

British Museum ARC: Secondary Access

Ecological Appraisal

Prepared on behalf of

The British Museum

Final Report

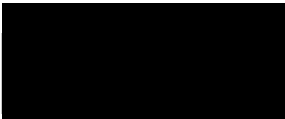
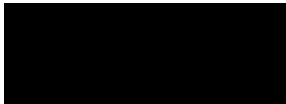
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British Museum ARC: Secondary Access

Ecological Appraisal

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British Museum ARC: Secondary Access

Ecological Appraisal

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British Museum ARC: Secondary Access

Ecological Appraisal

Executive Summary

Ecological Planning & Research Ltd (EPR) was commissioned to carry out an Ecological Appraisal of a site to the south of Cutbush Lane (East) near Shinfield in Wokingham, in relation to the proposed secondary access route into the Site of The British Museum's current development of an Archaeological Research Collection (ARC) facility, which was granted planning permission in 2018 (application reference 182059).

The location of the proposed secondary access route lies to the north of the wider ARC site, directly off the proposed Cutbush Lane (East) extension road (granted planning permission (Ref: 232995) in September 2024). The wider ARC site predominantly comprises the relatively recent constructions of the large, warehouse-like structures of storage facilities, with associated hardstanding and soft landscaping.

The proposals will result in the loss of two small areas of Bramble scrub bordering Cutbush Lane (East), an area of planted wildflower grassland, individual (young) planted trees and an area of bare ground comprising exposed soil.

The habitats on Site are currently considered to be of low-negligible ecological value, with the wildflower grassland being of most importance. Part of the Site overlaps with the original ARC development application boundary, with construction of the new road resulting in the loss of approximately 132m² of habitat including wildflower grassland and planted trees. These habitats formed part of the Biodiversity Net Gain (BNG) calculation undertaken for the original wider ARC development application. This area is however compensated for through planting of more trees within the Site and creation of approximately 108m² new wildflower grassland in an area previously outside the wider ARC site, currently comprising predominantly bare ground. This habitat creation accounts for the loss associated with the new road construction. Overall, there is considered to be no negative impacts to the original ARC BNG achievements.

As a new planning application, the development is required to achieve at least a 10% BNG. Calculations for the Site have been prepared using the Statutory Metric and are submitted with the application separately, alongside a Biodiversity Statement (EPR, 2024).

Recommendations have been made for impact avoidance, mitigation and enhancement, including the following measures:

- Clearance of vegetation to be undertaken outside the nesting bird season (March - August inclusive), or preceded with a pre-works nesting bird check if this cannot be avoided; and

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British Museum ARC: Northern Access

Ecological Appraisal

1. INTRODUCTION

Brief

- 1.1 Ecological Planning & Research Limited (EPR) was commissioned by The British Museum to carry out an Ecological Appraisal of proposals for a new secondary vehicular access route at the Site known as The British Museum Archaeological Research Collection (ARC) at Land South of Cutbush Lane (East) (hereafter referred to as the “Site”). The Site is centred on National Grid Reference SU 74310 69270.

Background

- 1.2 The British Museum ARC was granted planning permission in 2018 (application reference 182059) and is now operational. The current proposal seeks to achieve planning permission for the addition of a new secondary vehicular access route, to be sited along the northern boundary of the wider ARC site, off the proposed Cutbush Lane (East) extension road. The works are in association with the extension of Cutbush Lane (East), in partnership with the University of Reading (UoR), who are responsible for road works outside the red line of this application. Site proposals are shown in **Appendix 1**.

The Study Area

- 1.3 The Site comprises an area of recently disturbed ground (bare soil), an isolated linear Bramble *Rubus fruticosus* agg scrub, wildflower seeded grassland and individual planted trees. The Site (of the secondary access route) is located along the northern boundary of the wider ARC site.

Natural England's National Character Area Profile: 115 Thames Valley

- 1.4 The Site is located within Natural England's National Character Area (NCA) 115 (Thames Valley), with NCA 129 (Thames Basin Heaths) located just to the south toward the Arborfield Road.
- 1.5 The Thames Valley NCA is characterised as an area of flat low-lying land, rising to low river-terraced hills. The area contains numerous important hydrological features, the nearest of which that is significant is the River Loddon located to the southeast. The area is densely populated and developed, with pockets of woodland. The immediate vicinity of the site is somewhat atypical of the wider NCA area, in that it supports a comparatively greater proportion of agricultural land, of which more is arable as opposed to pasture. The River Loddon supports various small areas of species-rich floodplain hay meadow, including newly restored areas to the south at Langley Mead.
- 1.6 The NCA profile for Thames Valley sets out several Statements of Environmental Opportunity (SEOs) for this area. Those that are potentially relevant to the proposals include [relevant extracts]:

- “SEO 3 – Maintain existing greenspace and plan for the creation of green infrastructure associated with the significant projected growth of urban areas, to reduce the impact of development, to help reduce flooding issues, and to strengthen access and recreation opportunities.... Promote the incorporation of best practice environmental measures into any new development

Brief Description of Site and Surroundings

- 1.7 The Site is located to the east of Cutbush Lane in Wokingham, centred approximately on Ordnance Survey (OS) Grid Reference SU743691. The location of the proposals in relation to nearby nature conservation related designations is shown on **Maps 1a and 1b**. The village of Shinfield is located just under 1 km to the south-west, and the town of Reading is located under half a kilometre to the north, on the opposite side of the M4 Motorway.
- 1.8 The Site is located partially within the British Museum ARC facility. The wider surrounds comprise farmland and ongoing development of Shinfield Studios to the north and west. The eastern boundary of the wider ARC site is delineated by St John's Copse, an area of likely Ancient Semi Natural Woodland (ASNW) that is listed on Natural England's Provisional Ancient Woodland Inventory (PAWI).
- 1.9 The Site falls within a designated Biodiversity Opportunity Area (BOA), which is detailed in **Section 3**. The BOA covers a wide area along the River Loddon valley, supporting habitats that offer opportunities for providing benefits to biodiversity.

