Gilston Area

A Biodiversity Strategy for Development

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Main Author:	Alison Hogan BSc (Hons) MSc MCIEEM Chris Mungo BSc (Hons) MSc MCIEEM AIEMA
Report Prepared for Issue by:	[redacted] Alison Hogan BSc (Hons) MSc MCIEEM
Report Approved for Issue by:	[redacted] James Richards BSc (Hons) MSc MCIEEM ACMA

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Ecological Planning & Research Ltd
The Barn, Micheldever Station, Winchester, Hampshire SO21 3AR
Tel: 01962 794720 Fax: 01962 794721 email: info@epr.uk.com www.epr.uk.com

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EXECUTIVE SUMMARY

This report provides a summary of the ecological, legislation and policy constraints for development at the Gilston Area and details a Biodiversity Strategy which will ensure that development will bring about net benefits to biodiversity.

Ecological constraints have been identified though a series of studies undertaken by Ecological Planning & Research Ltd and CSA Environmental, with the most recent being 2016. The Site consists of designated conservation sites, areas of ancient woodland, watercourses, veteran trees, and unimproved grassland and floodplain grassland within a primarily arable environment. There is a network of hedges across the site of varying quality and three green/old lanes have been identified. The Site is known to support protected and notable fauna including Great Crested Newts, bats, Badgers, reptiles, Otters and birds, fish and invertebrates of conservation importance.

A Biodiversity Strategy has been devised for the area which aims to: protect and enhance areas of highest ecological value, including the ancient woodlands to the north of the Site and species-rich grasslands; and enhance the ecological function and biodiversity across the Site through the provision of a coherent network of wildlife habitats.

These aims are achieved through the retention, enhancement and extension of features of ecological value on the Site, such as ecologically important hedgerows and waterways. In the limited incidences where the design has resulted in a loss of an area with ecological value compensation has been provided. The biodiversity strategy also integrates ecology into the development at all scales to ensure that the area's ecological character infuses the design of the built environment. This will enable people to experience nature as part of their daily lives.

The strategy contains proposals to create Eastwick Wood Park in the northern area of the Site, linking existing woodlands with areas of new planting; create a major Riverside Park by enhancing existing grasslands in the Stort Valley, creating new wetlands and managing the habitats using traditional means whilst integrating recreational uses; and, creation of Valley Parks along the tributary valleys of the River Stort to link valuable habitats within the site to the major parks to the north and south of the Site.

The survey work we have undertaken over the years has enabled us to build up a clear and thorough understanding of the ecological character of the site. The masterplan has been developed to respond to these and other constraints and seeks to positively embrace and enhance ecology. The proposals identified in the Biodiversity Strategy will ensure that development in the Gilston Area will bring about net benefits to biodiversity. Development in the area can be seen as an opportunity to deliver ecological improvements. There are therefore no technical biodiversity issues that effect the site allocation of the Gilston Area in the District Plan and the delivery of the development.

1. INTRODUCTION

Background

1.1 This report provides a summary of the ecological constraints associated with development in the Gilston Area by Places for People (PfP) and City & Provincial Properties (CPP). PfP and CPP are jointly promoting the Gilston Area for development through the East Hertfordshire District Plan.

1.2 The purpose of this report is to identify any ecological constraints and demonstrate how they will be overcome through masterplan design. The Biodiversity Strategy was previously updated in 2012 and 2013. The 2012 version of the strategy was based on data collected during 2004-2006 surveys and update surveys undertaken in 2009 and 2012. The 2013 version included further work undertaken in 2013.

1.3 This version of the Strategy updates the 2013 version and is based on survey work from 2004 – 2016. It should be noted that the boundary has changed since the 2012 version of this report, principally to include the location of potential crossings of the River Stort to the south of the Site and the inclusion of the land to the west of Eastwick. Transport studies have confirmed that only 2 crossings will be required, the central crossing, which will involve widening the existing crossing and a second crossing to either the east or west of this of which the preferred option is for the eastern crossing.

1.4 This report includes a brief summary of the legislative constraints and the developing policy constraints associated with the emerging East Hertfordshire District Plan related to developing the Site; provides a brief summary of the ecological interest of the Site together with a summary of likely significant impacts; and puts forward a strategy for biodiversity that promotes sustainable development, conserves biodiversity and enhances and restores biodiversity in line with key national and emerging local planning policy.

2. RELEVANT POLICY AND LEGISLATION

Introduction

2.1 Consideration has been given to the following policies and legislation in developing an appropriate biodiversity strategy for development in the Gilston Area.

- Legislation providing protection for sites and species, including the Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations'), the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000, The Water Environment Regulations (2003) and the Protection of Badgers Act 1992;
- National Planning Policy, ie the National Planning Policy Framework (NPPF) and Government Circular 06/05: Biodiversity and Geological Conservation;
- Emerging Local Planning Policy; and
- Habitats and species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (formerly BAP habitats and species).

2.2 The study area crosses the county boundaries of Hertfordshire and Essex and falls within the local authorities of East Hertfordshire and Harlow. Consideration was given to policies and plans covering both counties and local authorities.

Legislation

Conservation of Habitats and Species Regulations 2010 (as amended)

2.3 The Conservation of Habitats and Species Regulations 2010[1] (known as the "Habitats Regulations") transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") into UK legislation. These regulations consolidate all the various amendments made to the preceding "Conservation Regulations" 1994 for England and Wales.

2.4 The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) Regulations 2012.

2.5 The Habitats Regulations provide for the designation of both Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) in the UK, which form part of the Natura 2000 network of protected areas across Europe. The Regulations also prohibit the deliberate capture, killing or disturbance of European Protected Species (EPS), which include *inter alia* Dormouse *Muscardinus avellanarius*, Great Crested Newt *Triturus cristatus*, Otter *Lutra lutra* and all native species of bat, and make it an offence to destroy or damage either the nesting or breeding sites of these species. The above actions can in certain circumstances be made lawful through the granting of licenses after Natural England (the licensing authority in England) is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the EPS.

[1] The Conservation of Habitats and Species Regulations 2010 SI 2010/490. Available from: http://www.legislation.gov.uk/uksi/2010/490/contents/made

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003

2.6 The EU Water Framework Directive (WFD) was adopted in 2000 and transposed in to domestic legislation in 2003. The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters (to one nautical mile) and groundwater.

2.7 To meet the objectives of the WFD Member States have established River Basin Districts and developed Plans and Programmes of Measures that detail the actions that need to be taken within each District. The overall aim is for the 'water bodies' and 'protected areas' within each River Basin District to achieve 'good ecological status' by 2015.

Wildlife & Countryside Act 1981(as amended)

2.8 The Wildlife and Countryside Act 1981 (as amended) is the principal 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. 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. The parts of this act likely to be most relevant to development in the Gilston Area include:

- The protection of wild birds, which prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs;
- The protection of animals listed in Schedule 5 of the Act (which includes Dormouse, Water Vole *Arvicola terrestris,* all species of reptile[2], and all species of bat), which prohibits the intentional killing, injuring or taking, as well as possession and trade. In addition, places used for shelter and protection are safeguarded against intentional or reckless damage, destruction and obstruction of access and disturbance to animals occupying those places;
- The protection of plants listed in Schedule 8 of the Act;
- The protection of SSSIs, which prohibits certain Potentially Damaging Operations (PDOs).

Countryside & Rights of Way Act 2000

2.9 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 (as amended) and some provisions have now been superseded by later legislation such as The Natural Environment and Rural Communities Act (2006).

[2] The "widespread" reptile species (Adder, Common Lizard, Grass Snake and Slow Worm) do not receive full protection under the Act, but are protected against killing, injuring and sale only.

2.10 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

2.11 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 process. The NERC Act also improved wildlife protection by amending the Wildlife and Countryside Act 1981.

