further surveys are still to be undertaken, i.e. acid grasslands and woodlands.

The survey method used to record this information was based on the UK Habitat Classification System V2.0 (UK Hab, 2023). Botanical nomenclature in this report follows Stace (2019).

All mandatory and some optional UKHab secondary codes were recorded as part of the survey, and are referred to in this EclA Report as appropriate.

Results

A list of plant species recorded across the Site are provided in **Table A3.1**, together with their conservation status and habitat quality indicators.

Table A3.1: Plant Species Recorded Whole Site

Species		W&CA		VPRL Threat	Habitat Quality Indicator Species		Berkshire Rare Plant Register	Berks, Bucks & Oxon LWS Selection Criteria		
		Sch8	Sch9	England	Acid Grassland	AWVP		AWVP	Lowland Dry Acid Grassland	Lowland Meadow
Trees										
<i>Acer pseudoplatanus</i>	Sycamore									
<i>Alnus sp.</i>	Alnus species									
<i>Araucaria araucaria</i>	Monkey Puzzle									
<i>Betula pendula</i>	Silver Birch									
<i>Castanea sativa</i>	Sweet chestnut									
<i>Crataegus monogyna</i>	Hawthorn									
<i>Cytisus scoparius</i>	Broom								Y	
<i>Fagus sylvatica</i>	Beech					Y		Y		
<i>Ilex aquifolium</i>	Holly									
<i>Ilex aquifolium seedling</i>	Holly seedling									
<i>Ligustrum ovalifolium</i>	Garden Privet									
<i>Picea sp.</i>	Spruce									
<i>Pinus sylvestris</i>	Scots Pine									
<i>Prunus laurocerasus</i>	Cherry Laurel									
<i>Prunus sp.</i>	Cherry species (planted)									
<i>Quercus robur</i>	Pedunculate Oak									
<i>Rhododendron cf. 'ponticum'</i>	Rhododendron		Y							
<i>Rhododendron</i> species	Rhododendrron species									
<i>Robinia pseudoacacia</i>	False Acacia									
<i>Salix caprea</i>	Goat Willow									
<i>Sorbus aucuparia</i>	Rowan									
<i>Taxus baccata</i>	Yew									
<i>Tilia sp.</i>	Lime species (planted)									
Climbers										
<i>Hedera helix</i>	Ivy									
Under Shrubs										

Bats

Daytime Bat Walkover

Methodology

On 23 July 2025 an appropriately experienced and bat licensed ecologist assessed habitats on Site for their suitability to support bats, e.g. roosting, foraging and commuting, noting any connectivity to off-site habitats in the surrounding area. These were assessed using the potential suitability categories in Table 4.1 of the current Bat Survey Guidelines (Collins *et al.* 2023) as either none, negligible, low, moderate or high.

Results

Habitats on Site, buildings, individual trees, tree lines and woodland, were considered potentially suitable to support bats.

Some of the buildings and trees on Site were observed to have features that could potentially support bat roosts. The woodland, tree lines and hedgerows, have the potential to provide suitable commuting and foraging habitat for bats and were assessed as moderate suitability. However, the main campus area is likely to be well-lit and was assessed as low suitability for commuting and foraging bats. A number of column and bollard lighting was noted along roads and car parks, security lighting on buildings, and the main building may have internal lighting on at night.

The Site is well connected, e.g. via tree lines, hedgerows, to further suitable bat habitat (roosting, commuting, foraging) off-site, including woodland blocks, pasture and wetland areas.

Results were used to inform further targeted bat survey work.

Bat Building Inspection

Methodology

A bat licensed ecologist carried out a thorough internal and external inspection of all buildings and structures on Site on 30 and 31 July 2025, using a torch and endoscope as appropriate.

The surveyor searched for bats or evidence thereof. They also searched for any features that may potentially be suitable to support bats, such as gaps under roof tiles, hanging tiles, around window frames, behind bargeboards, etc.

This information was used to categorise each building's suitability to support bats as either none, negligible, low, moderate, high or confirmed.

Results

Results of the bat building inspection are shown in **Table A3.2**.

Table A3.2 Bat Building Inspection Results

Building Ref	Bat Roost Suitability	Field Notes	Photo
1	Negligible	Main Johnson & Johnson Building. Large building, 2 floors, expansive areas of glazing, flat roof with plant machinery. Clad with metal panels in places. Some gaps around cladding, but surface smooth, so bats unlikely to be able to have purchase to land. Potentially some small gaps at roof edge behind lip of flat roof. High artificial light levels around building and internal lights also on at night. No evidence of bats. Unlikely to support bat roosts.	 Quadrangle showing metal panels and glazing  Plant machinery on flat roof 
2 & 3	Moderate	Low covered seated structures within the quadrangle of the main building, of same wooden construction. Roof cover comprises shingles on plyboard. Small void between plyboard roof sheeting of both. No evidence of bats. Potentially suitable to support very low numbers of non-breeding bats of relatively common and widespread species, such as Common/Soprano Pipistrelles. Not suitable for hibernation.	

Building Ref	Bat Roost Suitability	Field Notes	Photo
4	Negligible	Small metal composite shed with pitched metal roof, used to store sports equipment. Single skin walls and roof. No potential bat roosting features observed and no evidence of bats.	 
5	Negligible	Large round metal storage facility. No potential bat roost features observed and no evidence of bats.	
6	Moderate	Building within grounds maintenance yard. Single-storey brick building with pitched corrugated asbestos roof sheets. Internally open to pitched roof, but small roof void likely between internal plasterboard and roofing sheets. Gap between overlapping asbestos sheets and lapping at gable ends, and along the ridge. Hole in brick wall on west side potentially leading to cavity in wall. Building surrounded by trees, but security lights on building and immediate vicinity and so probably high artificial light levels. No evidence of bats. Potentially suitable to support low numbers of non-breeding bats of relatively common and widespread species, such as Common/ Soprano Pipistrelle bats.	

Building Ref	Bat Roost Suitability	Field Notes	Photo
		Also some potential to support low numbers of hibernating bats.	
7	Low	Building also within grounds maintenance yard and used frequently by staff. Single storey, single skin, timber shed with corrugated asbestos roofing sheets on pitched roof and with metal ridge. Timber bargeboards tight. Internally open to underside of roof, no internal lining. Features potentially suitable to support bats limited to gaps between overlapping roofing sheets. Woodland adjacent to south and east, but security lights on building and immediate vicinity and so probably high artificial light levels No evidence of bats. Potentially suitable to support very low numbers of non-breeding bats of relatively common and widespread species, such as Common/ Soprano Pipistrelle bats. Not suitable for hibernation.	
8	Low	Same construction as 7 and same limited potential bat roost features. Woodland to east and north, but security lights on building and immediate vicinity and so probably high artificial light levels No evidence of bats. Potentially suitable to support low numbers of non-breeding bats of relatively common and widespread species, such as Common/ Soprano Pipistrelle bats. Not suitable for hibernation.	

Building Ref	Bat Roost Suitability	Field Notes	Photo
			
9	Negligible	Small portacabin used as a security hut. No potential bat roost features observed. No evidence of bats.	No Photo
10	Negligible	Small, single-skin brick structure with flat timber roof, in woodland housing gas meter for neighbouring property. No potential bat roost features observed, No evidence of bats.	

Emergence Surveys

Buildings assessed as moderate and low bat roost suitability were subject to emergence surveys following good practice survey guidelines (Collins 2023).

Surveys commenced around 20 minutes prior to sunset as there was the potential for bats (if present) to emerge early, due to the darker environment provided by the adjacent woodland. Surveys commenced until at least 1.5hrs after sunset.

Two emergence surveys were completed on B6 and one on B7 and B8. Surveys were conducted in suitable weather (see metadata in **Table A3.3** below.)

Table A3.3: Bat Emergence Survey Metadata

Bdg Ref.	Date	Sunset	Start/end	Temp° C start/end	Wind (Beaufort) start/end	Cloud cover (%) start/end	Rain
6	29/07/2025	20.55	20.30 / 22.25	18.3 / 17.5	0 / 0	50 / 100	None
	26/08/2025	20.02	19.37 / 21.37	20 / 19	2 / 0	60 / 100	None
7 & 8	11/08/2025	20.31	20.05	22.05	0 / 0	100 / 100	Slight drizzle 21.00-21.10 and 21.45 to end

For each survey a combination of manned and unmanned infra-red video cameras (Sony FRD-AX53 and Nightfox Whiskers) with bat detectors were used, ensuring each building was adequately covered.

At the beginning of the survey, surveyors watched the building for any bat emergence. Once light levels became too low, surveyors could watch real-time footage on screens from the IR cameras and note down if any bat emergence or re-entry was observed, together with any other general bat activity recorded. Information such as species, time, bat behaviour, e.g. foraging, numbers of bats and flight direction (if observed), were recorded.

Post-survey analysis of the footage from the IR video cameras was undertaken using Wildlife Imaging Systems. This service identifies motion and returns clips and times when motion was detected on the footage. The clips and corresponding original footage for that time was then subject to further scrutiny to identify if the motion detected was from a bat, and if so, whether that bat emerged or re-entered the building.

Results

No bat emergence or re-entry was recorded for the three buildings surveyed.

General bat activity was recorded in the vicinity. The majority from Common and Soprano Pipistrelle bats. On one occasion a single Noctule pass was recorded. Further details are provided below:

Emergence survey of B6:

- This building was surveyed on 29 July 2025 (sunset 20.55) and 26 August 2025 (sunset 21.02).
- On 29 July 2025 the first bat recorded was a Noctule, a pass at c. 20 minutes after sunset followed by a Common Pipistrelle pass recorded c. 30mins after sunset. Then infrequent passes and generally infrequent foraging activity recorded for Common and Soprano Pipistrelle between 21.40 and 22.25. More sustained foraging activity by both Pipistrelle species was recorded from about 22.10 until 22.27, most likely in the woodland either adjacent off-site at the Pinewood Centre and/or in the woodland to the south of B7.
- On 26 August 2025 the first bat recorded was a Soprano Pipistrelle, a pass at six minutes after sunset followed by a Common Pipistrelle pass 16 mins after sunset. Between 20.52 and 21.37

fairly continuous bat foraging activity was recorded for both species in the same general woodland locations as for the emergence survey in July.

Emergence survey of B7 and B8:

- An emergence survey of both buildings was undertaken on the same night, 11 August 2025 (sunset 20.31).
- At B7 bat activity was first recorded for Soprano Pipistrelle, a pass nine minutes after sunset followed by Common Pipistrelle, a pass 18 minutes after sunset. With foraging activity recorded for both species in similar locations as above for B6 from about 21.10 to 21.47.
- At B8 only Common Pipistrelle activity was recorded with fairly continuous foraging activity between 21.06 to 21.45.

Ground Level Tree Assessment

Methodology

A ground level tree assessment was undertaken by Holly McIndoe, ecologist at EPR on 29 July. The survey focussed on trees within the main campus and interface with woodland edge. The surveyor was equipped with high powered torch and binoculars to observe features that may potentially be suitable for bats, e.g. cracks, rot holes, lifted bark, etc. The location of the tree, tree species, approximate DBH, height and potential roost feature (type of feature, approximate height, orientation) was recorded. Also noted was whether a tree had no observable PRF feature from the ground but may support a PRF feature higher up in the canopy out of view, e.g. because of the size or age of the tree or because damage could be seen.