Scope

- 1.10 The purpose of this Ecological Appraisal is to obtain and present information on potential ecological constraints and opportunities that may be presented to the Proposals. Advice on further actions to address constraints and maximise opportunities in order to enable the proposals to proceed in accordance with nature conservation legislation and policy is also provided. Please note that the results of an Ecological Appraisal are not equivalent to a full Ecological Impact Assessment (EclA), and so potentially significant ecological effects arising from a Proposal may not be fully understood at the time of reporting.
- 1.11 EPR's approach takes account of the Chartered Institute of Ecology and Environmental Management's (CIEEM) advice in Guidelines for Ecological Impact Assessment in the UK and Ireland (2018).
- 1.12 An Ecological Appraisal comprises two main elements: 1) A desktop review of the ecological and policy context; and 2) a field survey of the development site and, where possible, any other areas likely to be affected within a defined Zone of Influence.
- 1.13 The following articles of nature conservation legislation and planning policy are of relevance to the Proposals, and have been considered as part of this appraisal:
 - The Conservation of Habitats and Species Regulations 2017 (as amended);
 - The Wildlife and Countryside Act 1981 (as amended);
 - The Environment Act 2021;
 - The Countryside and Rights of Way (CROW) Act 2000;

- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992;
- The National Planning Policy Framework (NPPF) (2024);
- Wokingham Borough Core Strategy (adopted June 2010); and
- Wokingham Borough Council, Managing Development Delivery Local Plan (June 2014)

1.14 In addition to the above, biodiversity objectives detailed in the following documents have been considered:

- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services; and
- The 25 Year Environment Plan; and
- Wokingham Borough Council's Biodiversity Action Plan 2012-2024.

1.15 Further information on the above is provided in **Appendix 2**.

Methods and Constraints

1.16 This appraisal has drawn on information collected through both an extensive desktop study, and a field visit carried out by Anna Showan BSc (Hons) MSc ACIEEM of EPR on 3 December 2024. The methodology used has been described in more detail in **Appendix 3**.

1.17 Weather conditions during the survey were good and the Site was fully accessible. A potential constraint to the results is the time of year of survey; as the survey was undertaken in December, some species of grassland flora may have been missed. However, this is considered unlikely to alter the overall assessment.

2. NATURE AND EXTENT OF PREDICTED BIOPHYSICAL CHANGES

- 2.1 Certain activities associated with the preparation, construction and operation of the Proposal are likely to generate biophysical changes. These changes, and the Zone of Influence (Zoi) over which they are likely to occur, are summarised in **Table 2.1** below.

Table 2.1: Summary of predicted changes and Zone of Influence.

Predicted Change	Zone of Influence
Ground excavations	Site
Soil stripping	Site
Vegetation clearance	Site
Storing of construction materials	Site
Dust generation	Site and immediate surrounds
Access on/off Site	Site and immediate surrounds
Acoustic disturbance	Site and immediate surrounds

- 2.2 The Zones of Influence for each of these predicted changes are considered to be within the Site and immediate surrounds.

3. RESULTS OF ECOLOGICAL APPRAISAL

Introduction

3.1 The findings of the ecological appraisal are set out below, including:

- The potential for Important Ecological Features (IEFs) to be present within the Zol that could be affected by the Proposals;
- Potentially significant impacts (both positive and negative) that could occur as a result of the predicted biophysical changes described in **Section 2**, in the absence of impact avoidance and mitigation measures;
- A broad overview, where possible, of the measures that are likely to be required to avoid, mitigate and as a last resort compensate for significant negative effects on IEFs;
- Opportunities to deliver net gains in biodiversity in accordance with the aspirations of National and local planning and biodiversity policy, including Section 15 of the NPPF, and under The Environment Act 2021; and
- Recommendations for further survey necessary to inform assessment and design of the above, compliance with policy, legislation and/or ongoing management of the Site.

Designated Sites

3.2 **Map 1** shows the nature conservation designations up to 5 km from the site of the Proposals.

Statutory Designated Sites

3.3 Five statutory designated sites are present within 5 km of the Site (**Map 1a**), four of which are designated as Local Nature Reserves (LNRs), the closest of these is Pearman's Copse LNR, which lies approximately 0.8 km north-west of the Site and is designated for supporting ancient woodland.

3.4 The remaining LNRs include the following sites:

- Highwood LNR;
- Maiden Erlegh LNR; and
- Swallowfield Meadow LNR.

3.5 One Site of Special Scientific Interest (SSSIs) also lies within 5 km of the Site. Stanford End Mill and River Loddon SSSI lies approximately 4.5 km south-west of the Site and is designated due to the presence of its traditionally managed waterlogged hay meadows which support two nationally rare plants.

3.6 Given the nature of the Proposed Development, and the distance to the nearest statutory designated site, it is not considered that the proposals will impact upon LNR's or SSSIs.

Non-Statutory Designated Sites

3.7 A total of 14 non-statutory designated Local Wildlife Sites (LWS's) are located within 2 km of the Site (**Map 1b**). The closest of these is St John's Copse LWS, which lies approximately 0.2

km south-east of the Site and is designated for supporting lowland mixed deciduous and wet woodland. The site is an area of likely Ancient Semi Natural Woodland (ASNW) that is listed on Natural England's Provisional Ancient Woodland Inventory (PAWI) and appears on the earliest map of the area seen by EPR, the Earl of Fingal's 1756 Estate Map.

3.8 The remaining LWS's include the following sites:

- The Cowsey LWS;
- Gravel Pit Wood, The Holt LWS;
- Hall Farm Woodland Triangle LWS;
- Loaders Copse LWS;
- Pearman's Copse LWS;
- Rushy Mead LWS;
- Rushey Way Pond LWS;
- The Grove LWS;
- Shinfield Park, Nores Hill LWS;
- Redhatch Copse LWS;
- Maiden Erlegh Woods LWS;
- Arborfield Bridge Meadow LWS; and
- River Loddon (Part) LWS.

3.9 The above-listed non-statutory sites are primarily designated for supporting habitats of ecological interest such as woodlands, grasslands and wetlands, as well as supporting protected and / or notable species. It is not considered that the proposals are likely to impact any of the above sites.

3.10 The Loddon Valley (South) BOA overlaps the Site itself and follows the valley of the River Loddon. The area covers a range of habitats, such as the river itself, lowland meadow, wet woodland, parkland and lowland mixed deciduous woodland. Targets and opportunities within the BOA include river management, restoration and protection, management and re-creation of lowland meadows, as well as management of wet woodland, parkland and of farmland for farmland birds.

3.11 The BOA aspires to restore and manage existing key habitats found within the area and improve opportunities for farmland birds. The original application for the wider ARC development sought to follow the aspirations of the BOA through creation and management of new species-rich grassland habitat. This included seeding and management of wildflower grassland within a small area of the proposed secondary access route. In line with ensuring Biodiversity Net Gain (BNG) is withheld across the wider ARC development and the aspirations of the BOA, habitat compensation and enhancement will need to be delivered within the current application, to include provision of wildflower rich grassland.

Habitats

- 3.12 The distribution of broad habitat types and features noted during the field visit are presented on **Map 2** and are described further below.