2.12 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 for the restoration and enhancement of species and habitats.

2.13 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. 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.

Protection of Badgers Act 1992

2.14 Badgers *Meles meles* receive additional protection under the Protection of Badgers Act 1992, which prohibits, among other things, the killing, injuring or taking of Badgers and interference with Badger setts. Development activities that may cause disturbance (classed as interference) to Badger setts may require a licence issued by Natural England.

Policy

National Planning Policy Framework

2.15 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. The NPPF has a clear "presumption in favour of sustainable development" (paragraph 14), with a requirement to consider its economic, social and environmental dimensions. With regard to protecting the natural environment, the NPPF requires that planning decisions should enhance the natural environment and where possible provide net gains for biodiversity.

2.16 Section 11 of the NPPF provides guidance on conserving and enhancing the natural environment through the planning system and replaces the preceding Planning Policy

Statement 9 (PPS9): Biodiversity and Geological Conservation. Section 11 of the NPPF specifies that the planning system should contribute to and enhance the natural and local environment by:

(i) protecting and enhancing valued landscapes, geological conservation interests and soils;

(ii) recognising the wider benefits of ecosystem services;

(iii) minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

(iv) preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and

(v) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

2.17 To minimise impacts on biodiversity, planning policies should:

(i) plan for biodiversity at a landscape-scale across local authority boundaries;

(ii) identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;

(iii) promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan; and

(iv) where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas.

2.18 When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

(i) if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

(ii) proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception

should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;

(iii) development proposals where the primary objective is to conserve and enhance biodiversity should be permitted;

(iv) opportunities to incorporate biodiversity in and around developments should be encouraged;

(v) planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and

(vi) the following wildlife sites should be given the same protection as European sites:

- potential Special Protection Areas and possible Special Areas of Conservation;
- Listed or proposed Ramsar sites; and
- Sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

2.19 Through the NPPF the aim of planning decisions should be to conserve and enhance biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm. In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place. Where a planning decision would result in significant harm to biodiversity and geological interests which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If that significant harm cannot be prevented, adequately mitigated against, or compensated for, then planning permission should be refused.

Local Planning Policy

2.20 East Hertfordshire - The current local planning policies of East Hertfordshire are the saved policies from the East Herts Local Plan Second Review, which was adopted in April 2007. These policies will continue to form part of the statutory Development Plan until they are replaced by new policies prepared as part of the District Plan, although the weight to be afforded to the policies needs to be considered in the context of the NPPF. The relevant policies are:

- ENV11 Existing Hedgerows and Trees;
- ENV12 Special Area of Conservation/Special Protection Area/Ramsar Site;
- ENV13 Development and SSSI's;
- ENV14 Local Sites;
- ENV15 Nature Conservation Area Management Agreements;
- ENV16 Protected Species;
- ENV17 Wildlife Habitats; and
- ENV18 Water Environment.

2.21 The relevant policies to the proposals in the emerging District Plan are as detailed in the Preferred Options consultation 2014. The relevant policies are:

- GA1 Land in the Gilston Area, particularly section e, which deals with green infrastructure and the importance of providing links to existing assets and enhancing biodiversity;
- NE1 International, National and Locally Designated Nature Conservation Sites;
- NE2 Species and Habitats; and
- NE3 Green Infrastructure

2.22 Harlow - The Adopted Harlow Replacement Local Plan 2006 is the current relevant local planning document for Harlow. Policies have been 'saved' and will be replaced by new policies in the emerging LDF, although the weight to be afforded to these policies needs to be considered in the context of the NPPF. The relevant policies are:

- NE10 Accessible Natural Greenspace
- NE 11 Trees and Hedgerows Policy;
- NE 12 Major Development Proposals;
- NE13 Water Environment Policy;
- NE15 Biodiversity and Nature Conservation Policy;
- NE17 and NE18 Wildlife Sites Policies; and
- NE19 Protected Wildlife Verges
- NE20 Protected and Rare Species.

UK post-2010 Biodiversity Framework

2.23 The UK post-2010 Biodiversity Framework is for the period from 2011 to 2020 and agrees five strategic goals, which include improving the status of biodiversity through safeguarding species and to enhance implementation through participatory planning.

2.24 Under the new Biodiversity Framework the UK BAP no longer operates but much of the information is still useful and forms the basis of biodiversity work. Habitats and species on the NERC Act S41 list are those found in England which were identified as requiring action

under the UK Biodiversity Action Plan (BAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework (see JNCC/DEFRA, 2012).

2.25 Protection of habitats and species of principal importance is implemented at a local level through county and district level Biodiversity Action Plans.

Habitats of Principal Importance in England

2.26 56 priority habitats have been identified as Habitats of Principal Importance in England for the conservation of biodiversity under Section 41 (S41) of the NERC Act 2006[3]. The NPPF, Government Circular 06/05, good practice guidance and the NERC Act 2006 place a clear responsibility on planning authorities to further the conservation of these habitats. The conservation of these habitats 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 their net loss and to enhance them where possible. Additional guidance to developers is typically provided in local level planning policy.

Species of Principal Importance in England

2.27 943 species have been identified as being of Principal Importance in England for the conservation biodiversity under Section 41 (S41) of the NERC Act 2006. While these species may not be legally protected there is a clear responsibility on 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 their habitats and to enhance them where possible. Additional guidance to developers is typically provided in local level planning policies.

2.28 Both Hertfordshire and Essex have Local **Biodiversity Action Plans (BAP) which are relevant to the site: A 50 Year Vision for the Wildlife and Natural Habitats of Hertfordshire** (prepared by the Herts and Middlesex Wildlife Trust) was launched in April 1999 on behalf of the Hertfordshire Environmental Forum and the Hertfordshire Countryside Forum and the **Essex Biodiversity Action Plan 2010-2020** (prepared by the Essex Biodiversity Project).

Hedgerows

2.29 Hedgerows can act as wildlife corridors that are essential for migration, dispersal and genetic exchange of wild species. Hedgerows that qualify as a priority habitat in the UK Biodiversity Action Plan are a material consideration in the planning system. 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 designed to preserve amenity or landscape conservation. 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. Further guidance on TPOs in

[3] The S41 List of Species & Habitats of Principal Importance in England is available from: http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

relation to development is available from the Department for Communities and Local Government[4].

2.30 Under the Hedgerow Regulations 1997, it is an offence to remove a hedgerow 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 its removal.

Ancient Woodland & Veteran Trees

2.31 Ancient woods are areas continuously wooded for at least 400 years. 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. Ancient woodland is not a statutory designation and does not provide legal protection. Local authorities are advised under the NPPF not to grant planning permission for any development that would result in its loss or deterioration of irreplaceable habitats, including ancient woodland or aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss. Local Planning Authorities in the south-east of England must take into account Natural England's Standing Advice on development and Ancient Woodland[5].

Surface & Ground Waters

2.32 Surface waters (including flowing and standing water) and ground water can directly and indirectly impact upon the conservation of nature. Careful planning and the application of the Pollution Prevention Guidelines[6] 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.

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[4] Office of the Deputy Prime Minister (2000). Tree Preservation Orders: A Guide to the Law and Good Practice. Available from: http://www.communities.gov.uk/publications/planningandbuilding/tposguide

[5] Natural England (2011). Standing Advice for Ancient Woodland. Available from: http://www.naturalengland.org.uk/regions/south_east/ourwork/standingadvice/ancientwoodland/default.aspx

[6] Environment Agency (2007). Pollution Prevention Guidelines Works and Maintenance In or Near Water: PPG5. Available from: http://www.environment-agency.gov.uk/netregs/links/107968.aspx

3. SITE CONSTRAINTS

Introduction

Site Surveys

3.1 The Site constraints in terms of vegetation, habitats and the species they support have been identified through a combination of a series of field surveys undertaken over the period 2004 to 2016 and on records from the Hertfordshire and Essex biological records centres. Surveys were undertaken within Survey Area 1 by EPR, acting on behalf of PfP and within Survey Area 2 by CSA Environmental on behalf of CPP. The location of Survey Areas 1 and 2 are shown on **Map 1a** and **1b**.