Each potential roost feature on a tree was categorised according to its provisional potential to support bats, i.e. either negligible, PRF-I or PRF-M and whether further surveys were recommended, together with any access considerations. Methods and results of further surveys are provided under 'close inspection surveys' below.

Following completion of the topographical survey and arboricultural surveys, ecology tree references and arb tree references were correlated where possible.

Close Inspection Surveys

Methodology

Close inspection surveys were undertaken on those trees where further surveys were recommended from the GLTA assessments.

Close inspection surveys of trees, where potential bat roost features could be reached by ladder, were completed by Laura Gravestock (bat survey licence 2015-10385-CLS-CLS) and Holly McIndoe. Where features were higher up a tree, these were completed by Chris Mungo (bat survey licence 2015-11656-CLS-CLS) with a second person for health and safety reasons, both of whom were IRATA trained in aerial rescue.

Features/trees identified during the GLTA were inspected together with any additional features that were observed when higher up the tree, using an endoscope and torch. Any further details on each feature that were collected, e.g. depth of hole, were noted and each feature re-assessed as either negligible, PRF-I or PRF-M. Each tree was then given an overall suitability to support bats based on the highest category recorded. For example, if a tree had one PRF-I feature and one PRF-M feature, the tree would be assessed overall as PRF-M.

Any evidence of bats was recorded and if droppings were present and could be reached, these were collected and sent to a laboratory for DNA testing to confirm species identification.

Results of the close inspection of trees is provided in **Table A3.4** below.

Two structure B2 and B3, were also subject to close inspection by Laura Gravestock on 29 July and 16 September 2025. The features inspected were gaps in the roof between wooden shingles and ply board. The gaps could be fully inspected by endoscope and torch.

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0001	1 (3210, 1297)	Sweet Chestnut	1.7	15	WPH	SW	6-7	PRF-M	PRF-M	Climb/ ladder					Extends in 10cm and down 30cm. Damp. Good feature. Live squirrel inside. No other features seen in canopy from long ladder.	PRF-M	Accessible from long ladder. 2x additional checks May-Sept
					PC	SW	6-7	PRF-I							Superficial feature. Extends inwards 5-10cm. Dry. No sheltered cavity.	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	2	Silver Birch	0.3	14	Hole	S	8	Small and unlikely to extend	Neg	n/a	None				Not checked, no further features observed		

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
					Crack	N	8	Small and unlikely to extend	Neg	n/a	None				Not checked, no further features observed		
N/A	3	Field Maple		15	KH	S	2.5	PRF-I	PRF-I	Ladder	Check for other features.	Hole very shallow	Downgraded to Negligible	No further work	Not checked, no further features observed		
N/A	4	Silver Birch	0.2	10	KH	W	2	PRF-I	PRF-I	Ladder		Hole very shallow	Downgraded to Negligible	No further work	Not checked, no further features observed		
N/A	5	Silver Birch	0.3	11	W	NW	2	PRF-I	PRF-I	Ladder		Hole very shallow	Downgraded to Negligible	No further work	Not checked, no further features observed		

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
N/A	6	Silver Birch	0.4	9	KH	W	1.5	PRF-I	PRF-I	Ladder		Hole shallow and dry	PRF-I	PWMS - check of feature immediately prior to felling.	Not checked, no further features observed		
0002	7 (108)	Oak	0.7	16	KH	NW	7	PRF-I	PRF-I	Climb	Check for other features.				Single bat, likely Pipistrelle, seen in wound closure cavity around pruning cut. The roost feature is a narrow gap around branch core wood where outer layer of wood and bark has decayed. Suitable for low numbers of bats only. No droppings visible.	Confirmed roost / PRF-I	x2 checks (climb) May-Sept

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
					Cavity / tear out	SE (horizontal limb)	7	PRF-M	PRF-M						Tear out with decay creating cavity. Upwards facing and dry. 2 connected openings. Cavity narrows at the top. Extends along/up 20-30cm. Bat droppings found sent for DNA analysis (sample T7). Potentially c.200 droppings but very decayed making counting difficult.	Confirmed Natterer's roost from DNA analysis / PRF-M	x2 checks (climb)
N/A	8	Oak	0.7	16	KH	E	7	PRF-M	PRF-M	Climb/ ladder	Check for other features				Superficial only. Doesn't extend.	Downgraded to Negligible.	None

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
					TO	W	10m	Neg	Neg						Upward facing. No suitable feature	Negligible	None
					KH	E	5	Neg	Neg						Doesn't extend. No cavity.	Neg	None
0003	9	Sweet Chestnut	0.7	18	WH	E	5	PRF-M	PRF-M	Climb / ladder	Check for other features				Both features linked internally within the tree. Cavity extends upwards c. 1m. No bat evidence seen. Dry. Live squirrel inside	PRF-M	2x checks May-Sept. Long ladder. Long endoscope. Whole tree visible from ground. Additional features unlikely.
					WH	E	5.2	PRF-M	PRF-M								

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0004	10	Sweet Chestnut	0.5	14	WH	E	2-5	PRF-M	PRF-M	Unsafe to climb. Tree decaying and leaning. Identified feature accessible from ladder,	Check for other features.				Doesn't extend up. Extends down about 30cm. Entrance upwards facing but dry inside. Likely squirrel nest inside. Light cobwebs over entrance.	PRF-M	X2 checks May-Sept. Long ladder. Not safe to climb.
					LB		2-7	PRF-I	PRF-I						Heavily cob webbed throughout. Very flaky and unstable.	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	11	Sweet Chestnut	0.5	14	WH	N	4	PRF-M	PRF-M		Check for other features.				Superficial. Extends c.5-10cm, only. No cavity. Light.	Downgrade to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0005	12	Sweet Chestnut	0.5	14	WH	S	4	PRF-M							Superficial. Extends c.5-10c, only. No cavity. Light.	Downgrade to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
					PC	N	4.2	Neg							Entrance faces up. Doesn't extend. No cavity	Neg	None
					WH	NE	5	PRF-M	PRF-M		Check for other features.				Superficial. Extends c.5-10c, only. No cavity. Light.	Downgrade to PRF-I	
					WH	E	5	PRF-M							Extends in 20cm and up 5cm. Dry. Small cavity. No bat evidence seen	PRF-M	X2 checks (long ladder) May-Sept

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
					FB	Upper branches	12+								Appears quite tight fitting with no obvious cavities.	Neg	None
					RH	S limb, upwards facing	12								Upwards facing, doesn't extend, open to weather.	Neg	None
N/A	13	Sweet Chestnut	0.4	14	WH	NE	6	PRF-M	PRF-M		Check for other features				Extends in 10cm and up very marginally. Dry. Narrow and shallow with little shelter.	Downgrade to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	14	Sweet Chestnut	0.5	14	KH	SW	6	PRF-M	PRF-M		Check for other features				Superficial. Entrance upwards facing. Doesn't extend. Wet.	Downgrade to negligible.	None

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0006	15	Sweet Chestnut	0.6	15	WH	E	9	PRF-M	PRF-M		Check for other features.				Cavity extends upwards c. 1m. Dry. Nesting debris at base. Good feature.	PRF-M	X2 checks (climb) May-Sept
					WH	SE	10	PRF-M							Cavity extends upwards c. 1m. Doesn't connect with feature below. Dry. Good feature.	PRF-M	X2 checks (climb) May-Sept
N/A	16	Sweet Chestnut	0.5	14	WHs	SW	2-5m	PRF-M	PRF-M		Check for other features.	Checked 5 holes, all shallow, max depth c. 10cm	PRF-I for each	No further survey. PWMS - check of feature immediately prior to felling.	Checked all higher up holes not checked by LG. All superficial. Extend max 10cm. No cavity.	Downgrade to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
					WHx2	NE	2-5m	PRF-M							Superficial. Extend max 10cm. No cavity.	Downgrade to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
N/A	17	Sweet Chestnut	0.5	14	WH + small trial WH adjacent	N	6	PRF-M	PRF-M		Check for other features.				Superficial. Extend max 10cm. No cavity.	Downgraded to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	18	Sweet Chestnut	0.3	12	WH	NE	5	PRF-M	PRF-M		Check for other features.				Superficial. Extend max 10cm. No cavity. Checked from long ladder.	Downgraded to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
					WH	NW	5	PRF-I							Superficial. Extend max 10cm. No cavity. Checked from long ladder.	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	19	Sweet Chestnut	0.6	15	Ivy	All	Various	PRF-I	PRF-I						Assessed from ground. No significant platting. Keep as PRF-I	PRF-I	No further survey. PWMS - check of feature immediately

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
																	prior to felling.
N/A	20	Sweet Chestnut	0.5	15	Ivy	All	Various	PRF-I	PRF-I						Assessed from ground. No significant plating. Keep as PRF-I	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
N/A	21	Sweet Chestnut	0.7	16	WHx4	NE	4-5	PRF-M	PRF-M		Check for other features.				Top 3 holes superficial – extend c. 5cm. No cavity. Bottom hole extends 15cm. No cavity.	Downgraded to PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
0007	22 (3281)	Sweet Chestnut	0.6	15	WH	N	3	PRF-M	PRF-M		Check for other features.				Extends in c.15cm, then partially blocked with branch core wood, but with bat sized gaps on the edges with cavities	PRF-M	X2 surveys long ladder May-Sept

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
															leading upwards. Nice feature. Bird nesting material in entrance but limited scope for competition from birds and squirrels further into the feature. No bat evidence seen		
					TO	Top of tree	10-12m	Neg							No cavity, upwards facing.	Neg	None
N/A	23	Oak	0.4	13	Ivy	All	Various	PRF-I	PRF-I		Check for other features.				No features seen behind Ivy. Ivy plate unlikely to be sufficient to provide roosting feature behind.	Downgraded to Neg	None

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0008	24	Oak	0.3	14	KH	E	3	PRF-I	PRF-I		Check for other features.				Big tear out at the rear of the KH feature so open, light and very wet inside. No cavity.	Downgraded to Neg	None
					RH	E on horizontal limb	4	PRF-M							Extends laterally into cavity c.20cm, narrowing at the end. No evidence seen. Good feature	PRF-M	X2 checks (long ladder) May-Sept
N/A	25	Holly	0.6	16	KH	NE	2	PRF-I	PRF-I		Check for other features.				Checked from ground level. Features superficial only.	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.
					KH	NE	4	PRF-I									

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
0009	26	Sweet Chestnut	0.6	16	KH	NE	3	PRF-M	PRF-M		Check for other features.				Extends in 30cm and upwards marginally (c.5cm). Dry. Small cavity. No bat evidence	PRF-M	X2 check May-Sept (long ladder)
					WH (x3)	S	12	PRF-M							2 holes are superficial and don't extend but one extends upwards and downwards c. 20cm. Dry. Live squirrel inside.	PRF-M	X2 checks May-Sept (climb). Big shot useful in view of height.
					TO	S	12	Neg							Wound closing around TO but no cavity present.	Neg	None
N/A	27	Oak	0.4	13	LB	Dead branch	3	PRF-I	PRF-I		Check for other features.				Bark is open at top so no obvious suitable features and likely to be open to the elements. Very unstable.	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
N/A	28	Scots Pine	0.5	18	WHx2	E	7	PRF-M	PRF-M		Check for other features.				Superficial only, doesn't extend	Neg	None
0010	29	Scots Pine		16	hole	N	7	PRF-I	PRF-I		Check for other features.				Extends in 20cm and up into dry cavity. Good feature. Bird nest material present. No bat evidence.	PRF-M	X2 May-Sept (climb) big shot useful in view of height of anchor points
N/A	30	Silver Birch	15	3	LB	?	?	PRF-I	PRF-I			Open above	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.	Not checked, no other features observed		
N/A	31	Silver Birch	15	5	LB	?	?	PRF-I	PRF-I			Open above	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.	Not checked, no other features observed		