Bramble Scrub

- 3.13 Two areas of Bramble scrub are present. In the north-eastern corner of the Site, a small patch lines the existing farm access track which goes through part of the Site. The second area is in the far western corner of the Site and has established adjacent to the roadside hedgerow along Cutbush Lane (East). The total area of Bramble scrub in the Site is very limited (0.0079 ha).

Bare Ground

- 3.14 On the southern side of the boundary hedgerow described above, lies an area comprising bare soil, displaying no vegetative growth.

Hardstanding

- 3.15 An area of existing surfaced road is present within the Site, which forms a turning area for vehicles using the ARC facility. In addition, a gravelled farm track, which sits outside the original ARC boundary, is present on the western side of the Site.

Other Neutral Grassland

- 3.16 The grassland area on-site consists of seeded wildflower grassland (Emorsgate EM2 Standard General Purpose Meadow Mixture) which contains species that are characteristic of traditional meadows across a wide range of soil types. The grassland (believed to have been seeded in 2023) in line with the manufacturer's instructions, appears to have developed well. Species distinguishable at the time of survey included Yarrow *Achillea millefolium*, Common Knapweed *Centaurea nigra*, Oxeye Daisy *Leucanthemum vulgare*, Field Scabious *Knautia arvensis*, Ribwort Plantain *Plantago lanceolata* and Salad Burnet *Poterium sanguisorba* ssp. *sanguisorba*. At the time of survey, the grassland had a short sward and uniform structure.

Fauna

Amphibians

Desktop Study

- 3.17 There are 27 records of amphibians within 2 km of the Site, returned by Thames Valley Environmental Records Centre (TVERC), including Common Frog *Rana temporaria*, Common Toad *Bufo bufo* and Smooth Newt *Lissotriton vulgaris*. No records are from within the Site itself and the closest record is of a Common Frog approximately 0.45km south-west of the Site.
- 3.18 Extensive survey by EPR over past years within the area has not recorded any Great Crested Newt (GCN) *Triturus cristatus*, with the only known populations identified to the west of Basingstoke Road and to the south of Hyde End Road, outside the Shinfield area, or to the east of the River Loddon.

- 3.19 Within the wider ARC site, a number of SuDS features have been created, which are seasonally wet. A review of OS mapping and aerial photography did not reveal the presence of any other ponds or lakes within 0.25 km of the Site.

Field Survey

- 3.20 Bare ground within the Site provides no opportunities for amphibians. The scrub on Site will provide shelter through vegetation cover for amphibians in their terrestrial life phases. However, suitability is considered limited due to disturbance from the adjacent road which serves the neighbouring farm and Cutbush Lane (East). Close to the Site, are SuDS features, including pond and swale, which are seasonally wet and may provide suitable habitat for amphibians.

Evaluation

- 3.21 The hardstanding, grassland and bare ground offer negligible suitability to support amphibians. However, the scrub provides suitable shelter for harbouring common amphibians and SuDS features within the wider ARC site have suitability to support common amphibians. The habitats within and in the immediate surrounds of the Site are considered unlikely to provide suitability for GCN and a lack of records suggest likely absence. Overall, the Site is considered to have **low potential** to support common amphibians and **negligible potential** to support GCN.

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Bats

Desktop Study

- 3.26 Bat species returned from a data search returned by TVERC within a 2 km radius of the Site are summarised in **Table 3.1** overleaf. Records older than 10 years are not displayed here, however, extensive survey by EPR beyond this time frame have been used to inform the below assessment.

Table 3.1: Summary of Bat Data from TVERC

Bat species	Scientific Name	Number of relevant records of species within a 2 km radius of Site
Serotine	<i>Eptesicus serotinus</i>	11
Daubenton's Bat	<i>Myotis daubentonii</i>	13
Pipistrelle bat species	<i>Pipistrellus sp.</i>	14
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	126
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i> *	89
Long-eared Bat Species	<i>Plecotus sp.</i>	6
Brown Long-eared Bat	<i>Plecotus auritus</i> *	41
Unidentified Bat	<i>Chiroptera sp.</i>	3
Myotis Bat	<i>Myotis sp.</i>	13
Noctule	<i>Nyctalus noctule</i> *	49
Nyctalus Bat species	<i>Nyctalus</i>	1
Western Barbastelle	<i>Barbastella barbastellus</i> *	3

* Listed on NERC – section 41

Field Survey

- 3.27 There are no buildings present within the Site and the trees are not of a maturity to provide any features suitable for supporting roosting bats.
- 3.28 The habitats on Site, including hardstanding, bare ground, planted trees and Bramble scrub, provide very limited suitability to support foraging and commuting bats. The wildflower grassland has the greatest suitability on-site, through attracting invertebrate prey, which in turn, attracts foraging bats.

Evaluation

- 3.29 Overall, there is **low suitability** for the Site to support foraging and commuting bats. Furthermore, no additional lighting is proposed in relation to the access route. As such, no impacts to bats are predicted and no further surveys are recommended.

Birds

Desktop Study

- 3.30 The record search returned a number of Red-list and Amber-list Birds of Conservation Concern, Schedule 1 and Annex 1 bird species within 2 km of the Site boundary, some of which could be supported by the habitats within the Zol. Records of Skylarks *Alauda arvensis* were returned from the search area.

Field Survey

- 3.31 The bare ground and hardstanding on Site do not provide any suitability for supporting nesting birds. The Bramble scrub, at the time of survey, was sparse, thinning and patchy, disturbed by roadside activity and disconnected to other woody habitats. Growth during the summer months is likely to mean that cover is more extensive, leading to increased suitability to attract nesting birds. The trees on-site are all young and relatively recently planted, therefore lacking the density to provide appropriate shelter for nesting birds. The grassland on Site is limited in extent and disturbed by users of the ARC site, farm track at Cutbush Lane (East) and is therefore unsuitable for supporting ground-nesting birds.

Evaluation

- 3.32 The Bramble scrub on Site is considered to provide **low potential** to support nesting birds. Recommendations for impact avoidance are made in **Section 4**.

Hazel Dormouse

Desktop Study

- 3.33 No records of Hazel Dormouse *Muscardinus avellanarius* were returned from TVERC within 2 km of the Site.

Field Survey

- 3.34 The scrub on Site is very limited in extent and disturbed by activities immediately adjacent. The scrub is disconnected to larger expanses of suitable habitat, such as nearby woodland. Furthermore, Dormouse surveys by EPR in adjacent land in 2023 have not detected presence of Dormice.

Evaluation

- 3.35 There is considered to be **negligible potential** for Dormice to be present on Site due to a lack of suitable habitats, connectivity and significant disturbance levels.

Invertebrates

Desktop Study

- 3.36 Records of invertebrates were returned from the within the search area. A high number of Stag Beetle *Lucanus cervus* were returned, the majority of which, lie to the north of the Site.