Survey Area 1

3.2 A phase 1 habitat survey of an area including the Site was originally undertaken in 2004 and was updated in 2009, 2011 and 2014, however not all parts of the Site were updated on all occasions. Following the 2004 phase 1 habitat survey a series of more detailed surveys were undertaken to provide an ecological baseline for the area. Not all parts of the Site within the Stort Valley were subject to detailed Phase 2 studies, particularly parts of the area included within the western crossing where the Strategy is primarily based on Phase 1 data and data collected from the surrounding area. Various aspects of the baseline data have been updated since the original surveys. The results are detailed in the reports listed in **Table 3.1** below. Update Surveys undertaken since 2009 are presented in **Table 3.2**. All identified constraints are presented on **Maps 1a** and **1b**.

Table 3.1: *Existing Survey Reports – Survey Area 1*

Report Title	Survey Date
Phase II Botanical Survey of Hedges	2004 and 2005
Woodland Survey	2005
Characterisation of River Corridor	2004
Phase II Vegetation of Stort Floodplain	2004 and 2005
Phase II Botanical Survey of Eastwick Valley	2004, 2005 & 2006
Phase II Botanical Survey of Hedges and Associated Boundaries of the North Harlow Area	2004
Characterisation of Badger Populations	2004
Characterisation of Bat Populations	2005
Characterisation of Reptile Populations	2004 and 2005
Characterisation of Dormouse Populations	2004
Characterisation of Great Crested Newt Populations	2005
Characterisation of Aquatic Invertebrates	2005
Characterisation of Water Vole Populations	2004 and 2005
Characterisation of Otter Populations	2004 and 2005

Characterisation of Mollusc Populations	2005
Characterisation of Fish Populations	2005
Characterisation of Terrestrial Invertebrate Populations	2004 and 2005
Characterisation of Bird Populations	2005
Vegetation and Habitat Update – Including Phase 1	2009

Table 3.2. *Ecological Surveys **Since 2009** – Survey Area 1*

Surveys Since 2009	**Survey Date**
Phase 1 Survey	2011 and 2014
Woodland	2013
Hedgerows	2012 and 2013
Grasslands	2013
Veteran Trees	2013
River Corridor Survey – including Water Vole and Otter	2011
Great Crested Nest Survey	2012 and 2015
Reptile Survey	2011
Bat Survey	2011 - 2014
Badger Survey	2011, 2013 and 2015
Breeding and Winter Bird Survey	2012 -2013 and 2015
Invertebrate Survey	2014

3.3 The value and conservation status of the ecological features identified in the baseline have been assessed and described using the methodology described within the now chartered Institute of Ecology and Environmental Management's (CIEEM) Guidelines for Ecological Impact assessment (EcIA) (IEEM 2006). A summary of the relevant details of the methodology is provided in **Appendix 1**. Since this assessment was originally undertaken the CIEEM guidelines have been updated and all levels of value below County (District, Parish/Local and Zone of Influence) are now described as Local. This change does not affect the treatment of ecological features as described in this biodiversity strategy, however, any subsequent assessments, such as for the purposes of an EcIA will be completed in accordance with the new guidelines (CIEEM 2016).

Survey Area 2

3.4 Survey Area 2 has been subject to a desk study and extended Phase 1 survey undertaken in October 2014. An external building inspection was also undertaken of all the buildings within the Survey Area to assess their potential to support roosting bats. Between May and July 2015 two dusk surveys and one dawn survey were undertaken. These surveys

identified the scope of a series of Phase 2 studies in 2016 to provide baseline information on the individual groups and species.

- Botany;
- Bats
- Badger
- Birds
- Reptile;
- Great Crested Newts;
- Otter and Water Vole; and
- Dormouse

Designated sites

Statutory Designated Nature Conservation Sites

3.5 There are no statutorily designated sites within the Site boundary. Approximately 2.5 km to the west of the Site boundary are two sites that make up part of the Lee Valley Special Protection Area (SPA) and Ramsar site, this area is of International Conservation Value. The two sites are Amwell Quarry Site of Special Scientific Interest (SSSI) and Rye Meads SSSI. Further south in the Lee Valley is Turnford and Chestnut Pitts SSSI, which is also part of the Lee Valley SPA Ramsar Site. All of the SSSIs are in favourable condition.

3.6 Hunsdon Mead SSSI is approximately 250m from the western boundary of the Site and is an area of unimproved grassland, which supports a wide range of grassland species. The SSSI is traditionally managed as a hay meadow with winter flooding.

3.7 There are a further five SSSIs within 5km of the Site: Harlow Woods, which is in unfavourable recovering condition, Sawbridgeworth Marsh which is in favourable condition, Little Hollingbury Marsh and Thorley Flood Pound which are both in unfavourable and declining condition. All of the sites are considered to be of National Conservation Value.

Non-Statutory Site Designations

3.8 There are 14 non-statutory designated sites within the Site boundary with a further 4 adjacent to the boundary and a further 35 within 2km of the Site boundary. Non-statutory sites which are within or immediately surrounding the Site are shown on **Map 1a.**

Table 3.3. *Non-Statutory Designated Sites*

Site Ref	Name	Location	Area ha	Type
47/011	Marshland Wood	On site	13.42	Herts CWS
61/003	Golden Grove	On site	11.03	Herts CWS
61/010	Cottages, Gilston Park	On site	-	Herts CWS
61/011	Lawns Wood and Queens Wood	On site	13.41	Herts CWS
61/012	Eastwick and Blackhut Woods	On site	7.46	Herts CWS
61/016	St. Mary's Churchyard, Gilston	On site	0.22	Herts CWS

Site Ref	Name	Location	Area ha	Type
61/017	Pasture N. of Eastwick	On site	2.39	Herts CWS
61/018	Pasture by Eastwick Hall Lane	On site	3.32	Herts CWS
61/019	Field W. of Eastwick Hall Lane	On site	3.44	Herts CWS
61/026	Battles Wood	On site	4.09	Herts CWS
61/027	Maplecroft Wood	On site	2.56	Herts CWS
62/006	Sayes Coppice	On site	5.53	Herts CWS
62/004	Fiddler's Brook Marsh, Hollingson Meads	On site	8.21	Herts CWS
HA 13	Parndon Moat Marsh	On Site	2.6	Essex CWS
EP 41	Roydon Mead	Adjacent to site	12	Epping LWS
61/004	Lord's Wood (S. of Hunsdon)	Adjacent to site	14.28	Herts CWS
61/014	Eastwick Mead	Adjacent to site	4.8	Herts CWS
62/021	Fox Earths	Adjacent to site	1.67	Herts CWS
EP 49	Parndon Wood	Within 2km	1.4	Epping LWS
47/001	Mill Wood	Within 2km	14.48	Herts CWS
47/004	Wynches Park	Within 2km	7.96	Herts CWS
47/012	Widford Disused Railway (north)	Within 2km	2.23	Herts CWS
47/016	Meadow by Pegs Lane	Within 2km	4.9	Herts CWS
47/018	Gingercross Farm Meadow	Within 2km	4.53	Herts CWS
47/042	Blakesware Estate	Within 2km	0	Herts CWS
47/048	Southend Pond by Fiddlers Brook	Within 2km	0	Herts CWS
60/009	Rye Meads Gravel Pit	Within 2km	18.85	Herts CWS
60/025*		Within 2km		Herts CWS
60/028	Newgate Wood	Within 2km	15.43	Herts CWS
60/031	Newl;ands Meadow	Within 2km	3.66	Herts CWS
61/002	Bonningtons	Within 2km	3.91	Herts CWS
61/005	Thistly Wood	Within 2km	5.04	Herts CWS