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2 nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2 nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
	32	Sweet Chestnut	0.5	16	crack	N	6	PRF-M	PRF-M		Check for other features	Off-site			Off Site		
N/A	33	Dead	0.2	2	LB			PRF-I	PRF-I			N/A	PRF-I	No further survey. PWMS - check of feature immediately prior to felling.	Not checked, no other features observed		
0011	42	Sweet Chestnut	60	15	WH	NW (central stem)	12	PRF-M							Extends 10cm and up 10cm to large cavity. Dry. Good feature. Checked from ropes.	PRF-M	X2 checks May-Sept (climb)
					WH	Multiple on main stem		Neg							Superficial trial holes. Checked from ropes.	Neg	None

Visit 1												Visit 2a			Visit 2b		
GLTA												Close inspection - ladder			Close inspection - climb & ladder		
Surveyor: Holly McIndoe Date: 29 July 2025 Constraints: Leaves on trees, potentially obscuring views to other PRFs												Surveyor: Laura Gravestock + 2nd person for h&s Date: 16/09/2025 Constraint: Only features that could be reached with ladder			Surveyor: Chris Mungo + 2nd person for h&s Date: 17/09 18/09 24/09/2025 Constraint: Trees in leaf – restricted views		
Tree					Potential Roost Feature(s)				Assessment			Visit 2a			Visit 2b		
EPR tag (if PRF-M / roost)	Ref/ GPS / Arb Ref (existing tag no)	Species	DBH (cm)	Height (m)	Type*	Aspect	Height (m)	Description	Suitability (PRF- / PRF-M)	Further survey methods	Further survey notes	Update Notes	Update suitability	Further survey notes	Update Notes	Update suitability	Further survey notes
					RH	North stem (NE)	12	PRF-I							Extends 10cm, upwards 5cm. Entrance faces upwards. Limited cavity. Damp. Checked from ropes.	PRF-I	Could be checked in conjunction with 12m WH above. (climb)

*WH: woodpecker hole	KH: knot hole	PC: pruning cut	TO: tear-out	CF: compression fork	WE: weld	SN: snag	IP: ivy plating	CR: crack
DF: desiccation fissure	BR: butt-rot	HB: hazard beam	FL: fluting	LS: lightning strike	WO: wound	SH: shatter	LB: lifting bark	CA: canker

Nighttime Bat Walkover

Methodology

Nighttime bat walkover surveys were undertaken, seasonally in summer (August) and autumn (September).

Surveys commenced c.15 minutes prior to sunset, as there was the potential for bats to emerge early (if roosts were present), and continued until c. 2.25hrs after sunset. Surveys were conducted within suitable weather conditions (see metadata table below).

At the start of each survey, surveyors, equipped with bat detectors and night vision aids, were positioned at fixed points near potential bat roosts or commuting routes. Surveyors remained in these locations (moving to investigate if bats were seen or heard nearby) for up to the first hour, before walking a transect route around the Site. The transect was walked twice per survey.

The transect route covered a mix of potentially suitable bat habitat, including woodland, woodland edge, and habitats within the main campus area.

During the survey, surveyors recorded information such as, bat species, bat activity e.g. foraging, commuting, etc, flight lines if observed, time recorded, etc.

This data was then plotted onto digitised maps to identify any foci in bat activity across the survey period.

Table A3.5 NBW Metadata

Date	Sunset	Start/end	Temp° C start/end	Wind (Beaufort) start/end	Cloud cover (%) start/end	Rain
12/08/2025	20.31	20.10 / 22.40	27 / 21	1 / 0	0 / 0	None
23/09/2025	18.59	18.45 / 21.20	13.7 / 11.3	0 / 0	100 / 100	None

Results

Bat species recorded during the NBW included: Noctule; Serotine; Common Pipistrelle and Soprano Pipistrelle bats.

No bat emergence was observed but Common and Soprano Pipistrelle species were recorded in the north of the Site early relative to sunset, suggesting a roost is likely to be nearby.

These two species were also recorded regularly foraging and commuting along the northern Site boundary (woodland strip). The understorey of Rhododendron and Cherry Laurel is likely to provide some cover from the column lighting and structural diversity throughout the year.

Automated Static Bat Detector Surveys

Methodology

Four Titley Anabat Swift automated bat detectors were located across the Site. These were left to record continuously from 30mins prior to sunset to 30 mins after sunrise for five consecutive nights in August and September 2025.

Three static detectors covered the main campus area and immediately adjacent areas that could potentially be directly impacted by the proposals (Location A-C). A fourth detector was deployed in the western woodland, with this location changed each surveyed season, but still within the woodland (Location D and E).

Hourly weather data was obtained from Weathernet. This was based on remotely sensed data for the postcode of the Site, using satellite / radar to determine the weather that would have been recorded had a weather station been situated in this location. It takes into account factors such as the local topography and exposure in order to produce these values and is accurate to within 1.4km of the postcode. The weather data is provided below for the survey period in **Table A3.6**.

Table A3.6 Weather Data During the Automated Static Bat Surveys

Date	Hour Ending GMT	Air Temp (°C)	Rainfall (mm)	Wind Direction (°)	Mean Wind (mph)
19/08/2025	0100	16.4	0.0	52	4
19/08/2025	0200	15.9	0.0	34	4
19/08/2025	0300	15.8	0.0	36	5
19/08/2025	0400	15.5	0.0	27	6
19/08/2025	0500	15.6	0.0	34	6
19/08/2025	0600	16.0	0.0	34	8
19/08/2025	0700	16.7	0.0	43	9
19/08/2025	0800	17.6	0.0	49	8
19/08/2025	0900	18.3	0.0	45	8
19/08/2025	1000	19.5	0.0	45	8
19/08/2025	1100	20.1	0.0	50	10
19/08/2025	1200	22.2	0.0	50	10
19/08/2025	1300	23.2	0.0	53	10
19/08/2025	1400	23.6	0.0	49	9
19/08/2025	1500	23.8	0.0	68	11
19/08/2025	1600	23.7	0.0	31	7
19/08/2025	1700	23.2	0.0	62	9
19/08/2025	1800	22.4	0.0	27	12
19/08/2025	1900	21.1	0.0	34	11
19/08/2025	2000	19.8	0.0	33	8
19/08/2025	2100	18.2	0.0	27	10
19/08/2025	2200	16.9	0.0	30	9
19/08/2025	2300	16.6	0.0	40	9
19/08/2025	2400	16.4	0.0	33	10
20/08/2025	0100	16.2	0.0	30	7
20/08/2025	0200	15.6	0.0	29	8
20/08/2025	0300	14.9	0.0	27	8
20/08/2025	0400	14.6	0.0	22	8
20/08/2025	0500	14.4	0.0	17	7
20/08/2025	0600	14.6	0.0	24	6
20/08/2025	0700	15.3	0.0	29	10
20/08/2025	0800	16.1	0.0	33	7
20/08/2025	0900	16.5	0.0	34	8
20/08/2025	1000	17.2	0.0	45	9
20/08/2025	1100	17.4	0.0	32	10
20/08/2025	1200	17.4	0.0	34	11
20/08/2025	1300	16.7	0.0	28	7
20/08/2025	1400	17.1	0.0	14	9
20/08/2025	1500	18.5	0.0	22	7
20/08/2025	1600	19.3	0.0	4	10
20/08/2025	1700	19.0	0.0	8	8
20/08/2025	1800	18.1	0.0	14	7
20/08/2025	1900	17.1	0.0	19	7
20/08/2025	2000	16.0	0.0	7	4
20/08/2025	2100	15.1	0.0	8	3
20/08/2025	2200	13.9	0.0	1	2
20/08/2025	2300	12.7	0.0	358	3
20/08/2025	2400	11.6	0.0	359	1
21/08/2025	0100	11.7	0.0	2	1
21/08/2025	0200	11.9	0.0	346	3
21/08/2025	0300	11.8	0.0	354	2
21/08/2025	0400	12.1	0.0	339	3
21/08/2025	0500	12.3	0.0	340	1
21/08/2025	0600	12.5	0.0	341	3
21/08/2025	0700	14.0	0.0	359	3
21/08/2025	0800	15.4	0.0	1	4
21/08/2025	0900	16.1	0.0	7	6
21/08/2025	1000	16.9	0.0	21	7

Date	Hour Ending GMT	Air Temp (°C)	Rainfall (mm)	Wind Direction (°)	Mean Wind (mph)
21/08/2025	1100	17.9	0.0	31	8
21/08/2025	1200	18.8	0.0	27	8
21/08/2025	1300	19.0	0.0	21	6
21/08/2025	1400	19.3	0.0	23	8
21/08/2025	1500	19.2	0.0	23	7
21/08/2025	1600	19.2	0.0	1	8
21/08/2025	1700	18.8	0.0	19	7
21/08/2025	1800	18.0	0.0	28	6
21/08/2025	1900	17.1	0.0	49	3
21/08/2025	2000	15.7	0.0	37	3
21/08/2025	2100	14.0	0.0	45	4
21/08/2025	2200	12.2	0.0	52	2
21/08/2025	2300	11.0	0.0	30	3
21/08/2025	2400	9.5	0.0	33	3
22/08/2025	0100	8.2	0.0	5	2
22/08/2025	0200	7.3	0.0	21	2
22/08/2025	0300	7.1	0.0	358	1
22/08/2025	0400	6.5	0.0	306	1
22/08/2025	0500	6.1	0.0	229	2
22/08/2025	0600	6.8	0.0	197	1
22/08/2025	0700	10.2	0.0	234	1
22/08/2025	0800	13.2	0.0	237	2
22/08/2025	0900	15.8	0.0	212	3
22/08/2025	1000	17.7	0.0	321	5
22/08/2025	1100	18.5	0.0	307	7
22/08/2025	1200	19.8	0.0	303	4
22/08/2025	1300	20.4	0.0	292	6
22/08/2025	1400	21.2	0.0	298	5
22/08/2025	1500	21.8	0.0	312	6
22/08/2025	1600	22.2	0.0	296	5
22/08/2025	1700	19.4	0.0	321	7
22/08/2025	1800	22.0	0.0	334	7
22/08/2025	1900	20.3	0.0	19	3
22/08/2025	2000	19.1	0.0	23	0
22/08/2025	2100	18.2	0.0	227	2
22/08/2025	2200	17.7	0.0	232	2
22/08/2025	2300	17.5	0.0	234	3
22/08/2025	2400	17.3	0.0	274	1
23/08/2025	0100	17.0	0.0	358	2
23/08/2025	0200	16.6	0.0	5	0
23/08/2025	0300	14.7	0.0	359	1
23/08/2025	0400	12.9	0.0	12	4
23/08/2025	0500	12.5	0.0	357	3
23/08/2025	0600	12.7	0.0	324	3
23/08/2025	0700	14.8	0.0	354	2
23/08/2025	0800	17.0	0.0	1	3
23/08/2025	0900	18.9	0.0	341	3
23/08/2025	1000	20.0	0.0	341	4
23/08/2025	1100	20.9	0.0	330	5
23/08/2025	1200	20.8	0.0	335	4
23/08/2025	1300	21.5	0.0	344	3
23/08/2025	1400	21.6	0.0	0	2
23/08/2025	1500	21.6	0.0	16	3