Field Survey

- 3.37 The habitats present on Site are not of a sufficient age, extent, connectivity or structure to provide suitable habitats for supporting rare or notable invertebrates.

Evaluation

- 3.38 The Site is considered to have **negligible potential** for supporting scarce or notable invertebrate species, with no impacts predicted and therefore no recommendations are made for further survey.

Reptiles

Desktop Study

- 3.39 No relevant records of reptiles were returned from TVERC within the search area. The ARC site was surveyed for reptiles by EPR in 2017 (results available within the British Museum ARC Ecological Impact Assessment (EcIA) (EPR, 2018), during which, no reptiles were recorded.

Field Survey

- 3.40 At the time of survey (December 2024), the wildflower grassland had a short sward, and the Site did not offer any suitability to support reptiles. However, in the summer months, the grassland is managed to allow a greater sward length, which would consequently provide suitable shelter and foraging habitat for reptiles.

Evaluation

- 3.41 There is an absence of reptiles recorded in the area and historically other than an occasional transient Grass Snake, and no reptiles have been found on the Site. There is limited suitability of habitats within the Site and overall, there is considered to be **negligible potential** for the Site to support reptiles and no further survey work is recommended.

Hedgehog

Desktop Study

- 3.42 A high numbers of Hedgehog *Erinaceus europaeus* records were returned from TVERC within 2 km of the Site, the majority of which lie to the north of the Site.

Field Survey

- 3.43 Bare ground and hardstanding within the Site provide no opportunities for Hedgehog and the scrub, whilst providing shelter through vegetation cover, is isolated from more extensive areas of suitable habitat and is frequently disturbed by ongoing movements on the wider ARC site and along Cutbush Lane (East).

Evaluation

- 3.44 The habitats on Site are considered to have **low potential** support Hedgehog, therefore no impacts are predicted and no recommendations are made for further survey.

4. BIODIVERSITY NET GAIN

- 4.1 In accordance with national and local policy, the development will deliver biodiversity enhancements which go above and beyond the measures required to avoid, mitigate and/or compensate for the potential impacts described above, thereby delivering Biodiversity Net Gain. These enhancement measures are intended to benefit known features of ecological importance present within the Zol, as well as biodiversity in general.
- 4.2 An outline of how the Site will provide a minimum of 10% BNG is provided in the separately submitted Biodiversity Statement (EPR, 2024), including the creation of new grassland through wildflower seeding in the area of existing bare ground on-site and planting of new trees/scrub.
- 4.3 Overall, the proposed habitat creation on Site is expected to result in a 24.95% increase in habitat units.

5. SUMMARY AND CONCLUSIONS

Introduction

- 5.1 Based on the results of the Ecological Appraisal outlined above, no further survey or assessment work is recommended. Recommendations are made below for enhancement and to compensate for habitat losses, ensuring there remains an adequate delivery of biodiversity units across the wider ARC site, to satisfy BNG requirements.

Summary of Recommendations

Recommendations for Compensation, Impact Avoidance, Mitigation and Opportunities for Biodiversity Net Gain

- 5.2 The proposals lead to the loss of a small area of relatively recently seeded wildflower grassland and Bramble scrub from the original ARC site. However, an extension in the application site area to the west allows for creation of a significant area of wildflower grassland and scrub to compensate for this loss. In addition, four young trees will be re-planted (thereby retained), as well as additional tree planting to further enhance the Site. Overall, this counterbalances the losses, so it can be concluded that there is no loss of biodiversity units within the application site. The new application Site also seeks to achieve a 10% uplift in biodiversity units for BNG and is predicted to exceed this, for which a metric has been calculated and is submitted separately alongside a Biodiversity Statement.
- 5.3 The following summarises opportunities for incorporating impact avoidance and mitigation measures into the scheme, in addition to opportunities for delivering net biodiversity gains in accordance with National aspirations enshrined in Section 15 of the NPPF and 25 Year Environment Plan:
- At present, the risk of encountering nesting birds is considered low, however, as a precautionary measure, to avoid infringing the legal protection afforded to nesting birds, it is recommended that, where possible, all vegetation over 50cm in height is removed outside of the bird nesting season (March to August inclusive). Where this is not possible, the vegetation in question should be subject to a nesting bird check by an ecologist no longer than 24 hours prior to clearance. If an active nest is discovered, it should be left in situ behind an appropriately sized protected area (to be advised by the ecologist) until any young have fledged the nest; and

- [REDACTED]
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Conclusions

- 5.4 With the proposed mitigation and incorporation of habitat compensation in place, the ecological impacts of the proposals shown in **Appendix 1** are considered to have no significant effect on the important ecological features within the Zol and will comply with applicable nature conservation related legislation and policy (detailed in **Appendix 2**). Impacts to Species of Principal Importance for Nature Conservation (s41 species) are considered to be not significant.

- 5.5 Positive net changes to the BNG position calculated at the time of the original ARC application have been maintained, and the new proposals are also anticipated to achieve an adequate uplift in biodiversity units.
- 5.6 It should be noted that if the proposals in **Appendix 1** change in any way, the conclusions of this report will need to be checked to make sure that they are still applicable.