Site Ref	Name	Location	Area ha	Type
61/006	Black Bushes	Within 2km	3.92	Herts CWS
61/007	Hunsdon Churchyard	Within 2km	0	Herts CWS
61/024	Hunsdon Mill house Meadow	Within 2km	2.19	Herts CWS
61/030	Tanners Way Area, Hunsdon	Within 2km	0	Herts CWS
61/031	Stanstead Bury Woods	Within 2km	2.17	Herts CWS
61/034	Bury Plantation (Hunsdonbury)	Within 2km	10.79	Herts CWS
62/016	Rowney Wood (High Wych)	Within 2km	1.01	Herts CWS
62/020	Rivers Nursery	Within 2km	10.02	Herts CWS
HA 2	Pinnacles Woodland	Within 2km	2.0	Harlow LWS
HA 4	Third Avenue/ Elizabeth Way Road Verge	Within 2km	0.4	Harlow LWS
HA 6	St Mary the Virgin	Within 2km	0.5	Harlow LWS
HA 8	Cannons Brook Complex	Within 2km	21.0	Harlow LWS
HA 9	Ram Gorse	Within 2km	1.3	Harlow LWS
HA 10	Burnett Wood	Within 2km	2.8	Harlow LWS
HA 11	St Mary's Little Parndon	Within 2km	0.24	Harlow LWS
HA 18	Third Avenue, Todd Brook Grassland	Within 2km	15.3	Harlow LWS
HA 20	Netteswell Plantation	Within 2km	9.3	Harlow LWS
HA 21	Marshgate Spring	Within 2km	4.3	Essex CWS
HA 22	Town Park Marsh	Within 2km	6.2	Harlow LWS
HA 23	Maymead Marsh	Within 2km	2.7	Essex CWS
HA 26	Vicarage Wood	Within 2km	4.4	Harlow LWS

* No description of site provided by HBRC

3.9 Parndon Moat Marsh (also known as Harlow Station Marsh), Maymeads Marsh and Marshgate Spring, which are CWS and Harlow LWS were jointly designated as Harlow Marshes Local Nature Reserve in 2004.

Botany

Woodlands

3.10 All woodlands identified in Survey Area 1 were subject to detailed survey in 2005. The surveys were updated in 2009 to assess any significant changes to woodland extent features/structures or in management. In 2013 further focussed update woodland surveys were undertaken. A number of the non statutory designated sites are Ancient Semi Natural Woodland (ASNW) and there are also some areas of ASNW that have not been designated as CWS. Eight different Peterken woodland types were identified, which would fall within two NVC communities, namely W8: *Fraxinus-Excelsior-Acer* and W10: *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodland.

3.11 Marshland Wood, Black Hut Wood, Eastwick Wood, Golden Grove, Sayes Coppice, Lawns Wood, Queen's Wood, Battles Wood, Maplecroft Wood and Fox Earths are each assigned County Value as a reflection of their designation as County Wildlife Sites.

3.12 The south-eastern corner of the modern Home Wood has been assigned County Value based on field evidence gathered in 2013. The eastern section of the Chase is considered to be ancient woodland based on tithe map evidence. Both of these areas, and the remaining ancient woodland within the Site boundary (Mole Wood, Coney Copse, Thongs Wood, Wood Below Paddock, Seeds Cup Plantation) have been assigned County Value based upon the present distribution of ancient woodland across Hertfordshire.

3.13 There are four woodland blocks within Survey Area 2, none of which appear on the ancient woodland inventory. There are two woodlands adjacent to the site, Lords Wood and Eastwick Mead, both of which are LWS. The wood in the west of the area is dominated by Penduculate Oak and Beech with an understorey of Blackthorn. The block to the south consists half coniferous plantation and half semi-natural woodland of Hornbeam, Pendunculate Oak and Ash. The block in the centre of the Survey Area also consists of a mixture of broadleaved woodland and conifer plantation. Species present include Beech, *Prunus Sp*. and various conifers. The block of woodland in the east of the area includes Hawthorn, Elder, Ash Cherry and Sycamore. The woodland blocks are of Local Value.

3.14 On account of the current lack of targeted, sensitive management of the ancient woodland resource across the Site, the conservation status of this ecological feature is considered to be unfavourable no change.

Hedgerows

3.15 The hedgerow resource within Survey Area 1 is a mosaic of different ages though the majority (69%) of the boundary lines present today coincide with boundaries as shown on the tithe map. The boundary lines shown on the tithe map will be of various ages, with some, the historic parish boundaries for example, are likely to be of great age. Though the boundary may be old, many of the individual plants making up the hedgerows on those boundary lines are not ancient or very old and are much younger than the boundary lines themselves.

3.16 The assemblage of Field Maple, Spindle, Dogwood and Hazel, which are present in various combinations in many hedges are interpreted as being indicative of hedges of long

ecological continuity, although only two Ancient Woodland Vascular Plants were found in the hedgerows, Dog's Mercury and Bluebell.

3.17 The hedges in Survey Area 2 are also very well maintained with the majority being intact. They consist of a range of native species including Field Maple, Hazel, Hawthorn, Ash Cherry, Willow, Spindle, Elm Dog Rose, Oak, Dog Rose, Sycamore and Blackthorn. With some hedges being more species rich than others, they also support mature trees.

3.18 Hedgerows are a feature of the National Character Area (NCA) 86 Anglian Plain, which the Site is part of. Given that hedges represent only a small part of the Anglian Plain NCA; that the vegetation is characteristic of those found on similar soils which are widespread across the NCA; that no plant species of national of county interest were found in the hedgerows but that they have a role in supporting other species, they are of Parish Value.

3.19 Due mainly to the current management of the hedges within an agricultural landscape they are in unfavourable conditions and declining as the current complex of flora and vegetation types making up the hedgerow resource cannot be sustained under the existing conditions and management.

Veteran Trees

3.20 Twenty-two of the trees surveyed across Survey Area 1 are 'veteran trees' and fifteen are 'near-veteran' and 1 'veteran tree' associated with Lords Wood LWS on the western boundary of Survey Area 2. The majority of 'veteran' or 'near-veteran' trees across the site are considered to be of Parish/Local Value.

3.21 Four trees are located within 'Pasture North of Eastwick' County Wildlife Site in the Eastwick Valley. Based on the designation of this site, the veteran/near-veteran trees located within it are considered to be of County Value.

3.22 Veteran and near-veteran trees recorded within the Site boundary are located within a well-established intensive agricultural landscape, with associated use of fertilizers and other chemicals and are susceptible to chemical run-off from adjacent arable fields. Consequently the conservation status of all veteran/near-veteran trees across the Site is considered to be Unfavourable No Change.

Grasslands

3.23 **Table 3.4** below provides a description of each grassland within Survey Area 1, and details its value and conservation status.