Date	Hour Ending GMT	Air Temp (°C)	Rainfall (mm)	Wind Direction (°)	Mean Wind (mph)
23/08/2025	1600	21.4	0.0	294	4
23/08/2025	1700	21.3	0.0	6	2
23/08/2025	1800	20.9	0.0	31	1
23/08/2025	1900	20.2	0.0	106	0
23/08/2025	2000	19.0	0.0	139	7
23/08/2025	2100	18.0	0.0	137	6
23/08/2025	2200	17.1	0.0	133	4
23/08/2025	2300	16.6	0.0	141	5
23/08/2025	2400	16.0	0.0	140	5
24/08/2025	0100	14.4	0.0	5	0
24/08/2025	0200	11.9	0.0	294	1
24/08/2025	0300	11.9	0.0	4	0
24/08/2025	0400	11.1	0.0	6	0
24/08/2025	0500	11.2	0.0	6	0
24/08/2025	0600	12.4	0.0	4	0
24/08/2025	0700	14.2	0.0	310	0
23/09/2025	0100	3.1	0.0	349	1
23/09/2025	0200	2.7	0.0	305	1
23/09/2025	0300	3.0	0.0	351	0
23/09/2025	0400	2.6	0.0	313	0
23/09/2025	0500	2.2	0.0	309	1
23/09/2025	0600	2.4	0.0	255	1
23/09/2025	0700	3.9	0.0	297	0
23/09/2025	0800	7.9	0.0	204	1
23/09/2025	0900	10.9	0.0	16	5
23/09/2025	1000	12.9	0.0	23	9
23/09/2025	1100	14.9	0.0	26	9
23/09/2025	1200	15.2	0.0	32	10
23/09/2025	1300	15.7	0.0	20	7
23/09/2025	1400	16.1	0.0	42	10
23/09/2025	1500	16.5	0.0	21	7
23/09/2025	1600	15.5	0.0	39	8
23/09/2025	1700	14.9	0.0	18	7
23/09/2025	1800	14.4	0.0	35	5
23/09/2025	1900	13.5	0.0	32	5
23/09/2025	2000	12.9	0.0	27	5
23/09/2025	2100	11.5	0.0	20	5
23/09/2025	2200	10.6	0.0	5	0
23/09/2025	2300	9.6	0.0	23	5
23/09/2025	2400	8.4	0.0	8	4
24/09/2025	0100	8.2	0.0	8	2
24/09/2025	0200	8.8	0.0	24	1
24/09/2025	0300	8.8	0.0	17	0
24/09/2025	0400	7.3	0.0	10	1
24/09/2025	0500	7.0	0.0	11	2
24/09/2025	0600	6.8	0.0	0	2
24/09/2025	0700	7.8	0.0	343	2
24/09/2025	0800	10.6	0.0	351	2
24/09/2025	0900	12.0	0.0	16	7

Date	Hour Ending GMT	Air Temp (°C)	Rainfall (mm)	Wind Direction (°)	Mean Wind (mph)
24/09/2025	1000	13.8	0.0	23	11
24/09/2025	1100	15.0	0.0	44	11
24/09/2025	1200	15.7	0.0	58	13
24/09/2025	1300	15.7	0.0	51	10
24/09/2025	1400	16.5	0.0	38	9
24/09/2025	1500	17.3	0.0	42	8
24/09/2025	1600	17.0	0.0	51	11
24/09/2025	1700	16.4	0.0	45	10
24/09/2025	1800	15.0	0.0	53	7
24/09/2025	1900	12.9	0.0	61	3
24/09/2025	2000	11.5	0.0	58	6
24/09/2025	2100	9.5	0.0	28	3
24/09/2025	2200	8.5	0.0	3	1
24/09/2025	2300	8.5	0.0	350	2
24/09/2025	2400	8.7	0.0	2	2
25/09/2025	0100	8.3	0.0	5	3
25/09/2025	0200	7.6	0.0	348	4
25/09/2025	0300	7.5	0.0	349	3
25/09/2025	0400	7.1	0.0	341	3
25/09/2025	0500	6.6	0.0	343	4
25/09/2025	0600	6.2	0.0	344	4
25/09/2025	0700	7.6	0.0	4	5
25/09/2025	0800	9.9	0.0	8	3
25/09/2025	0900	13.6	0.0	21	7
25/09/2025	1000	15.6	0.0	45	11
25/09/2025	1100	16.3	0.0	51	12
25/09/2025	1200	17.1	0.0	49	11
25/09/2025	1300	17.6	0.0	28	10
25/09/2025	1400	18.1	0.0	35	11
25/09/2025	1500	18.2	0.0	28	9
25/09/2025	1600	17.9	0.0	34	11
25/09/2025	1700	17.1	0.0	47	9
25/09/2025	1800	15.3	0.0	40	8
25/09/2025	1900	13.4	0.0	31	5
25/09/2025	2000	11.7	0.0	32	6
25/09/2025	2100	10.5	0.0	26	4
25/09/2025	2200	9.0	0.0	6	2
25/09/2025	2300	8.4	0.0	14	2
25/09/2025	2400	7.9	0.0	19	2
26/09/2025	0100	6.9	0.0	21	3
26/09/2025	0200	5.7	0.0	318	3
26/09/2025	0300	6.2	0.0	314	3
26/09/2025	0400	7.0	0.0	349	3
26/09/2025	0500	7.7	0.0	10	3
26/09/2025	0600	8.5	0.0	2	2
26/09/2025	0700	9.2	0.0	6	2
26/09/2025	0800	10.2	0.0	351	2
26/09/2025	0900	11.5	0.0	10	3

Date	Hour Ending GMT	Air Temp (°C)	Rainfall (mm)	Wind Direction (°)	Mean Wind (mph)
26/09/2025	1000	12.6	0.0	32	6
26/09/2025	1100	13.1	0.0	41	6
26/09/2025	1200	13.4	0.0	55	6
26/09/2025	1300	13.9	0.0	65	5
26/09/2025	1400	13.9	0.0	70	5
26/09/2025	1500	13.9	0.0	63	1
26/09/2025	1600	13.5	0.0	74	3
26/09/2025	1700	12.8	0.0	200	3
26/09/2025	1800	12.2	0.1	80	1
26/09/2025	1900	11.2	0.0	91	2
26/09/2025	2000	9.9	0.0	58	0
26/09/2025	2100	9.3	0.0	126	1
26/09/2025	2200	8.9	0.0	265	2
26/09/2025	2300	8.5	0.0	78	3
26/09/2025	2400	8.9	0.0	88	3
27/09/2025	0100	9.2	0.0	125	0
27/09/2025	0200	9.3	0.0	106	2
27/09/2025	0300	9.4	0.1	89	5
27/09/2025	0400	10.0	0.0	117	4
27/09/2025	0500	10.3	0.0	118	4
27/09/2025	0600	10.4	0.0	120	4
27/09/2025	0700	10.9	0.0	119	6
27/09/2025	0800	12.0	0.0	141	5
27/09/2025	0900	13.5	0.0	139	7
27/09/2025	1000	14.4	0.0	177	9
27/09/2025	1100	14.7	0.0	138	7
27/09/2025	1200	15.0	0.0	146	8
27/09/2025	1300	15.6	0.0	153	8
27/09/2025	1400	16.4	0.0	162	8
27/09/2025	1500	16.3	0.0	177	8
27/09/2025	1600	15.5	0.0	157	7
27/09/2025	1700	14.8	0.0	170	7
27/09/2025	1800	13.9	0.0	157	6
27/09/2025	1900	12.5	0.0	127	4
27/09/2025	2000	11.7	0.0	140	5
27/09/2025	2100	10.6	0.0	137	5
27/09/2025	2200	9.6	0.0	135	3
27/09/2025	2300	9.6	0.0	129	6
27/09/2025	2400	9.1	0.0	132	3
28/09/2025	0100	9.6	0.0	87	0
28/09/2025	0200	9.6	0.0	42	2
28/09/2025	0300	9.4	0.0	105	0
28/09/2025	0400	9.9	0.0	91	3
28/09/2025	0500	10.2	0.0	53	1
28/09/2025	0600	11.0	0.0	93	3
28/09/2025	0700	11.6	0.0	162	1
28/09/2025	0800	12.2	0.0	94	1

Data from each detector was downloaded and analysed using Kaleidoscope software. Each file was manually checked and assigned either a species identification (where this was possible), or else to the appropriate level it was possible to identify to, e.g. a species group.

Results for each night at each location were entered into a spreadsheet. Results of the raw data are provided in **Table A3.7**

Table A3.7 Automated Static Bat Detector Results (Raw Data)

CP = Common pipistrelle; SP = Soprano Pipistrelle; NaPip = Nathusius' Pipistrelle; Myo sp = Myotis species; My/PI = Myotis species/Plecotus species; ES = Eurasian Serotine; Noc = Noctule; N/L = Noctule/Leisler's; N/L/ES = Noctule/Leisler's/Eurasian Serotine

Month	Date	Location	CP	SP	CP/SP	NaPip	BLE	Myo sp	My/PI	ES	Noc	Leisler's	N/L	N/L/ES	Barbastelle
August	19/08/2025	A	982	327	0	0	0	1	0	0	26	0	0	2	0
	20/08/2025		12	28	0	1	0	1	0	0	2	0	1	0	0
	21/08/2025		5	7	0	0	0	0	0	0	4	0	0	0	0
	22/08/2025		181	54	1	0	0	1	0	0	16	1	0	0	0
	23/08/2025		43	11	0	0	0	0	0	0	24	0	0	0	0
	Sub-Total		1223	427	1	1	0	3	0	0	72	1	1	2	0
August	19/08/2025	B	624	18	0	0	0	0	0	0	12	0	24	2	0
	20/08/2025		59	2	0	0	0	0	0	0	0	0	0	0	0
	21/08/2025		41	1	0	0	0	1	0	0	0	0	0	0	0
	22/08/2025		275	1	0	0	0	0	0	7	15	6	47	15	0
	23/08/2025		55	2	0	0	0	4	0	1	18	0	18	13	0
	Sub-Total		1054	24	0	0	0	5	0	8	45	6	89	30	0
August	19/08/2025	C	23	36	0	0	0	8	0	0	11	0	1	0	0
	20/08/2025		8	8	0	0	53	10	0	0	1	1	1	1	0
	21/08/2025		4	3	0	0	13	11	1	0	3	0	1	0	0
	22/08/2025		37	78	10	0	13	7	6	1	7	0	0	4	0
	23/08/2025		26	41	3	0	12	2	26	1	18	0	0	0	0
	Sub-Total		98	166	13	0	91	38	33	2	40	1	3	5	0
August	19/08/2025	D	180	16	0	0	5	2	0	0	5	0	2	21	0
	20/08/2025		248	4	0	0	7	5	0	8	0	0	0	0	0
	21/08/2025		77	3	0	0	3	0	0	2	0	0	0	0	0
	22/08/2025		555	15	0	1	0	2	0	0	3	2	0	13	0
	23/08/2025		451	22	0	0	7	0	0	5	1	0	0	11	0
	Sub-Total		1511	60	0	1	22	9	0	15	9	2	2	45	0