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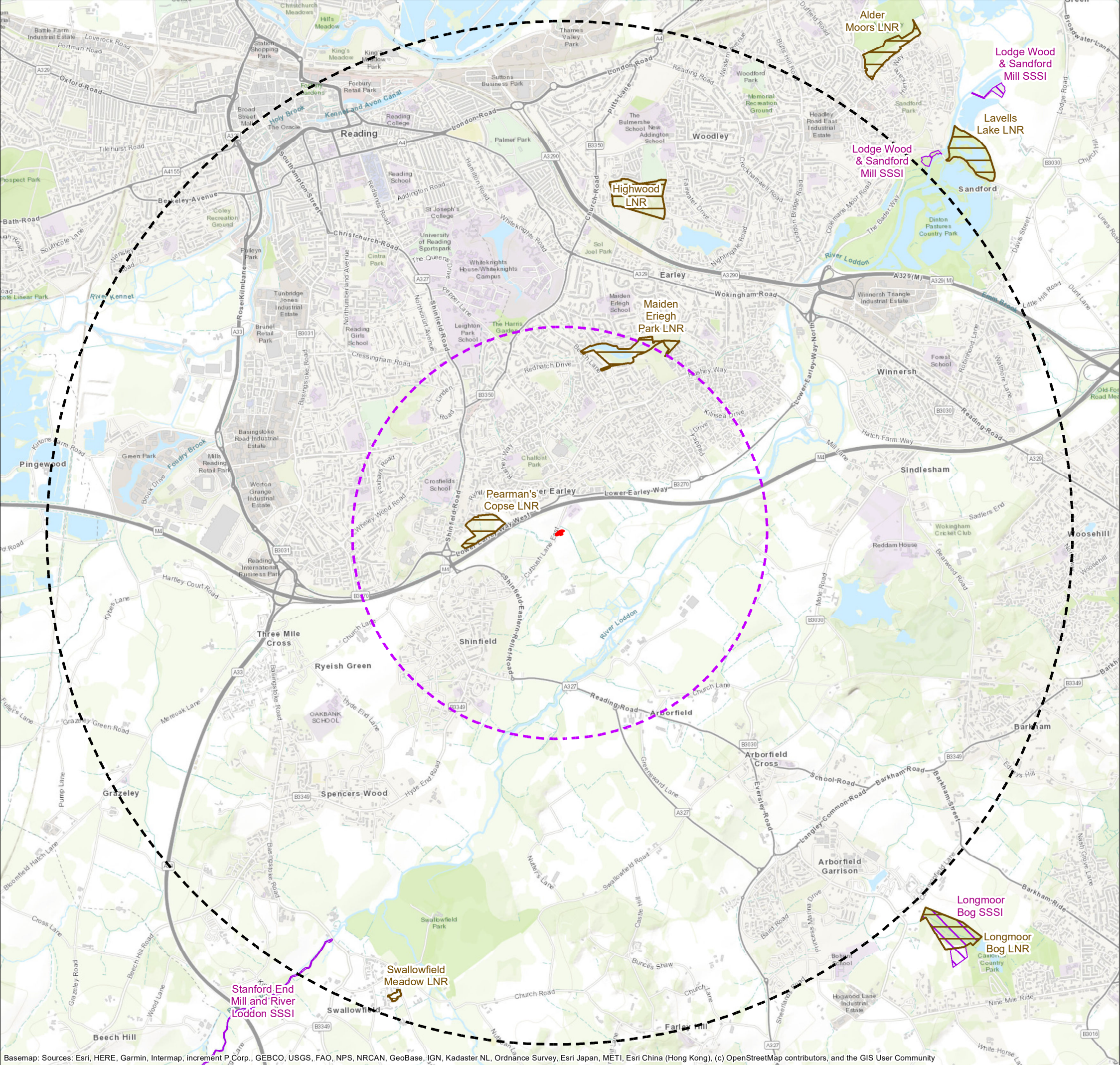
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Maps

Map 1a	Site Location and Statutory Designated Sites
Map 1b	Site Location and Sites Protected by Planning Policy
Map 2	Habitats and Features



MAP 1a

Site Location & Statutory Designated Sites

KEY

Site boundary

2km linear distance from site boundary

5km linear distance from site boundary

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves (LNR)

SCALE: 1:37,000 at A3

0

500

1,000

1,500

2,000

2,500 Metres

N

EPR

CLIENT: British Museum

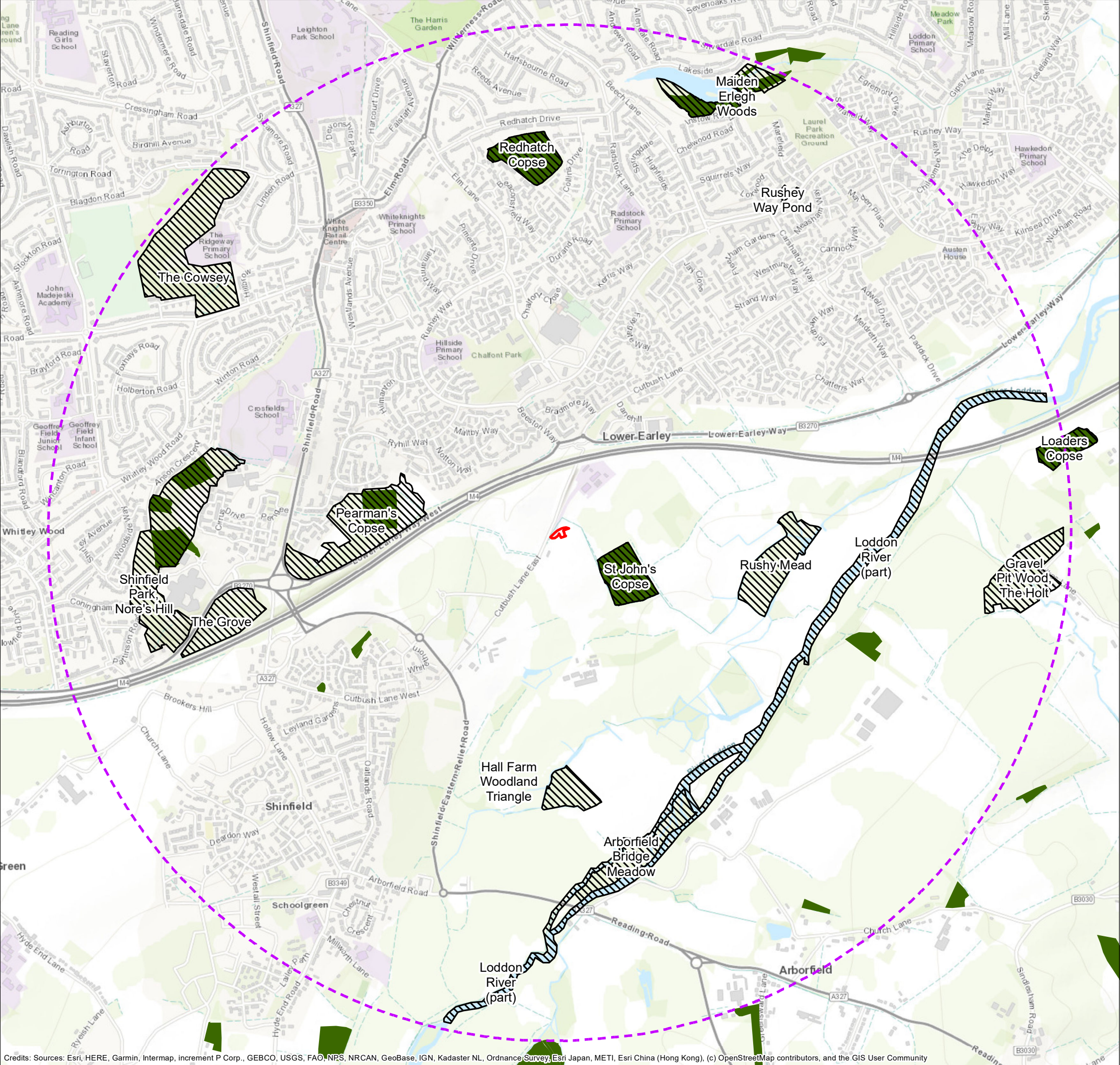
PROJECT: British Museum ARC

DATE: 17 December 2024

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MAP 1b Site Location & Sites Protected by Planning Policy