Table 3.4: *Grassland Value and Conservation Status*

Grassland	Description of Grassland	Value	Conservation Status
Eastwick Valley			
Gould's Field	Dry and wet grasslands with areas of fen grassland and flushes. Veteran trees also present on the site.	County	Unfavourable Declining
The Croft	Moderate species-rich grassland on slope with	County	Unfavourable Declining

Grassland	Description of Grassland	Value	Conservation Status
	species poor grassland on the plateau		
Vineyards	Old moat site with dry and wet grasslands, a flush and swamp vegetation. Scrub and hedgerows also present on the site	County	Unfavourable Declining
Garman's Farm Field	Grassland with flush and associated vegetation.	Parish	Unfavourable Declining
Fiddler's Brook Valley			
St. Mary's Churchyard, Gilston	Grassland	County	Favourable
Puck's Mead	Species poor grassland	Parish	Unfavourable Declining
The Moors (North)	Species poor grassland	Parish	Unfavourable Declining
The Moors (South)	Species-rich grassland with indicator species. Relict semi-improved grassland	County	Unfavourable Declining
High Wych Valley			
North Field	MG1 Rank species poor grassland	Parish	Unfavourable Declining
South Field	MG1 Rank species poor grassland with relict diverse grassland on the upper fringes of the field	Parish	Unfavourable Declining

3.24 The grasslands of the Eastwick Valley are designated as CWS. These small grasslands form a complex covered largely by three CWS designations (Pasture North of Eastwick CWS, Pasture by Eastwick Hall Lane CWS and Field West of Eastwick Hall Lane CWS) and comprise areas of relatively species-rich semi-improved grassland, species-poor semi-improved grassland and bordering scrub. These sites sit at the centre of a complex of sensitive habitats supported by the complex hydrology of the Eastwick Valley.

3.25 Within Survey Area 2 strips of species poor semi-improved grassland were associated with the field margin and are not considered of any particular botanical interest. However, the presence of Pyramidal Orchid *Anacamptis pyramidalis* on the off-site dual carriageway embankment is indicative of good quality chalk grassland.

River Corridor Surveys

3.26 The watercourses surveyed include the Stort Navigation and River Stort, and three of its tributary streams: Eastwick Valley Stream, Fiddlers Brook and High Wych Valley Stream. All of the surveyed watercourses have been identified as providing important linkages between sites of value to wildlife. The terrestrial habitats associated with the watercourses also provide an important source of food and habitat for birds and small mammals. The habitat and food source provided by the three tributaries are particularly important as they flow through very intensively farmed land with few refuges for wildlife.

3.27 The Stort and Stort Navigation is known to support fauna of interest to nature conservation due to limited or declining populations such as the Water Vole and Kingfisher. The Stort and Stort Navigation is therefore considered to be of District Value. The three tributary streams are principally of importance not for their aquatic habitat, but because of the terrestrial vegetation associated with them. All are considered to be of Local Importance and in unfavourable stable condition due to a lack of favourable management.

3.28 Rivers have been identified as a S41 habitat, which does not include the Stort Navigation, however canals are included as a habitat within the Hertfordshire Urban BAP. As such all of the watercourses across the site are protected by local policy. Policies also exist to ensure the development has no detrimental impact on the water environment.

Bats

3.29 Within Survey Area 1 much of the land is in arable use with low, well managed hedgerows. Bat activity was low in these areas with occasional passes by single bats on hedgerows. A number of areas within the ZOI have been shown to support foraging bats and a number of features are used for commuting. Bat activity is centred on a number of areas including Gilston, Eastwick, the Stort Navigation and the woodland blocks within the Site (including Marshlands Wood, Battles Wood, Lawns Wood, Home Wood and Golden Grove and Sayes Coppice).

3.30 A total of 37 bat roosts have been identified in buildings within the ZOI and an additional four tree roosts have been identified. Of the total number of building and tree roosts identified 7-11 of them are thought to be maternity roosts of more common or locally scarce species.

3.31 A Barbastelle bat call was recorded in October 2011 south of the A414 to the south of Eastwick. Due to the rarity of Barbastelle, a suite of targeted Barbastelle surveys were commissioned to determine how Barbastelle bats were using the area.

3.32 The targeted surveys have identified a number of areas within the Site boundary which are used by Barbastelle bats for foraging (Marshlands Wood and Lawns Wood; Golden Groves and Sayes Coppice; Home wood and single calls recorded in the Gilston area and south of the A414), and have also identified likely Barbastelle roosting sites (Marshlands Wood Golden Groves and Sayes Coppice and Home wood).

3.33 Eleven bat species were recorded within the ZOI during the 2004 - 2015 surveys. Species encountered together with their distribution throughout the UK and their conservation status is shown in **Table 3.3** below.

Table 3.3 *Bat species found within the Zone of Influence*

Species	**Distribution**	**Conservation Status**
Common Pipistrelle *Pipistrellus pipistrellus*	Widespread	Common
Soprano Pipistrelle *Pipistrellus pygmaeus*	Widespread	Common

Species	Distribution	Conservation Status
Nathusius Pipistrelle *Pipistrellus nathusii*	Throughout Britain	Rare
Brown Long-eared *Plecotus auritus*	Widespread	Common
Daubenton's *Myotis daubentoni*	Widespread	Common
Natterer's *Myotis nattereri*	Widespread	Frequent
Whiskered/Brandt's *Myotis mystacinus / Myotis brandti*	Throughout England and Wales and into Southern Scotland	Scarce
Noctule *Nyctalus noctula*	Widespread	Frequent
Leisler's *Nyctalus leisleri*	Widespread	Rare
Serotine *Eptesicus serotinus*	Restricted to south and southwest England and Wales	Frequent
Barbastelle *Barbastella barbastellus*	Widespread	Rare

Bat surveys undertaken in Survey Area 2 included daytime inspections and activity surveys at Brickhouse Farm buildings in 2015 and ground level tree assessments and transect surveys in 2016. These surveys have confirmed the presence of small roosts of common bat species (Soprano Pipistrelle and Brown Long-eared bats) in the buildings at Brickhouse Farm and that the Survey Area supported a low level of bat activity from an assemblage of 6 common bat species, all of which had been recorded in Survey Area 1. The transect surveys identified the importance of the field boundaries and woodlands in general for bats but specifically those on the western boundary and around the farm buildings.

3.34 The bat assemblage which is supported by the ZOI is considered to be of County Value, and is considered to be in favourable and no change condition.

3.35 The Barbastelle resource within the ZOI is of National Value and is considered to be in Unfavourable and no change condition due to a lack of favourable woodland management.

3.36 Bats are nomadic in habits and are known to use a variety of possible roost sites throughout the year, and between different years. Known roost sites are shown on **Map 1b.**

3.37 Bats are protected under both national and European legislation and national and local planning policy. They are protected from intentional killing, injuring or taking, as well as possession and trade. In addition, places used for shelter and protection are safeguarded against intentional or reckless damage, destruction and obstruction of access and disturbance to animals occupying those places. In order to carry out any activities relating

to development that may otherwise result in any of the offences above, it is necessary under the Habitats Regulations to obtain a licence from Natural England. In order for the licence to be granted the following conditions must be satisfied:

- The proposal must be 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';
- 'There is no satisfactory alternative';
- The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a *favourable conservation status in their natural range'*.

3.38 An EPS licence will be required from Natural England to allow development that might otherwise cause an offence to proceed. Of the species known to be in area, two are subject to local BAPs. To ensure compliance with policy, a strategy would be developed that will maintain important commuting routes and foraging areas that support local roosts.

Badger

3.39 Badgers *Meles meles* are very mobile animals and will frequently change the location of their setts and how they use the setts, depending on local circumstances. In terms of foraging potential, the majority of the site does not provide suitable habitat, as it is primarily an arable landscape, with very few areas of permanent pasture or grassland. All foraging activity noted during the surveys of Survey Area 1 was mainly associated with the sett sites, the location of which is provided in **Map 1b**.

3.40 The Badger survey of Survey Area 2 identified the location of a main sett and several other setts, the location of which are shown on **Map 1b**.

3.41 Badgers are protected under the Protection of Badgers Act 1992 which prohibits among other things, the killing, injuring or taking of badgers and interference with badger setts. Development activities that may cause disturbance (classed as interference) to Badger setts may require a licence issued by Natural England. Within the Local Development Framework they are subject to the same policy protection as other protected species. Mitigation measures will be designed into the scheme to minimise disturbance to Badgers to ensure that the relevant licence can be obtained from Natural England.