Month	Date	Location	CP	SP	CP/SP	NaPip	BLE	Myo sp	My/PI	ES	Noc	Leisler's	N/L	N/L/ES	Barbastelle
September	23/09/2025	A	94	58	0	0	0	2	0	0	0	0	0	0	0
	24/09/2025		2	8	0	0	0	2	0	0	0	0	1	1	0
	25/09/2025		151	126	0	0	0	4	0	0	22	0	10	8	0
	26/09/2025		9	25	0	0	0	2	0	0	12	0	2	1	0
	27/09/2025		255	142	0	0	0	0	0	0	15	2	26	10	0
	Sub-Total		511	359	0	0	0	10	0	0	49	2	39	20	0
September	23/09/2025	B	35	2	0	0	0	0	0	0	0	0	0	0	0
	24/09/2025		6	0	0	0	0	0	0	0	0	0	0	0	0
	25/09/2025		3	2	0	0	0	0	0	0	0	0	0	0	0
	26/09/2025		5	0	0	0	0	0	0	0	1	0	0	0	0
	27/09/2025		0	0	0	0	0	0	0	0	0	0	0	0	0
	Sub-Total		49	4	0	0	0	0	0	0	1	0	0	0	0
September	23/09/2025	C	3	3	0	0	1	1	0	0	1	0	0	0	0
	24/09/2025		1	3	0	0	0	1	0	0	0	0	0	0	0
	25/09/2025		2	1	0	0	0	0	0	0	2	0	0	0	0
	26/09/2025		0	3	0	0	0	0	0	0	3	0	0	0	0
	27/09/2025		2	12	0	0	0	2	0	0	0	0	0	0	0
	Sub-Total		8	22	0	0	1	4	0	0	6	0	0	0	0
September	23/09/2025	E	10	7	0	1	2	0	0	0	0	0	1	2	0
	24/09/2025		13	5	0	0	2	2	0	0	1	0	0	0	0
	25/09/2025		23	9	0	0	4	1	0	0	0	0	0	3	0
	26/09/2025		7	5	0	0	4	1	0	0	0	0	1	2	1
	27/09/2025		6	9	0	0	1	2	0	0	2	0	0	0	1
	Sub-Total		59	35	0	1	13	6	0	0	3	0	2	7	2

Social Call

Methodology

As part of the static data analysis, files that contained social calls were labelled to identify them.

Time stamps on each file were then reviewed to look for clusters of social calls that may be suggestive of a mating roost.

Results

Summary results are provided below in **Table A3.8**.

Table A3.8 Summary of Social Call Results

Date	Static Location	Sunset / sunrise	Social Call Comment
19/08/2025	A (North)	20.14 / 05.53	19/08/2025: total of 198 Common Pipistrelle, 1 Soprano Pipistrelle and 28 Common/Soprano Pipistrelle social calls recorded over nearly 13 hours of survey. First and last social call recorded c. 1hr 40mins after sunset and before sunrise. Regular social calling recorded between c. 21.50 and 23.50 (213 Common and Common/Soprano Pipistrelle social calls) with the remainder more infrequent throughout the rest of the recording period. Social calling recorded with echolocation calls and feeding buzzes. No significant clusters of social calling, or only social calling recorded, that may be suggestive of a mating roost.
20/08/2025		20.12 / 05.54	20/08/2025: No social calls recorded
21/08/2025		20.10 / 05.56	21/08/2025: No social calls recorded
22/08/2025		20.08 / 05.57	22/08/2025: Total of 5 Common Pipistrelle, 8 Soprano Pipistrelle and 9 Common/Soprano Pipistrelle social calls recorded throughout the night. First social call recorded was Soprano Pipistrelle and Common/Soprano Pipistrelle c. 2 hours after sunset and c. 2.45 hours prior to sunrise. Infrequent social calls recorded during the night.
23/08/2025		20.06 / 05.59	23/08/2025: Total of 1 Common Pipistrelle and 2 Soprano Pipistrelle social calls. First social call recorded c.2hrs 10mins after sunset and last social call recorded c. 6 hours prior to sunrise.
19/08/2025	B (South by road entrance)	20.14 / 05.53	19/08/2025: Total of 42 Common Pipistrelle, 7 Soprano Pipistrelle and 5 Common/Soprano Pipistrelle social calls. First social call recorded c. 2 hours after sunset and the last social call c. 1hour prior to sunrise.

			Infrequent social calls recorded throughout the night.
20/08/2025		20.12 / 05.54	20/08/2025: Total of 9 Common Pipistrelle social calls. First social call recorded c. 1hr 10 mins after sunset and last social call c 6 hours prior to sunrise. Infrequent calls over a c. 1.5hr period
21/08/2025		20.10 / 05.56	21/08/2025: Total of 3 Common Pipistrelle social calls. First social recorded c. 1.45 hours after sunset and last social call c. 7.25 hours prior to sunrise.
22/08/2025		20.08 / 05.57	22/08/2025: Total of 27 Common Pipistrelle and 3 Common/Soprano Pipistrelle social calls. First social call recorded c. 2hrs after sunset and last social call recorded c. 1hr 10mins prior to sunrise. Infrequently recorded throughout the night.
23/08/2025		20.06 / 05.59	23/08/2025: Total of 41 Common Pipistrelle social calls. First social call recorded at 1.5hrs after sunset and last social call recorded at c. 3hrs prior to sunrise. Infrequently recorded throughout the night.
19/08/2025	C (west by mound)	20.14 / 05.53	19/08/2025: Total of 2 Soprano Pipistrelle and 1 Common/Soprano pipistrelle social call. First social call recorded c. 4hours after sunset and last social call recorded c. 1.5hrs prior to sunrise. Very infrequently recorded across the night.
20/08/2025		20.12 / 05.54	20/08/2025: Total of 1 Long-eared social call c. 1hr prior to sunrise
21/08/2025		20.10 / 05.56	21/08/2025: No social calls recorded
22/08/2025		20.08 / 05.57	22/08/2025: Total of 1 Soprano Pipistrelle and 6 Common/Soprano Pipistrelle social calls recorded. First social call recorded c. 3 hours after sunset and c. 1.45 hours prior to sunrise. Very infrequently recorded between these times.
23/08/2025		20.06 / 05.59	23/08/2025: Total of 1 Soprano Pipistrelle and 4 Common/Soprano Pipistrelle social calls recorded within a 13 minute window from 00.39.
19/08/2025	D (woodland, south)	20.14 / 05.53	19/08/2025: Total of 111 Common Pipistrelle, 7 Soprano Pipistrelle, 7 Common/Soprano Pipistrelle and 1 Long-eared social call recorded. The first Common Pipistrelle social call was recorded at sunset, the next social call was recorded c. 1 hour later. A cluster of social calling (13 calls) was recorded between c. 22.50 – 22.53 and again (10 calls) between 23.17-23.20 and (13 calls) between 23.50 – 23.53.08; (26 calls) between 00.27 – 00.33, (18 calls) between 00.52-00.56. The last 3 calls were recorded within c. 45 mins prior to sunrise.

			The first Soprano Pipistrelle social call was recorded c. 2.25hrs after sunset and the last social call at c. 1hr 10mins prior to sunrise. The Common/Soprano Pipistrelle calls were all recorded within one hour, spread out over this time between 22.30-23.30. The Long-eared social call was recorded at 03.07.
20/08/2025		20.12 / 05.54	20/08/2025: Total of 224 Common Pipistrelle and 3 Common/Soprano Pipistrelle social calls recorded. First Common Pipistrelle social call recorded c. 1 hour after sunset and last call recorded at 23.49. Between c. 22.50 and 23.50 cluster of 156 files containing social calls. The remaining files are spread out over a c.1.5hr period between 21.13 and 22.48 Common/Soprano Pipistrelle recorded infrequently between c. 20.50 and 22.50.
21/08/2025		20.10 / 05.56	21/08/2025: Total of 54 Common Pipistrelle social calls and 1 Common/Soprano Pipistrelle calls. First call recorded at 21.03 and last call at 23.16. 47 social calls recorded within a one hour period from 21.03-22.03.
22/08/2025		20.08 / 05.57	22/08/2025: Total of 300 Common Pipistrelle, 5 Soprano Pipistrelle and 8 Common/Soprano Pipistrelle calls recorded. Common Pipistrelle social calls recorded between 21.22 and 05.53. Between 21.22 and 22.51, 125 social calls recorded; and 108 social calls between 23.02 and 00.26; 28 social calls between 00.40 and 01.56; and the remainder (39 calls) between 02.22 and 05.53. Soprano Pipistrelle social calls recorded infrequently between 00.19 and 03.46. Common/Soprano social calls recorded infrequently between 22.20 and 01.39.
23/08/2025		20.06 / 05.59	23/08/2025: Total of 157 Common Pipistrelle, 9 Soprano Pipistrelle and 20 Common/Soprano Pipistrelle calls recorded. First social call for Common Pipistrelle recorded at 20.01, the next social call was recorded over one hour later 21.14, and the last social call recorded at 00.58. Cluster of 14 calls between 22.26 and 22.31, another cluster of 53 calls between 22.57 and 23.31; and a cluster of 59 calls between and 23.41 and 00.26;
23/09/2025	A (North)	18.58 / 06.51	23/09/2025: Total of 10 Soprano Pipistrelle and 2 Common/Soprano Pipistrelle social calls recorded. Recorded infrequently between 19.34 and 21.29.
24/09/2025		18.56 / 06.52	24/09/2025: Total of 3 Soprano Pipistrelle social calls recorded between 19.22 and 19.28.
25/09/2025		18.54 / 06.54	25/09/2025: Total of 5 Soprano Pipistrelle social calls recorded between 19.17 and 19.40.
26/09/2025		18.52 / 06.56	26/09/2025: No social calls recorded

27/09/2025		18.49 / 06.57	27/09/2025: Total of 1 Common pipistrelle, 5 Soprano Pipistrelle and 3 Common/Soprano pipistrelle social calls recorded between 19.39 and 20.57.
23/09/2025	B (South by road entrance)	18.58 / 06.51	23/09/2025: Total of 18 Common Pipistrelle, 1 Soprano pipistrelle and 6 Common/Soprano Pipistrelle social calls recorded between 20.19 and 23.06.
24/09/2025		18.56 / 06.52	24/09/2025: Total of 1 Common Pipistrelle social call recorded at 20.03.
25/09/2025		18.54 / 06.54	25/09/025: No social call recorded.
26/09/2025		18.52 / 06.56	26/09/2025: Total of 1 Common Pipistrelle and 5 Common/Soprano Pipistrelle social calls recorded between 19.39 and 22.24.
27/09/2025		18.49 / 06.57	27/09/2025: Total of 1 Common/Soprano pipistrelle social call recorded at 19.52.
23/09/2025	C (west by mound)	18.58 / 06.51	23/09/2025: No social calls recorded
24/09/2025		18.56 / 06.52	24/09/2025: No social calls recorded
25/09/2025		18.54 / 06.54	25/09/025: Total of 1 Soprano Pipistrelle social call recorded at 19.19.
26/09/2025		18.52 / 06.56	26/09/2025: No social calls recorded
27/09/2025		18.49 / 06.57	27/09/2025: Total of 1 Soprano Pipistrelle social call recorded at 03.55
23/09/2025	E (Woodland, central)	18.58 / 06.51	23/09/2025: Total of 1 Common Pipistrelle, 5 Soprano Pipistrelle and 3 Common/Soprano Pipistrelle social calls recorded between 19.45 and 22.01.
24/09/2025		18.56 / 06.52	24/09/2025: Total of 3 Soprano Pipistrelle social calls recorded between 19.45 and 20.40
25/09/2025		18.54 / 06.54	25/09/025: No social calls recorded
26/09/2025		18.52 / 06.56	26/09/2025: Total of 1 Soprano pipistrelle and 1 Common/Soprano Pipistrelle social calls recorded between 19.38 and 20.50
27/09/2025		18.49 / 06.57	27/09/2025: Total of 4 Soprano pipistrelle and 1 Common/Soprano Pipistrelle social calls recorded between 19.32 and 01.14

Hazel Dormouse

Methodology

A combination of 50 Hazel Dormouse footprint tunnels and 20 nest boxes have been deployed in suitable habitat around the Site, in accordance with prevailing survey guidelines (Wells *et al.* 2025 and Bullion *et. al.* 2025).