KEY

- Site boundary
- 2km linear distance from site boundary
- Indicative Local Wildlife Sites (LWS)
- Provisional Ancient Woodland
- Ancient & Semi-Natural Woodland

SCALE: 1:15,000 at A3

0 200 400 600 800 1,000 Metres

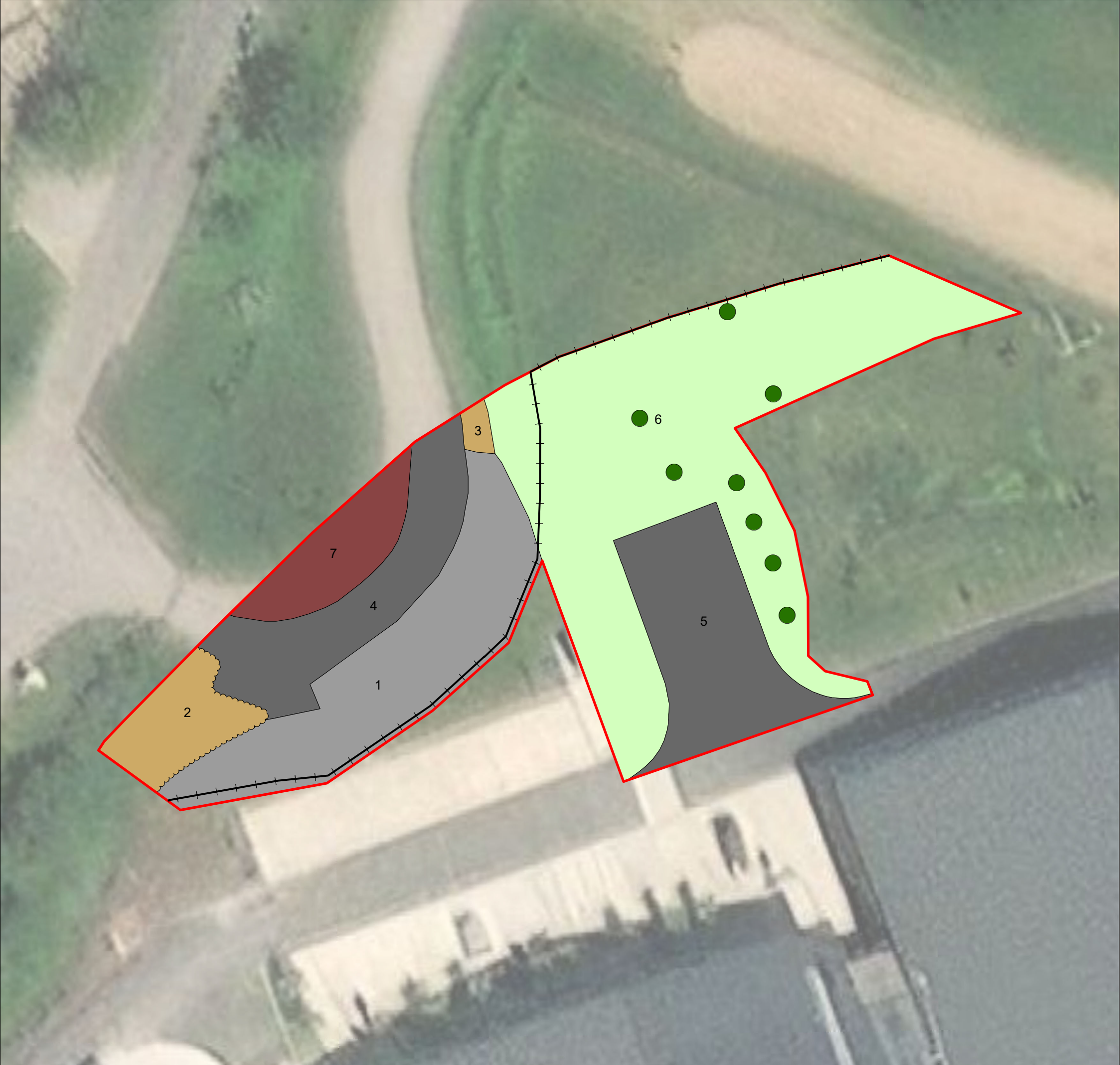
N



CLIENT: British Museum

PROJECT: British Museum ARC

DATE: 17 December 2024



MAP 2 On-Site Baseline Habitats

KEY

Site boundary

Fences

Trees

Other neutral grassland

Bramble scrub

Ruderal/Ephemeral

Developed land; sealed surface

Bare ground

SCALE: 1:300 at A3

05101520

Metres

N

EPR

CLIENT: British Museum

PROJECT: British Museum - ARC

DATE: 21 January 2025

Y:\British Museum ARC 3258GIS\BNG\MapX_On-SiteBaselineHabitats_P3258_3426_171224a.mxd

P32/58

Aerial Image Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Appendix 1

Indicative Masterplan

Proposed Meadow Planting			
%	Latin name	Common name	
0.2	<i>Achillea millefolium</i>	Yarrow	
3.7	<i>Betonica officinalis</i>	(Stachys officinalis)	Betony
3.5	<i>Centaurea nigra</i>	Common Knapweed	
3.5	<i>Filipendula ulmaria</i>	Meadowsweet	
0.5	<i>Salix verum</i>	Salix	Straw
0.5	<i>Lathyrus pratensis</i>	Meadow Vetchling	
0.5	<i>Leonodon hispidus</i>	Rough Hawkbit	
0.5	<i>Eucanthemum vulgare</i>	Oxeye Daisy	
0.4	<i>Lotus corniculatus</i>	Birdstfoot	Trefoil
0.2	<i>Plantago lanceolata</i>	Ribwort	Plantain
1	<i>Primula veris</i>	Cowslip	
2	<i>Prunella vulgaris</i>	Selfheal	
1	<i>Ranunculus acris</i>	Meadow Buttercup	
2	<i>Rhinanthus minor</i>	Yellow Rattle	
0.5	<i>Stilium silaus</i>	Stilix	Saxifrage
0.5	<i>Silene flos-cuculi</i>	(Lycchnis flos-cuculi)	Ragged Robin
0.1	<i>Taraxacum officinale</i>	Dandelion	
0.1	<i>Trifolium pratense</i>	Wild Red Clover	
20			
Grasses			
%	Latin name	Common name	
1	<i>Agrostis capillaris</i>	Common Bent	
1	<i>Alpecurus pratensis</i>	Meadow Foxtail (w)	
1	<i>Anthriscus odoratus</i>	Small Vernal-grass (w)	
1	<i>Briza media</i>	Quaking Grass	
16	<i>Cynosurus cristatus</i>	Crested Dogstail	
24	<i>Festuca rubra</i>	Slender-creeping Red-fescue	
2	<i>Hordeum secalinum</i>	Meadow Barley (w)	
4	<i>Pheum bertolonii</i>	Small Cat's-tail	
20	<i>Poa pratensis</i>	Smooth-stalked Meadow-grass	