Birds

3.42 For the purpose of survey and assessment, the Survey Area 1 was split into the Stort floodplain, and the remainder of the area.

3.43 Birds recorded within the Stort floodplain include Kingfisher and Cetti's Warbler which are both listed under Schedule 1 of the Wildlife and Countryside Act (1981) as amended. This means that they are protected from disturbance whilst at, on or near an active nest. Other breeding bird species within the Stort floodplain include Reed Bunting, Yellowhammer, Whitethroat and Stock Dove. Birds that use the area for feeding include Barn Owl, Kingfisher and Cetti's Warbler. The assemblage of birds of the Stort River Valley is of

Local importance and the conservation status is considered to be Unfavourable and No change.

Outside the Stort floodplain, an estimated 56 species of breeding bird (including both farmland birds and woodland birds) are present within the area. Of these, 15 are Red-listed on the Birds of Conservation Concern (BoCC), 5 are Amber-listed and 16 are listed on the Hertfordshire Red data list.

3.44 The habitats within Survey Area 2 provide similar nesting and foraging opportunities to those in Survey Area 1 and a similar breeding bird assemblage was recorded, although the actual number of different species was less, totalling 25 species including 4 red listed species and 2 amber list species. The overall assemblage of breeding birds within the ZOI but outside the Stort Valley is of County value. The conservation status of breeding bird assemblage is unfavourable and no change.

3.45 Outside the Stort Floodplain, 42 species were recorded during the wintering bird survey of 2013. Fairly large flocks of wintering birds are found in the Gilston Area, including waders such as Golden Plover and Lapwing, and farmland birds such as Skylark, Linnet, Yellowhammer and Starling. These are all BoCC red listed species and are declining in numbers, apart from Golden Plover.

3.46 Within Survey Area 2, the winter bird survey recorded 39 species either within or adjacent to the site. Again this was a similar assemblage as recorded in Survey Area 1. Ten species on the Red-list of conservation concern (Grey Partridge, Lesser Spotted Woodpecker, Skylark, Grey Wagtail, Redwing, Mistle Thrush, Fieldfare, Song Thrush, Marsh Tit and Starling) were recorded. Of these, grey partridge, skylark and starling are notable farmland birds.

3.47 Three species on the Amber-list of conservation concern (Meadow Pipit, Dunnock and Bullfinch) were recorded, of which dunnock and bullfinch are considered to be regular users of the Site. One meadow pipit was observed and this is likely to be a passage/migrant individual.

3.48 The overall assemblage of wintering birds within the ZOI but outside the Stort Floodplain is of District value. The conservation status of wintering bird assemblage is unfavourable and no change.

Reptiles

3.49 The surveys undertaken across Survey Area 1 have identified that the area supports low population of three of the four species of common reptile: Slow Worms, Grass Snakes and Viviparous Lizards. Areas of suitable reptile habitat are predominantly to the south and west of the area and consist of river corridors, ditches, hedgerows, tussocky grassland. Low numbers of reptiles, particularly Grass Snakes may also be present in other suitable habitat across the area.

3.50 Survey Area 2 also supports ditches, hedgerows and small areas of grassland that are likely to present suitable, if limited, habitat for low numbers of reptiles. The survey identified a low population of Slow Worms and Grass Snake.

3.51 In view of the low densities of reptiles and the large Survey Area, the reptile assemblage is considered to be less than Zone of Influence Value. As reptiles are legally protected and there is the potential for the proposals to cause harm to them measures to mitigate for the potential harm and ensure compliance with applicable legislation are required.

Great Crested Newt

3.52 Although the majority of the Site contains arable land which is considered less favourable (but still of value) for GCN, suitable GCN terrestrial habitats and features are present across the Site in the form of woodlands and hedgerows.

3.53 Using the maximum counts within a population and with reference to the Great Crested Newt Mitigation Guidelines (Natural England 2001) five ponds within Survey Area 1 support small populations of GCN with the maximum counts being 1, 1, 1, 8 and 9, for ponds 8,17, 20, 9 and 24 respectively. Two other ponds are considered to support a single population (due to the proximity of the ponds to one another) which equates to large, (maximum counts are 92 and 18 for ponds 14 and 15). Two meta-populations are therefore considered to be present within the ZOI; Meta-population 1 containing 2 populations and Meta-population 2 containing 2 populations and a further 2 populations in separate ponds.

3.54 Given the large number of GCN recorded in one of the ponds and the number of female GCN observed laying eggs this pond is considered to be the Main Breeding Pond for Meta-population 1.

3.55 In relation to Survey Area 2, 12 ponds have been identified which potentially could support GCN populations, which therefore could be affected by the proposals. Three of these are south of the A414, which would provide a barrier to any GCN trying to access Survey Area 2 from these ponds. Two have been identified within Survey Area 1, which have previously been assessed as not supporting GCN. Of the remaining ponds only 1 was within Survey Area 1 with the others being within 250m of the boundary. The pond within the Survey Area and 2 of the ponds outside of the Survey Area were subject to presence/absence surveys (access to the other 4 could not be obtained). No GCN were recorded with in any of the ponds.

3.56 The GCN populations present within the ZOI are considered to be of District value and the conservation status of the population is considered to be unfavourable and declining.

3.57 GCN are protected under both national and European legislation and national and local planning policy. They are protected from intentional killing, injuring or taking, as well as possession and trade. In addition, places used for shelter and protection are safeguarded against intentional or reckless damage, destruction and obstruction of access and disturbance to animals occupying those places. In order to carry out any activities relating to development that may otherwise result in any of the offences above, it is necessary under the Habitats Regulations to obtain a licence from Natural England.

Fish

3.58 Fish surveys have been undertaken on the Stort Navigation, the River Stort and the three main tributaries of the Stort. The fish communities of the tributary streams were limited with low numbers of individuals and species. However, Bullhead *Cottus gobio*, which is

cited in Annex II of the Habitats Directive, was recorded in the Eastwick Valley Stream and the High Wych Valley Stream.

3.59 The River Stort supports a more diverse fish community, including Bullhead, however the fish populations of the Stort Navigation were fairly restricted. The fish populations of all of the watercourses are of Local Value. As they appear to be in most cases fairly restricted or limited the conservation status is unfavourable but the trend is recovering as the predicted ecological quality identified on the Environment Agency website shows an improvement in 2015.

3.60 Since the survey was undertaken the river corridor surveys of the main watercourse have been carried out in 2009 and 2011 which have identified very little change in the character of the watercourses or their management. The value of the fish community is therefore thought likely to remain unchanged.

3.61 Measures described to protect and enhance the river corridors will be beneficial to the fish communities.

Otter and Water Vole

3.62 No evidence of Otter was recorded during any of the surveys of Survey Area 1 and 2, although limited evidence of Water Vole was recorded during the earlier surveys on the River Stort no signs were recorded during the updating surveys.

3.63 The tributary streams do not provide suitable habitat. The River Stort and Stort Navigation do provide habitat more suitable for Otters and Water Vole including areas of fen (which form part of Harlow Marsh LNR) which offer secluded areas for Otter to rest. Secluded but isolated vegetated areas of land are also formed by back channels of the canal. Areas of woodland adjacent to the watercourse are also likely to provide suitable habitat.

3.64 In addition to the suitability of the habitat it has also been determined that, in 1991 six Otters were released into the Lee and Stort catchment and were monitored. After 10 years monitoring by Hertfordshire and West Middlesex Wildlife Trust staff, it was confirmed that the animals had bred and expanded their territory. As a habitat enhancement scheme for Otters, Harlow Conservation Volunteers have built an artificial holt at Parndon Mill, which forms part of Harlow Marsh LNR.