Tunnels and boxes were deployed on 29 August and left to bed-in for a few weeks before checks commenced. Bi-monthly checks were undertaken for footprint tunnels with paper and ink replenished, and once a month for nest boxes, in suitable weather conditions, between September and November inclusive.

Table A3.9 Hazel Dormouse Survey Metadata

Date	Tunnels and/or Nest Boxes	Temp start/end	Cloud cover start/end	Wind	Rain
15/09/2025	T	15 / 15	20 / 30	5 / 5	None
26/09/2025	T & NB	14 / 16	100 / 100	0	None
09/10/2025	T	12 / 14	0 / 0	0	None
23/10/2025	T & NB	12 / 16	90 / 100	0	None
20/11/2025	NB	1 / 5	10 / 90	0	None

Results

No evidence of Dormouse has been recorded.

Reptiles

Methodology

A total of 50 artificial reptile refugia, comprising a mix of corrugated tin, onduline and felt, were deployed in suitable habitat around the Site, e.g. around the man-made pond, and rough grassland areas, on 13 August 2025. The refugia were left to bed-in for a few weeks and then checked over seven visits in suitable weather conditions, following good practice survey guidelines (see Metadata in **Table A3.10**).

Table A3.10: Reptile Survey Metadata

Date	Start Time	End Time	Start Temp (°C)	End Temp (°C)	Cloud Cover %	Wind (Beaufort scale)	Rain
04/09/2025	11:00	11:40	16	17	20	0	Light rain earlier in day
16/09/2025	09:30	10:10	14.6	16.6	40	1	None
18/09/2025	08:30	09:15	17	17	100	4	None
23/09/2025	09:30	10:15	10	10	10	1	None
26/09/2025	12:00	12:45	14	14	100	0	None
29/09/2025	09:30	10:15	10	10	0	0	None
09/10/2025	09:45	10:30	12	13	0	0	None

Results

No reptiles were recorded across all visits.

Individual Bank Vole, Field Vole, Common Shew and Toadlets were found under felt on the vegetated spoil mound during two of the checks.

the 1990s, the number of people in the UK who are obese has increased by 50% (Health Survey for England 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009). The prevalence of obesity in the UK is now 23% in men and 26% in women (Health Survey for England 2009). The prevalence of obesity in the UK is similar to that in other developed countries (Health Survey for England 2009).

Obesity is a major risk factor for a number of chronic diseases, including type 2 diabetes, coronary heart disease, stroke, and certain types of cancer (World Health Organization 2000). Obesity is also a major risk factor for mental health problems, including depression and anxiety (Stamatiou et al. 2006). The prevalence of obesity in the UK is increasing, and this is likely to lead to a further increase in the prevalence of these chronic diseases.

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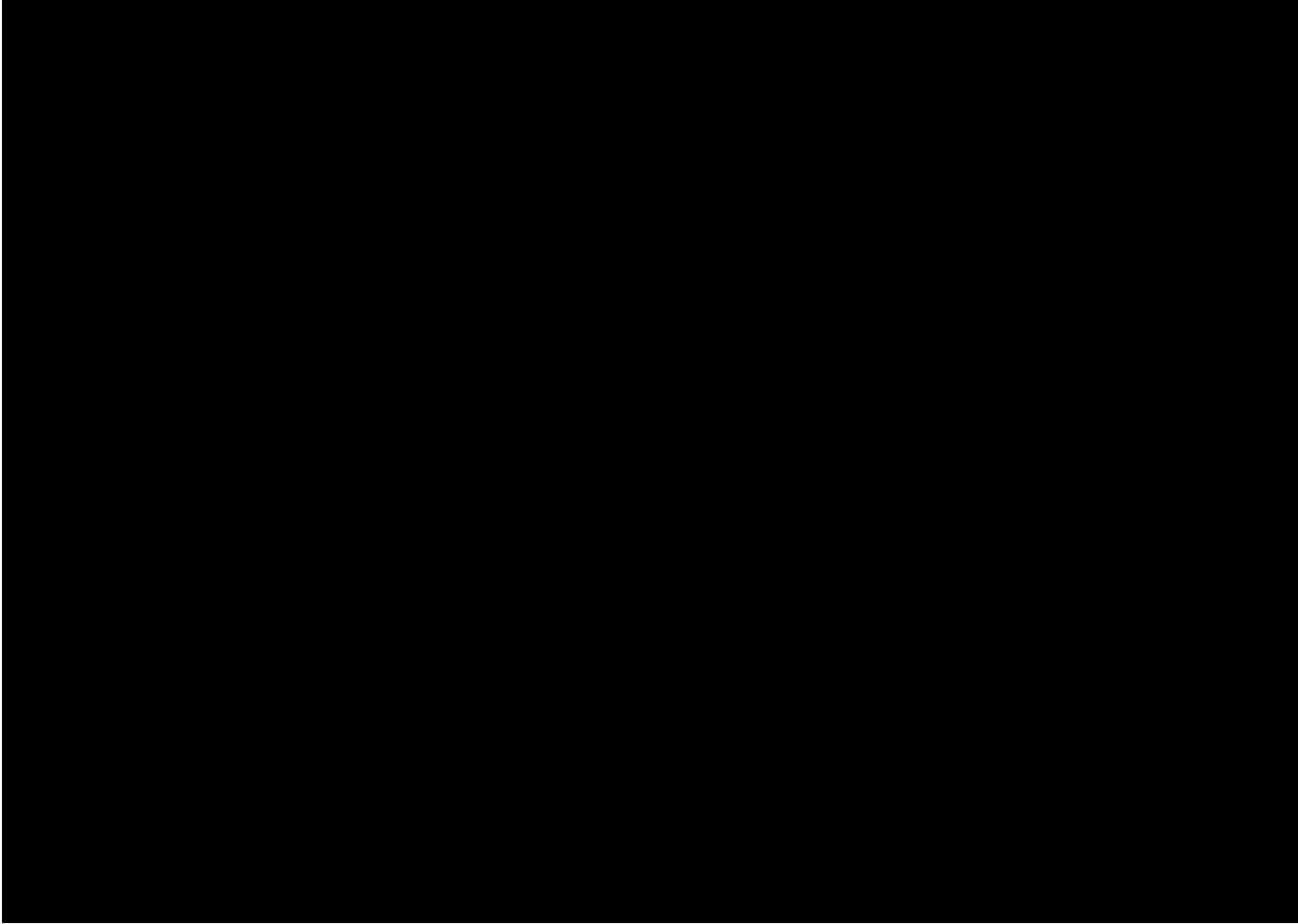
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Appendix 5

Supplementary Information to Inform the Appropriate Assessment of Effects on the Thames Basin Heaths SPA

INTRODUCTION

The Proposed Development is within 5km of the Thames Basin Heaths (TBH) SPA an International Site designated for nature conservation under the Conservation of Habitats and Species Regulations 2017 (as amended).

The following provides detailed information to enable the competent authority (Wokingham Borough Council), to carry out the HRA as required by the Conservation of Habitats and Species Regulations 2017 (as amended).

LEGISLATION AND POLICY CONTEXT

Legislation

The TBH SPA was originally designated as an SPA under the European Bird's Directive (79/409/EEC) (now amended as Directive 2009/147/EC) due to the presence of three rare species of bird listed on Annex 1 of the Bird's Directive that nest either on or close to the ground, and which are consequently vulnerable to increases in recreational pressure such as dog walking. These birds are the Dartford Warbler *Sylvia undata*, Woodlark *Lullula arborea* and Nightjar.

European Council Directive 92/43/EEC *on the conservation of natural habitats and of wild fauna and flora* (the 'Habitats Directive') subsequently drew SPAs created by the earlier Bird's Directive in the Europe-wide network of protected areas called Natura 2000, and provided them with specific protection from plans or projects that would have adverse implications for their integrity.

The Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'), transpose the requirements of the Habitats Directive into domestic UK legislation. Regulation 63 of the Habitats Regulations states:

“(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

*(b) is not directly connected with or necessary to the management of that site, **must make an appropriate assessment** of the implications of the plan or project for that site in view of that site's conservation objectives.*

(2) A person applying for any such consent, permission or other authorisation must provide such information as the competent authority may reasonably require for the purposes of the assessment or to enable it to determine whether an appropriate assessment is required.

(3) *The competent authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specifies.*

(4) *It must also, if it considers it appropriate, take the opinion of the general public, and if it does so, it must take such steps for that purpose as it considers appropriate.*

(5) *In the light of the conclusions of the assessment, and subject to regulation 64, **the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site** or the European offshore marine site (as the case may be).*

(6) *In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given.... “*

How to Approach the HRA Process and Comply with the Habitats Regulations

Guidance published by the European Commission entitled ‘*Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites*’ (EC, 2001) provides clarification on meeting the correct stepwise approach to HRA that is required by the Habitats Directive.

The process is split into the following distinct stages that are undertaken in sequence:

1. Screening the need for an Appropriate Assessment;
2. The **Appropriate Assessment**;
3. The Assessment of Alternative Solutions; and
4. Assessment where no alternative solutions exist and where adverse impacts remain (also known as the test for “Imperative Reasons of Overriding Public Interest” or IROPI).

Stages 1-3 above are clearly reflected in the extract of Regulation 63 of the Habitats Regulations provided above. Stage 4 (IROPI) is covered by Regulation 64, which has not been provided as it does not apply to the proposals.

Each of the above HRA stages determines the requirement for the next one in the sequence to be carried out. For example, if it is concluded at the Screening stage (1) that the plan or project is unlikely to generate significant adverse effects upon the European site in question, either alone or in combination with other plans and projects, there is no need to proceed to the Appropriate Assessment stage (2), and so on.

Other guidance taken into account includes:

- The European Commission’s ‘*Managing Natura 2000*’ document (2018) that provides guidance on some of the key concepts enshrined in Article 6 of the Habitats Directive;
- The ‘*Communication from the Commission on the Precautionary Principle*’ (2000) which provides guidance on the correct application of the precautionary principle, stating that it **should be applied with proportionality and should not aim at zero risk**;

- Circular 06/05 'Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System';
- 'Planning for the Protection of European Sites' (DCLG, 2006); and
- PINS NOTE 05/2018 '*Consideration of avoidance and reduction measures in Habitats Regulations Assessment: People over Wind, Peter Sweetman v Coillte Teoranta*' (Planning Inspectorate 9 May 2018).