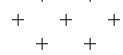
- Thorough ground preparation to eliminate perennial weeds before sowing of seed mix. Non selective residual herbicides to be avoided.
- Cultivate the soil to sufficient depth, removing all rubbish and debris and alleviate compaction, then rake or harrow and roll to produce a fairly fine, firm surface.
- The finished seedbed should be firm enough to walk on without leaving impressions. As the area will be mown at a later stage the finished surface should be free of obstructions such as large stones and free of deep ruts or ridges.
- Maintenance in line with seed supplier's recommendations and NBS Clauses Q30, Q31 and Q35

EXISTING LINEAR DRAINAGE CHANNEL
TO BE REMOVED. NEW LINEAR
DRAINAGE CHANNEL TO BE PROVIDED
AT THE SAME LOCATION IN PLAN BUT
AT A HIGHER LEVEL

GRADING OF SOIL FEATHERED _____

SMOKING SHELTER &
SURROUNDING PAVING RE-SITED
TO SUIT PROPOSED NEW LEVELS

GRADING OF SOIL FEATHERED INTO SURROUNDING LEVELS

KEY	
PATTERN / SYMBOL	DESCRIPTION
	PLANNING APPLICATION BOUNDARY
	NEW REALIGNED SECURITY FENCE LOCATION
	EXISTING FENCE TO BE REALIGNED
	P1: SHARED SURFACE Cast in-situ concrete - brushed finish
	P4: VEHICULAR SURFACE Asphalt
	E1: KERB PCC Bush kerb
	E3: UPSTAND KERB PCC upstand kerb
	PROPOSED GATE
	PROPOSED MEADOW PLANTING Wildflower meadow seed mixture
	EXISTING MEADOW PLANTING Wildflower meadow seed mixture
	EXISTING TREES TO BE RETAINED
	EXISTING TREE TO BE RELOCATED (Young trees)
	RELOCATED TREE
	PROPOSED TREE
	EXISTING PLANTING TO BE RETAINED

TREE SCHEDULE						
SYMBOL	LATIN NAME	COMMON NAME	HEIGHT (MM)	FORM	C/STEM HEIGHT	QTY.
AC	Acacia campesitris	Field Maple	MRL 3500	Standard (auto-berry)	MRL 2000	8
AG	Alnus glutinosa	Alnus	MRL 4000	Standard (auto-berry)	MRL 2000	9
SA	Salix alba	White Willow	MRL 4000	Standard (auto-berry)	MRL 2000	1
SC	Salix dasycarpa	Grey Willow	MRL 2500	Standard (g1)	MRL 1000	1
QR	Quercus robur	Oak	MRL 2000	Standard (g1)	MRL 1000	4

Note:
1. All works within existing trees root protection area to be in accordance with BS 5837:2012.

0	10/01/25	XX	AH	JMP
ISSUE	DATE	BY	CHKD	APPD

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Scale (m)

British Museum Archaeological Research Collection
Second Entrance
Proposed Site Plan

Scale At A1:	1:200	Job Number:	2006.01
Date:	12	Drawing:	XX
Drawing Status:	FOR PLANNING	Checked:	AH
Drawing Number:	393293-JMP-XX-00-DR-L-P-5004	Revision:	00

Appendix 2

Legislation and Planning Policy Relating to Wildlife and Development in England

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 guidance¹ 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.

¹ <https://www.gov.uk/guidance/duty-to-protect-protect-restore-european-sites>

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.

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.

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.

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 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

Policy CP7 'Biodiversity' of Wokingham Borough Council's (WBC's) adopted Core Strategy (2010) states:

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 and 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.*

Policy CC03 'Green Infrastructure, trees and landscaping' of WBC's Managing Development Delivery Local Plan (MDDL, 2014) states:

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.

4. Development proposals within the River Valley areas shall improve or contribute toward:

- a) The establishment of a Loddon/ Blackwater riverside footpath and bridleway, as defined on the Policies Map, to accommodate dual use*
- b) The establishment of a riverside footpath and cycleway to accommodate dual use along the Emm Brook*
- c) Opportunities for improvements to green infrastructure to help minimise flood risk*

Policy TB23 'Biodiversity and Development' of WBC's MDD LP (2014) states:

- 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.*

Policy 6 'Trees, Hedgerows and Woodlands' of Shinfield Parish Neighbourhood Development Plan (2017) states:

New build development will be supported where it can be demonstrated that:

- 1) Hedgerows which are appropriate for retention, as determined by the assessment of a survey of affected hedgerows to be carried out by the developer, due to their age or ecological value or in order to screen other development or land use, will have a buffer zone of sufficient width to ensure that the value provided by that hedgerow (as determined by the survey) is adequately preserved. Any buffer zone will be measured from the central stem of the hedge and will be comprised, usually on both sides, of soft landscaping that excludes any residential curtilage;*
- 2) Habitats of Principal Importance in England (Section 41 Habitats under the Natural Environment and Rural Communities Act (2006)), which are appropriate for retention and which are shown to have significant ecological importance as determined by the assessment of a survey of affected habitats to be carried out by the developer, will have a buffer zone of sufficient width to preserve that ecological value (as determined by the survey). This will be comprised of soft landscaping that excludes any residential curtilage. Where habitats meet the description of a section 41 Habitat type and are being retained but do not currently support significant ecological value, the developer should, where possible, put forward proposed management or other enhancement measures to improve the future ecological value of that habitat;*
- 3) Ancient Woodlands, Local Wildlife Sites and ponds which are appropriate for retention, as determined by the assessment of a survey of affected woodlands, wildlife sites or ponds to be carried out by the developer, will have a buffer zone of sufficient width to preserve the ecological value of that feature. For Ancient Woodlands, buffers should normally be of a minimum 15m width in accordance with Natural England's Standing Guidance for Ancient Woodlands, except where surveys identify the need for additional width to address a particular sensitivity, or where an alternative width can be justified under paragraph 118 of the NPPF. The optimal composition of buffers will vary depending on the feature being protected, but for Ancient Woodland will normally include an element of native woodland and scrub planting that grades into other habitats such as tall flower-rich grasslands, which excludes any residential curtilage;*
- 4) All buffer zones should consist of appropriate native species and where appropriate should be designed in such a way as to encourage public access and enjoyment of the zone and with*

appropriate provision for its maintenance.