Dormouse

3.65 Surveys undertaken of Survey Area 1 2004 and of Survey Area 2 in 2016 have not recorded any evidence of Dormice at the Site. This along with an absence of records from the Hertfordshire Biodiversity Records Centre suggests that Dormouse are absent from the area.

Terrestrial Invertebrates

3.66 A total of 1,179 invertebrate species were recorded from several targeted survey sites and from casual recording in the remainder of area 1. Nineteen species of moth found are listed as Species of Principal Importance in England within Section 41 of the Natural Environment and Rural Communities, Act, 2006. Six of the recorded species are formally listed in the British Red Data Books. A further 39 recorded species are formally regarded as Nationally Scarce.

3.67 The woodlands are of more interest for invertebrates, and in particular the assemblage of terrestrial invertebrates supported at Golden Grove and Sayes Coppice is potentially of Regional if not National value.

3.68 The assemblage of dragonflies within the potential ZOI in the Stort valley is considered to be a feature of Local Value.

3.69 Overall, the assemblage of terrestrial invertebrates within the ZOI is considered to be of District value.

3.70 The conservation status of the assemblage of terrestrial invertebrates is likely to be unfavourable and declining, due to the intensity of management of the majority of the land within the ZOI for agriculture, and the lack of management of woodlands.

Summary of Valued Ecological Features

Table 3.4 below provide a summary of the valuable ecological features across the site.

Table 3.4: *Summary of Valuable Features*

Feature	**Value**
Non-Statutory designated Wildlife Sites	County
Woodlands	County
Hedgerow	Parish
Veteran Trees	Parish/Local
Grasslands	Negligible - County
River Stort and Stort Navigation	District
River Stort Tributries	Local
Bats	County - National
Birds	Local - County
Reptiles	Zol
GCN	District
Otter/Water Vole	Not recorded – although suitable habit is present on the site.
Invertebrates	District

4.0 BIODIVERSITY STRATEGY

Introduction

4.1 This section identifies the overall aims of the Biodiversity Strategy, the various mechanisms by which the aims will be achieved and how these have been integrated within the design of the masterplan. It also outlines the mitigation measures required to comply with policy and legislation and how these have been incorporated into the masterplan. At this stage of the planning process the masterplan is illustrative, the details will be worked up at the next planning stage with input from key consultees. However, the illustrative masterplan has been prepared, along with the Biodiversity Strategy to help identify the key principles that will guide future detailed design.

Biodiversity Strategy Overall Aims

4.2 The development proposals provide an opportunity to enhance existing biodiversity and ensure that it is integrated within the scheme design to provide a positive and valuable environment, for both biodiversity and people. In achieving this, the Biodiversity Strategy for the development of the Gilston Area will aim to conserve and enhance existing high value wildlife habitats; enhance biodiversity through both creation of new habitats and through creation of habitats which link existing high biodiversity value areas; and ensure proper management of all these areas. The implementation of the Strategy will guarantee that obligations to protect species and habitats, as set out in the relevant national and local policies and guidance are fulfilled. Biodiversity should be evident throughout the urban environment. The strategy will also increase public access to, and appreciation of, the natural environment.

4.3 The areas of highest biodiversity value are the existing ancient species–rich woods and grasslands, some of which have conservation designations. The designated sites are mainly concentrated in the Stort Valley and to the north of the area (see **Map 1a**). The majority of the floodplain grassland habitats are retained within the masterplan and enhanced, as are the blocks of ancient woodland in the north. Where there is a loss of valuable floodplain habitat to facilitate the crossings of the Stort this will be compensated for through the enhancement and management of the retained areas of grassland. The remaining sites of conservation value within the site have either been incorporated in linear parks associated with the minor river valleys or retained as open space which is suitably connected to other nearby habitats within the urban development (see **Map 1a**). Management plans will be produced for all habitats to improve biodiversity using traditional method such as grazing where appropriate. The ecological function and biodiversity across the site will be enhanced by establishing a **coherent network of wildlife habitats**, linking together existing ancient and diverse vegetation on intact ancient soil profiles with new habitats of types appropriate to the area. Hedgerows and waterways will form important corridors for wildlife within this network.

4.4 The area's ecological character will **infuse the design** and ecological detailing of the built environment, and the ecological functioning and seasonality of the area should be made visible within and from the development.

4.5 The design and management of the Gilston Area development will decrease the separation of nature from people's daily experiences. By integrating ecology into the development at all scales; settlement, neighbourhood, street, and buildings, this will enable people to live alongside, understand and enjoy nature in their daily lives.

4.6 The main features of the Biodiversity Strategy can be seen on **Map 2**. The Eastwick Wood Park encompasses the blocks of ancient woodland, many of which have been designated as CWS. The management of the Park will balance the needs of conservation with public access and recreation while protecting and enhancing biodiversity value of the woodlands and the fauna they support.

4.7 The grasslands identified as CWS in the Eastwick Valley will be retained within the Eastwick Valley Corridor or are directly connected to it in retained open space and buffered from development. This provides a corridor of habitats through the valley incorporating the Eastwick Stream which will allow the grasslands to be managed as units within a larger landscape again balancing the needs of conservation with public access and recreation. This corridor will provide an important link between the woodlands and grasslands of the Eastwick Wood Park in the north and the Riverside Park of the Stort Valley in the South. The Fiddler's Brook Corridor, Golden Valley Riparian Corridor, Stone Basin Spring Corridor and the Lord's Wood Park will perform a similar function through the landscape, protecting and enhancing the areas of ecological value and the fauna they support.

4.8 The detailed design of the various elements of the strategy outlined below will be undertaken in consultation with the relevant stakeholders such as the Local Wildlife Trusts, the Stort Catchment Partnership, Harlow District Council and East Hertfordshire District Council. Consultation has begun with the Stort Catchment Partnership regarding restoration and enhancements to the Stort Valley. Natural England and the RSPB have been consulted in relation to the approach to the Biodiversity Strategy and their recommendations have be taken on board. The Environment Agency have provided comments, particularly in relation to the treatment of the grasslands and watercourses within the Stort Valley as has the Stort Catchment Partnership.

4.9 The ongoing management of the various different elements of the Biodiversity Strategy is an essential part of ensuring that proposals deliver the benefits identified. As the details of the proposals are further refined and developed they will be accompanied by ecological management plans.

Response of the Masterplan to the Valuable Ecological Features of the Site

4.10 All of the areas identified as ASNW are protected by national and local policy and guidance. There is a presumption that development will not be permitted if it is likely to have a detrimental impact on an area of ASNW, unless it can be demonstrated that the need for the development outweighs the need to safeguard the conservation value of the site. As ASNW are a valuable ecological resource the masterplan retains, protects and enhances the areas of woodland and buffers it from any development to mitigate any potential impacts on the woodlands themselves and the species which might use them. The masterplan also recognises the value of the other areas of woodland which are also retained and buffered.

4.11 All hedges have been identified as a S41 habitat and are protected by local planning policy requiring maximum retention of hedgerows and replacement of any that are lost to development. The masterplan has been designed to maximise the retention of hedges of ecological value. Retained hedges will be managed to improve their value to wildlife and additional hedgerows planted to compensate for any that are lost.

4.12 The masterplan has been designed to retain the maximum number of veteran trees, which will be incorporated in to the various different areas of open space. Compensation for the loss of any veteran trees is provided via better management of retained trees and tree planting. However, the masterplan only impacts on 1 of the 38 veteran/near-veteran trees, it may be able to avoid any impacts during the detailed design process.