The 'Dilly Lane' (2009) and 'People over Wind' (April 2018) Judgments

Up until recently, case law from the UK High Court judgment of J Sullivan in *Hart DC v Secretary of State for Communities and Local Government* (2008), at which EPR provided the ecological evidence, had led to the established approach in practice that impact avoidance and mitigation measures such as Suitable Alternative Natural Greenspace (SANG), where underpinned by an adequate strategic evidence base to demonstrate their efficacy, could enable the conclusion under Regulation 63(1)(a) above, that the proposals were 'not likely to have a significant effect' on the European Site concerned 'either alone or in combination with other plans and projects'.

The established approach derived from the Dilly Lane Case meant that where impact avoidance and mitigation measures (such as SANG) were put forward as integral parts of a plan or project, **and** where the competent authority was also satisfied that those measures would be effective, deliverable and could be secured, then there was no need for an AA to be carried out and the proposals could be consented.

This approach was based on the presumption that the information available pertaining to the efficacy of the proposed impact avoidance and mitigation measures could, if sufficiently robust, be considered to represent the '**objective information**' referred to by the Court of Justice of the European Union (CJEU) in the Waddenzee case (C-127/02)(discussed below) as being required in order for a competent authority to conclude that a plan or project was not likely to have a significant effect on a European site, either alone or in combination with other plans and projects, at the Screening Stage (1) of HRA.

In April 2018 however, in case C-323/17 of the CJEU (referred to as '*People over Wind*')(the 'PoW judgment'), the CJEU concluded that it was not appropriate to take account of "...*measures intended to avoid or reduce the harmful effects of the plan or project...*" at the Screening stage of the HRA process, and that the efficacy of such measures in preventing an adverse effect on the integrity of a European Site should instead be established as part of an Appropriate Assessment (HRA Stage 2).

In practice, this means that the efficacy of impact avoidance and mitigation measures such as SANG and Strategic Access Management and Monitoring (SAMM) must now be considered and tested through the medium of an AA in order to comply with the judgement of the CJEU.

Although there appear to be some inconsistencies between the *People over Wind* judgment and previous CJEU case law, until such time as the CJEU may provide further clarification, it is necessary to consider the efficacy of impact avoidance and mitigation measures such as SANG and Strategic Access Management and Monitoring (SAMM) through the medium of an AA in order to ensure compliance with the findings of the judgment.

The Waddenzee Judgement

The CJEU Waddenzee Case (C-127/02) established a number of important points in relation to the correct interpretation of Article 6(3) of the Habitats Directive in particular, and the way in which each

stage of the HRA process should be approached. This clarification has been helpfully outlined in the otherwise rather long-in-the-tooth Government Circular 06/05 "Biodiversity and Geological Conservation".

In particular, one of the key messages from the CJEU in the Waddenzee case was that, where a plan or project has the potential to affect a Natura 2000 site, an AA is necessary:

*"...if it cannot be excluded, on the basis of **objective information**, that it will have a significant effect on that site, either alone or in combination with other plans and projects"*

[Paragraph 13 of Circular 06/05 or paragraph 44 of the Waddenzee Judgment]

The CJEU expanded upon the above by saying that:

"...where such a plan or project has an effect on that site [the European site] but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned."

[Paragraph 47 of the Waddenzee Judgement]

Further to the above, the CJEU clarified that, once an AA has been triggered, except in the circumstances outlined in Article 6(4) of the Directive (circumstances of IROPI which do not in my view apply to the Appeal proposals), a plan or project can only be authorised where it will not have an adverse effect on the integrity of the Natura 2000 site, and that:

*"That is the case where no **reasonable** scientific doubt remains as to the absence of such effects".*

[Paragraph 21 of Circular 06/05, or paragraph 59 of the Waddenzee Judgement]

The Supreme Court Judgment in Kennedy v Cordia Services LLP (2016)

Although not directly related to HRA, in the above judgment, the UK Supreme Court helpfully provided an overview of what it considered constituted reliable 'scientific evidence' for the purposes of decision making. In summary, the criteria outlined by the Supreme Court were that, in order to be reliable, scientific evidence should be:

- Part of a recognised body of science or experience which is suitably acknowledged as being useful;
- Sufficiently developed to be treated as reliable;
- Approved / endorsed by a substantial body of academic writing; and
- Not the subject of novel or relatively recent academic research.

The above criteria are helpful in determining whether the requirements stemming from the Waddenzee case, for a requisite level of confidence at part of an AA can be met. These should be considered alongside the guidance cited above in the *Communication from the Commission on the Precautionary Principle* (2000).

POLICY CONTEXT AND RELATED GUIDANCE

In addition to the legislative landscape described above, National, Regional and Local planning policy pertaining both to European Sites generally and the TBH SPA specifically are well developed.

National Policy

At the National Level, Section 15 of the NPPF is relevant, in particular paragraph 177, which was introduced as part of the February 2019 Technical Update to the NPPF, and makes it clear that the presumption in favour of sustainable development does not apply where a project is likely to have a significant effect on a 'Habitats Site' (which includes the TBH SPA), either alone or in combination with other plans and projects, **unless an AA can conclude that the plan or project will not adversely affect the integrity of that site.**

Regional Policy

At the Regional Level, **saved Policy NRM6** of the South East Plan Regional Spatial Strategy (RSS) is relevant. This policy outlines the strategic-level requirements for development to provide impact avoidance and mitigation measures to protect the TBH SPA. These requirements were collated following the submission of a substantial body of evidence (including numerous submissions from Natural England) to the Examination in Public (EiP) of the RSS, which was subsequently examined by the South East Plan Assessor (Burley, 2007) and distilled into recommendations that were included in the policy. In respect of the Appeal proposals, it requires that a combination of SANG and SAMM is provided (discussed below), unless alternative measures are agreed with Natural England.

Local Policy

Wokingham Borough Local Development Framework Core Strategy, Adopted January 2010

The Wokingham Borough Local Development Framework Core Strategy includes the following policies of relevance:

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- D) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or
- E) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife river corridors), whether directly or indirectly, or
- F) That compromises the implementation of the national, regional, county and local biodiversity action plans

will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

- iii) Mitigation measures can be put in place to prevent damaging impacts; or
- iv) Appropriate compensation measures to offset the scale and kind of losses are provided.

CP8 – Thames Basin Heaths Special Protection Area

Development which alone or in combination is likely to have a significant effect on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

Wokingham Borough Development Plan Adopted Managing Development Delivery Local Plan, February 2014

The Wokingham Borough Development Plan includes the following policy of relevance:

Policy TB23: Biodiversity and Development

1. Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.
2. Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:
 - d) Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing
 - e) Provide appropriate buffer zones between development proposals and designated sites as well as habitats and species of principle importance for nature conservation
 - f) Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network.

Wokingham Borough Local Plan Update 2023-2040 Proposed Submission Plan

The Wokingham Borough Local Plan Update includes the following policies of relevance:

Policy NE1: Biodiversity and Geodiversity

... Internationally Designated Sites

Development proposals likely to result in a significant effect on internationally designated sites either alone or in combination with other plans or projects, will not be supported unless it can be demonstrated that the adverse effects on the integrity of the designated site can be fully avoided, mitigated and/or compensated.

Policy NE3: Thames Basin heaths Special Protection Area

1. Development proposals, which either alone or in combination with other plans or projects, are likely to have a significant adverse effect on the ecological integrity of the Thames Basin Heaths Special Protection Area (SPA) without appropriate avoidance and mitigation measures will be refused.
2. Development proposals that are likely to have a significant adverse effect on the integrity of the SPA must demonstrate that adequate measures will be put in place to avoid or mitigate any such effects. Such measures must be agreed with the council and Natural England. To assist the council in carrying out a Habitats Regulations Assessment, the applicant will be required to provide such information as the council may reasonably require for the purpose of the assessment. Development proposals for larger residential development may need to undertake an air quality assessment of the likely significant effects on the SPA and other habitats sites. Applications for non-residential development will be considered on a case by case basis.

Zones of influence

3. Where Suitable Alternative Natural Greenspace (SANG) and Strategic Access Management and Monitoring (SAMM) mitigation measures are required for residential development proposals, a consistent approach will be taken regarding mitigation, based on the following zones of influence, as measured in a straight line distance from the SPA boundary, and as defined in the Policies Map:
 - a) 0-400m;
 - b) 400m-5km; and
 - c) 5km-7km.
4. Within the 0-400m zone, mitigation is unlikely to be capable of protecting the integrity of the SPA. Development proposals for a net increase in dwellings within this zone will not be supported unless it can be demonstrated through a Habitats Regulations Assessment that there will be no adverse effect on the integrity of the SPA.
5. Within the 400m-5km and 5km-7km zone, development proposals for a net increase in dwellings will be supported which secure the SANG and SAMM standards set out below.

SANG Standards

6. The provision of SANG will meet the following standards and arrangements:
 - a) Within the 400m – 5km zone a minimum of 8 hectares of SANG land (after discounting to account for current access and capacity) will be provided per 1,000 new occupants.
 - i. Development proposals of net 9 dwellings or fewer will not be required to be within a specified distance of SANG land provided a sufficient quantity of SANG land is in place to cater for the consequent increase in residents.

ii. Development proposals of 10 or more net dwellings will need to be within the catchment of a specified SANG and a sufficient quantity of SANG land must be in place to cater for the consequent increase in residents.

iii. Development proposals for a net increase of fewer than 50 dwellings will be required to provide financial contributions towards strategic SANG facilitated by the council subject to available capacity, or towards SANG facilitated by a third party landowner.

iv. Development proposals for a net increase of more than 50 dwellings are expected to provide their own bespoke SANG.

b) Development proposals for a net increase of more than 50 dwellings within the 5-7km zone may be required to provide mitigation measures based on a combination of SAMM and the provision of SANG to a lower standard than within the 400m - 5km zone. This will be assessed on a case-by-case basis in consultation with Natural England and, where appropriate, a Habitats Regulations Assessment may be required to ascertain whether the proposal could have an adverse effect on the SPA.

c) Development proposals for non-residential development will be assessed on a case by case basis.

Development proposals which wish to rely on SANG in third party ownership must demonstrate that this has been agreed and secured with the landowner and that there is sufficient capacity in the correct location to mitigate the proposal.

SAMM contributions

7. A developer contribution will be made towards the SAMM Project for each net additional dwelling. This will provide an SPA wide wardening and education service and monitor the effectiveness of the avoidance and mitigation measures and visitor pressure on the SPA.

Loss of SANG

8. There is a presumption against the loss of SANG land for other uses. The loss of SANG will only be accepted where the applicant can demonstrate that sufficient alternative avoidance measures for all relevant submitted and/or approved plans and projects within the borough taking account of Natural England's advice on SANGs.

Guidance Documents

Natural England's Guidelines for the Creation of Suitable Alternative Natural Green Space (SANG) (2021)

Natural England has produced a set of evidence-based guidelines to assist in the creation of functional SANGs to provide an attractive recreational alternative to the SPA. These guidelines were originally released in July 2007 and a revised version dated August 2021 is also available. The Guidelines are based primarily on a study undertaken on behalf of Natural England (Liley et al., 2005) into the features that attract people to open spaces in the Thames Basin Heaths area.