Policy 7 'Biodiversity' of Shinfield Parish Neighbourhood Development Plan (2017) states:

New build development will be supported where it can be demonstrated that:

- 1) The scheme, where practical, provides biodiversity enhancement through the creation of new areas of Habitats of Principal Importance in England (Section 41 Habitats under the Natural Environment and Rural Communities Act (2006)) such as woodlands, ponds, hedgerows and wildflower grasslands.*
- 2) The scheme provides biodiversity enhancement through the provision of additional bat roosting and bird nesting opportunities, hibernacular and 'Bug hotels'.*
- 3) The scheme provides biodiversity enhancement through the provision of suitable wildlife corridors¹ to ensure that the development site retains or enhances its ecological permeability.*
- 4) The scheme provides biodiversity enhancement for garden dwelling species such as hedgehogs through the provision of suitable residential boundary treatments.*

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/>

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.

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.

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.

Appendix 3

Assessment Methods

The Preliminary Ecological Appraisal (PEA) was completed in order to inform the masterplanning process and establish the appropriate scope of an Ecological Impact Assessment (EclA) in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Guidelines for the Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3 (2018, updated September 2024). CIEEM's 2017 Guidelines for Preliminary Ecological Appraisal were also taken into account.

DESK STUDY METHODOLOGY

A desk study was carried out in order to gather and refer to existing biodiversity and contextual information with respect to the zone of influence and the wider area. This involved interrogation of internet resources, including the Multi-agency Geographic Information for the Countryside (MAGIC) and National Biodiversity Network (NBN), aerial photos, current Ordnance Survey maps and historical maps. Reference was also made to local planning policies, strategies and initiatives relating to biodiversity.

A request was made to Thames Valley Environmental Records Centre (TVERC) in December 2024 for any existing biological records in their database. The local records search and other desktop research was over a 2 km radius for nationally and locally important features and European Protected Species and sites of European significance.

FIELDWORK METHODOLOGY

The field survey was completed by Anna Showan on 3 December 2024. The core of the Site and immediately surrounding land was walked, recording habitats and features of potential value to wildlife and any evidence of, or potential for, protected or notable species or habitats, in accordance with the methods described below.

Land Use, Habitat Types, Vegetation Communities and Flora

Within the study area the land use, habitat types and landscape features (such as hedgerows and veteran trees) were described and mapped. For each main habitat type the dominant vegetation communities were recorded, along with any notable or indicator plant species, (including invasive species such as Japanese Knotweed where present). A preliminary evaluation of the structure, quality and likely management of each habitat or feature was also carried out.

The survey method used to record this information was based on the UK Habitat Classification System v2.0 (UK Hab, 2023) (**Table 1**). Botanical nomenclature in this report follows Stace (2019). All Essential (and where appropriate, some Additional) UKHab secondary codes were recorded as part of the survey, and are referred to in the PEA Report where relevant. Not all secondary codes are displayed on the output maps for aesthetic reasons.

Table 1: Metadata for UKHab Survey

Survey Type/Purpose	Broad habitat mapping for Preliminary Ecological Appraisal (PEA)]
Surveyor name(s)	Anna Showan
Survey date(s)	3 rd December 2024
UK Hab Edition	Professional Edition v2.0
Minimum Mapping Unit (areas)	25m ² (5m x 5m)
Minimum Mapping Unit (lines)	5m
Primary Habitat Level recorded	Level 3
Secondary codes recorded	Essential and some Additional
Map projection and units	British National Grid, metres

Fauna

The potential for habitats and features to support protected or notable species, or species of principal importance for the purpose of conserving biodiversity, were recorded, as were any signs encountered. The following is a summary of the approach taken for this Ecological Appraisal.

Badgers

Consideration was given to the presence of habitat potentially suitable for supporting Badgers, including woodland and grassland. Potential evidence of the presence of Badgers was looked out for and noted, including earthworks that might be Badger setts, and signs such as dung pits, mammal pathways through ground vegetation and under fences, and hairs on fences.

Bats

Bats use buildings and trees for roosting and breeding and, where present, a preliminary assessment of the potential for these features to support bats was undertaken during the survey. Potential may include gaps beneath roof or hanging tiles, in soffits, or beneath the end of ridge tiles, but also under the edge of felt on flat roofs. In trees potential roosting features include woodpecker holes, splits in branches and peeling bark.

Preliminary evidence was obtained through noting any staining around potential roost entrances, and looking for bat droppings, for example on windowsills. A preliminary evaluation was also undertaken of potential bat foraging habitat in the area, including woodland, pasture, hedges and watercourses.

Dormouse

The type and quality of habitat with the potential to be suitable for supporting Dormice, such as woodland and hedgerows, was considered during the survey. In particular the presence of Oak, Hazel and berry-bearing shrubs was noted, and the connectivity of habitat recorded.

Water Voles

The presence and quality of watercourses with the potential to support Water Voles was recorded during the survey. Potential evidence of Water Voles, including burrows in the tops and vertical face of riverbanks, and feeding evidence was recorded where appropriate.

European Otter

Where watercourses are present, a preliminary evaluation of the quality of the riparian habitat for potentially supporting Otters was made. A preliminary search was made for signs of Otters, including spraints which are often left in prominent places on river banks, such as logs and bare patches of ground.

Birds

Any birds seen whilst carrying out the survey were recorded, and the type and quality of habitats available for birds was considered, including vegetation suitable for nesting, and habitat with the potential to support valued species, including breeding and wintering birds.

Amphibians

Consideration was given to the presence of habitat potentially suitable for supporting amphibians, including water bodies (ponds, ditches), woodland, scrub and rough grassland, and features such as log piles that might provide hibernation areas. Where appropriate, effort to gather direct evidence of amphibians was undertaken by making a preliminary search for eggs by examining vegetation within reach of the margins of water bodies, and for resting animals on land by looking under potential refuges, such as stones, wood and rubbish near to water bodies.

Reptiles

The presence and quality of habitat considered potentially suitable for supporting reptiles was recorded. This included areas providing basking and foraging areas, hibernation and breeding sites, such as rough grassland and scrub, banks, burrows, rubble piles, compost heaps, hedgebanks and water bodies.

Invertebrates

Readily identifiable invertebrates seen during the survey were recorded, and habitats and features likely to support noteworthy groups and species were noted, for example herb-rich grasslands, areas of bare ground and deadwood habitats, including woodland and veteran trees.