The Thames Basin Heaths Joint Strategic Partnership Board's (JSPB) Endorsed Thames Basin Heaths SPA Delivery Framework (2009)

Following the EiP of the South East Plan RSS, the key principles underpinning the effective avoidance of recreational impacts on the Thames Basin Heaths SPA were agreed by the 11 Local Authorities affected by the need to protect the TBH SPA and by Hampshire and Surrey County Councils (collectively referred to as the Joint Strategic Partnership Board – JSPB – who are also advised by Natural England and others), and incorporated into a Delivery Framework that was designed to inform the development of local planning policy and ensure the protection of the SPA. The principles that the Delivery Framework sets out are addressed in this document.

Additionally, the local-level planning policies designed to ensure protection of the SPA that have emerged within each of the 11 affected Local Authorities in pursuance of the principles established in the Delivery Framework are also important from the perspective of addressing the potential for 'in combination' impacts on the SPA resulting from the cumulation of development across the whole Thames Basin region. These are therefore considered further below.

APPROPRIATE ASSESSMENT

The Position Moving Forward

Taken together, saved policy NRM6 of the South East Plan RSS, the JSPB's Endorsed Thames Basin Heaths SPA Delivery Framework (2009) and relevant local planning policy, are clear that successfully avoiding the impacts of increased recreational pressure from residential development upon the TBH SPA requires development to provide two main component parts ('prongs') of the strategic impact avoidance and mitigation strategy, as follows:

- Provision of Suitable Alternative Natural Greenspace (SANG) that is sufficient in both area and quality (see below); and
- A full contribution toward the Strategic Access Management and Monitoring (SAMM) Strategy currently being implemented across the TBH SPA.

In short, the function of SANG is to act as an attractive alternative destination for both existing and future recreational visitors who might otherwise go to the SPA, whereas SAMM seeks to both monitor and address (e.g. through car park closures/reductions, wardening, footpath re-routing etc) the impacts of those who do actually visit the SPA.

There is an extensive 'strategic-level' evidence base that already exists and which underpins both the role and the efficacy of SANG and SAMM, and this is outlined further below.

There is no reason why full contributions towards the SPA-wide SAMM Strategy cannot be made in accordance with the contributions tariff outlined on Wokingham Borough Council's website⁴.

In terms of SANG – both saved Regional Policy NRM6 and details on Wokingham Borough Council's website⁴, Policy NE3 of Wokingham Borough Local Plan Update 2023-2040 Proposed Submission Plan, and the JSPB's Endorsed TBH SPA Delivery Framework (2009) are clear that SANG must be provided for development on the basis that 8ha of SANG should be provided for every 1000 new residents, calculated on the basis that average household occupancy should be assumed to be 2.4 people per dwelling, unless robust local evidence demonstrates otherwise.

In order to provide SANG in accordance with the requirements of the above policies, a 'bespoke' on Site SANG solution has been identified.

On Site SANG

Proposals are for 136 dwellings. Based on 2.4 people per dwelling a total of **2.61ha of SANG** would be required to meet the 8ha per 1,000/new residents threshold.

In order for the Proposed Development to rely upon an on Site SANG area, it will be necessary for this to be secured through a legal agreement, such as a S106 Agreement.

In order to pass an AA, it must also be demonstrated that the on Site SANG would function effectively to prevent any net increase in recreational pressure from the Proposals.

Conceptual Impact Assessment Model

In carrying out an assessment of the potential effects of a development proposal on a European Site, the 'source-pathway-receptor' concept provides a useful model for framing and objectively evaluating the mechanisms through which potential effects may occur. This method has been employed in this assessment. **Table A6.1** below sets out the parts of the model and how they relate to each other.

Table A6.1: Conceptual Impact Assessment Model

Source	Pathway	Receptor
Elements of the development proposals that are likely to generate or contribute towards certain environmental effects	Changes in environmental conditions caused by aspects of the development proposals that have the potential to affect an identified impact receptor	The interest features / conservation objectives of the European Site concerned, and the environmental conditions required to support them

During the assessment process, information has been gathered relating to each part of the conceptual assessment model. Consideration of this information will then allow the competent authority to determine

⁴ <https://www.wokingham.gov.uk/planning-policy/advice-developers/thames-basin-heath-special-protection-area>, last updated 29/04/2025

whether or not a potentially viable impact pathway exists between the development proposals and the TBH SPA.

Defining the Impact Source and Pathway

Planning permission is sought for 136 dwellings. In the absence of impact avoidance and mitigation measures, this would introduce new residents into the area who may choose to pursue recreational activity, such as dog walking, within the SPA.

The TBH Delivery Framework (JSPB, 2009) suggests using an average household occupancy rate of 2.4 people per dwelling to calculate the likely number of new residents introduced by a development. This figure is also used in Policy NRM6 of the South East Plan RSS, which has already been subject to AA.

On this basis, the proposal for a net increase of 136 dwellings could be expected to introduce in the region of 326.4 additional new residents, generating a requirement for **2.61ha ha of SANG** (based on the SANG provision rate of 8ha per 1,000 new residents within 5km of the TBH SPA).

The Annex 1 birds associated with the TBH SPA are particularly vulnerable to disturbance by dogs. In 2019 the South-East of England, 21% of households are estimated to own a dog at a rate of 1.4 dogs per household (PFMA, Pet Population Report 2019). This equates to approximately 28.56 of the proposed new households and around 40 dogs in total. In 2024 it is estimated that 36% of household within the UK have dogs although specific regional data was not available.

The original English Nature Draft Thames Basin Heaths Delivery Framework (2006) reviewed the results of various studies to consider the likely roaming distance of cats kept as pets at residential properties, to determine the potential for them to predate Annex 1 birds. This review showed that the majority of cats roam no further than 400m and this evidence consequently formed part of the basis for the 400m zone around the TBH SPA within which there is a presumption against additional residential development. As the proposals are beyond this distance (the proposals are around c. 1.3km from the SPA) cat predation from the proposals will not contribute towards impacts on the SPA.

The Impact Receptor

As outlined above, the TBH SPA was designated as a SPA in March 2005 for its internationally important populations of three bird species, Dartford Warbler, Woodlark and Nightjar, that are listed in Annex 1 of European Directive 79/409/EEC (the 'Birds Directive') (now codified by Directive 2009/147/EC). These birds nest either on or close to the ground and are consequently vulnerable to disturbance from recreational activity (such as dog walking) with resultant breeding failure.

Research into the effects of urban development and recreational pressure on the populations of Annex 1 birds, including Liley & Clarke (2002), Murison (2002) and Underhill-Day (2005a) raised concerns that they were being adversely affected by increases in human disturbance.

Broadmoor to Bagshot Woods and Heaths Site of Special Scientific Interest (SSSI) is the nearest component part of the TBH SPA to the Proposals and is located approximately 1.3km to the south-east (see **Figure 1**). The SSSI Unit that lies closest to the Proposals is Unit 10.

The condition of SSSI unit 10 was last assessed by Natural England on 22 March 2017, when it was considered to be in '**Favourable**' condition.

The NE surveyor who carried out the condition assessment noted that Unit 10 comprises a large area of commercial plantation forestry, mainly coniferous. The interest features for this unit are the breeding SPA birds, notably the Nightjar and Woodlark (breeding Dartford Warbler also recorded despite population crash in 2008/9 and 2009/10 due to cold winters). They also noted that the Swinley Forest fire in 2011 burned areas of forest in this unit, which have since been cleared and re-stocked. And that the fire provided a significant area of open habitats/young plantations of value to the SPA birds.

In view of the above, it is likely that the sensitivities of this part of the TBH SPA to the effects of the Proposals in combination with other plans and projects are limited to increases in recreational pressure from new residents, in particular dog walkers.

Assessment of Impact Avoidance and Mitigation Measures

The Strategic Evidence Base

As explained, the proposals will make a full contribution towards the SPA-wide SAMM project that is being administered by NE, in accordance with the tariff guidance provided by WBC in their TBH SPA document (<https://www.wokingham.gov.uk/planning-policy/advice-developers/thames-basin-heath-special-protection-area>), updated 29 April 2025.

The SAMM Strategy sets out a mechanism, funded by contributions from development, for the pan-SPA monitoring of changes in recreational pressure so that measures can be implemented to address any unforeseen or localised increases in recreational pressure that may otherwise contribute towards an effect upon the qualifying features of the SPA. It also provides for extensive wardening and 'on-SPA' interventions such as the closure of car parks and re-routing of visitor pressure.

In addition to a full SAMM contribution, the Proposals will make provision for c.6.22ha of on Site SANG for use by new residents and those within walking distance of the on Site SANG in the local area, or a full financial contribution toward Wokingham Borough Council's Strategic SANG at Rook's Nest Wood, once the proposed extension for this area has been consented. Further details on the design and efficacy of the proposed on-Site SANG are given above in the main body of this EcIA Report.

There is now a significant and still burgeoning body of strategic evidence underpinning the efficacy of both SAMM and SANG as impact avoidance measures, that has been the subject of rigorous scrutiny on multiple occasions in the past, as summarised below:

- The original English Nature (now Natural England) TBH Draft Delivery Plan (2006), which informed the development of the (now mainly revoked) South East Plan RSS included a comprehensive review of evidence pertaining to the impacts of recreational pressure on the TBH SPA, in particular SPA-wide visitor surveys and evidence of visitor interception potential;
- The South East Plan RSS, including Saved Policy NRM6, were subject to an Appropriate Assessment (Scott Wilson and Levitt Therivel, 2006), and both the RSS itself and its AA were then subject to significant scrutiny in terms of the likely effectiveness of the proposed SANG and SAMM provisions, by the South East Plan Assessor (Burley, 2007a, b and c) before being adopted;
- The key principles of NRM6 were taken forward by a group of the 11 Local Authorities affected by the need to protect the TBH SPA called the 'Joint Strategic Partnership Board' (JSPB) (which also included advisory members such as NE), and after an earlier abortive attempt to produce

guidance, the agreed key principles were enshrined in the Endorsed TBH SPA Delivery Framework (2009); and

- The 'quality' attributes that a SANG must deliver in order to function as an attractive alternative to the SPA were the subject of a research study (Liley *et al*, 2005b), which was then subsequently distilled into Natural England's *Guidelines for the Creation of Suitable Accessible Natural Greenspace (SANG)*, which have most recently been updated in 2021 in response to new evidence gathered through the Thames Basin Heaths SPA Mitigation Project..

In addition to the strategic evidence base outlined above, EPR has also collected significant bespoke visitor and resident survey data that shows that, broadly, SANG as a strategy is functioning as intended to divert recreational pressure away from the TBH SPA. For example, EPR has now collected 5 years of visitor monitoring data on Langley Mead SANG, which is the first component part of a suite of SANG areas being delivered in conjunction with the South of the M4 Strategic Development Location (SDL) SANG suite in Wokingham. This data shows that the SANG is working broadly as was predicted by pre-determination visitor pattern analysis, with in the region of 54,000 visits per annum being made to that SANG.

In addition to this, EPR completed a commission from NE to carry out the 2018 visitor survey monitoring across the whole TBH SPA, and to compare the results against previous visitor monitoring work carried out in 2005, 2012/2013 and 2018. In summary, the visitor monitoring has shown that there has been a statistically significant decline in visitation of the TBH SPA between 2005 and 2018, despite around a 12.9% increase in housing within the 5 km SPA catchment.