4.13 The grassland of the Eastwick Valley, designated as CWS have been retained in the masterplan, which also maximises the retention of other areas of valuable grassland across the site. All CWS and LWS within the Site will be retained and enhanced as part of the Biodiversity Strategy. To allow for the widening of the existing A414 crossing of the River Stort and to facilitate a new crossing to the east there will be a small loss of part of Parndon Moat Marsh (central crossing) and Fiddler's Brook Marsh (eastern crossing). The loss will be compensated for by the enhancement of the remaining areas of grassland with in the LWS effected and within the other area of the Strot Valley within the Site.

4.14 The proposals for the site maintain the watercourses as open features in the landscape and enhance both the aquatic and terrestrial habitats associated with them. The majority of the lengths of the watercourse have been retained within areas of open space. Where this has not been possible a buffer is provided between the watercourses and any built development. The buffers and the areas of open space will protect the watercourse and bankside vegetation. The number of crossings of watercourses have been kept to a minimum and will be designed in such a way that they do not impede the movement of animals along the watercourse or water flows.

4.15 This open space along the watercourse will be managed to increase the benefits for biodiversity. Such measures could include, where appropriate the removal of Himalayan Balsam *Impatiens glandulifera*, enhancement of straight channels to create more sinuous, varied channels, creation of floodplain scrapes, increase in-stream habitat diversity and the replacement of 'hard engineered' bank revetment with 'soft engineering' methods. There is also the opportunity to increase public access and passive recreational use of the watercourses.

4.16 The measure identified above to protect and enhance the woodlands, grasslands, hedgerows and watercourses across the Site, will also be beneficial to invertebrates.

4.17 The masterplan has been designed to have minimal impact on key bat foraging and commuting areas, including the severance or lighting of commuting routes. Where there is a loss of foraging areas or commuting routes, mitigation measures such as new planting and improving the structure of existing woodland will be undertaken and new routes will be incorporated into the scheme to compensate for any that are lost as a result of development. A detailed mitigation strategy will be produced which will incorporate measures such as:

- Enhancement of retained features of value to bats such as ponds, hedgerows and mature trees;
- Linking of existing features of value to bats;
- Creation of new water features;
- Grassland management to increase value for bats;
- Development of lighting strategy to maintain dark corridors for commuting;
- Bat box scheme;
- Incorporation of roost features in to suitable buildings; and
- Management of buffer zones around woodland edges and hedgerows, preferably allowing natural grassland and scrub to screen any ambient lighting from development and to provide habitat and food for insects.

4.18 With the implementation of suitable mitigation and enhancement measures within the scheme design, the proposals will comply with national and local planning policy and will be designed to maintain the conservation status of the bat population making it possible to obtain an EPS.

4.19 All birds are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs. This potentially only has implications for development at the implementation stage therefore any mitigation strategy will acknowledge that vegetation work would only be undertaken at the appropriate time of the year to avoid the bird nesting season. The Masterplan, will result in the loss of some bird habitat however measures identified in the Biodiversity Strategy, such as enhancement of grassland and woodlands will have benefits for the bird assemblage and compensate for the loss of habitat.

4.20 The masterplan retains the highest quality reptile habitat, which is within the Eastwick Valley and a mitigation strategy will be produced which will detail the measures that will be undertaken to ensure compliance with policy and legislation.

4.21 The masterplan has been designed to minimise impacts on GCN populations and to mitigate any adverse impacts to ensure that they will not have a significant effect on the conservation status of the species. This is likely to be subject to a Natural England EPS licence, if the proposals, without mitigation, are likely to cause an offence under the relevant legislation.

4.22 Impacts that are likely to require mitigation are the loss of habitat and connectivity as well as the potential to cause harm or death to individuals. A mitigation strategy will be developed that includes all or some of the following:

- Strategic location of new ponds to allow expansion of existing populations and to join populations to the north of the site into one large meta-population. This will enhance the likelihood of long-term persistence of Great Crested Newts within the site;
- Enhancement/restoration of existing ponds in poor condition;

- Maintenance and/or enhancement of connecting features between suitable habitat (aquatic and terrestrial);
- Restoration of existing areas of ancient woodland close to breeding ponds;
- Creation of new breeding ponds with sufficient terrestrial habitat elsewhere within the site; and
- Translocation of newts from ponds that will be lost, to newly created ponds.

4.23 The Biodiversity Strategy incorporates the needs of GCN through the connection and management and enhancement of habitats within the Forest Park and the Valley Corridors (See Map **2**). With the implementation of a suitably designed detailed mitigation strategy integrated which will be incorporated within the detailed design of the masterplan, there is no reason why it should not be possible to obtain an EPS and comply with national and local planning policy.

4.24 Development is unlikely to have any direct impacts on Water Vole and Otter as they appear to be confined to the main Stort Valley where the only built development is likely to be the construction of new crossings, although there is the potential for Otter road casualties as they try to move up and down the watercourse. Mitigation measures will be included in the scheme design to mitigate this, such as the use of ledges and fencing. Consideration to the requirements of Water Voles and Otters will be included in any restoration or management plans for habitats within the valley.

Description of Strategic Proposals

Riverside Park

4.25 Habitats of ecological importance within the Stort Valley will be enhanced to contribute to the establishment of a major Riverside Park where existing and newly created wetland habitat will be traditionally managed, where appropriate and integrated with recreational uses. The proposals include the following measures:

- Conserving existing ecological features by ensuring continuing water supplies;
- Enhancing floodplain grassland habitat by reducing nutrient input through the system;
- Enhancing existing permanent grasslands to promote floral diversity by restoring traditional management; and
- Restoring Priority Habitats of Lowland Meadow and Floodplain Grassland by converting arable to grasslands, using seed material from a local source, for example Hunsdon Mead SSSI.

4.26 The Harlow Green Infrastructure Plan (HGIP) and the Hertfordshire Strategic Green Infrastructure Plan (HSGIP) recognise the importance of the Stort Valley in terms of its recreational and ecological value and the strategic link it provides to the Lee Valley. Prior to detailed design, consultation will be required with Stort Valley Partnership to determine how best proposals for the Gilston Area can assist in bringing forward the vision of the Stort Feasibility Study. The Stort Valley Partnership has already been consulted on the initial proposals put forward as part of the Biodiversity Strategy.

4.27 The creation of the Riverside Park will also provide benefits for bats, Otter, Water Vole, birds and invertebrates.

Eastwick Wood Park

4.28 The partially fragmented ancient woodland blocks to the north of the Site will be linked through extensive appropriate new woodland and grassland planting so that they become part of a Wooded Common. This will be managed for conservation and recreation using traditional methods, creating a pasture-woodland habitat of sub-regional significance.

4.29 As with the grasslands within the Stort Valley floodplain, the blocks of ancient woodland to the north of the Site are of varying ecological value. The blocks are also fairly isolated by substantial stretches of intensively farmed arable land of low conservation value. In creating Eastwick Wood Park (See **Map 2**) the intention is to increase habitat diversity and the diversity of flora and fauna, to protect and enhance woodlands of high conservation value, to link isolated areas of woodland and to create a recreational and educational resource that benefits Greater Harlow and the surrounding area. The benefit of the creation of such a strategic park has been noted in the HGIP.

4.30 The creation and management of the park will reflect historic patterns of management for the area. The blocks of woodland will be linked with areas of scrub, woodland and grassland, and additional habitat will be provided by the creation of ponds and groups of scattered trees. This will help to mitigate impacts on protected species. Where possible, material from hedgerows lost to development can be translocated to the Forest Park.

4.31 The park will be multi-functional with the intensive recreational activities being located away from the most ecologically sensitive areas (for example Marshlands Wood), with buffering habitat in between. By catering for intensive recreational uses at the outset, through, for example, the provision of designated BMX/mountain bike tracks, picnic areas and sports pitches and by providing screening and buffering for more sensitive areas, it should be possible to prevent the spontaneous use of the more sensitive areas for recreation.

Valley Parks

4.32 Along the tributary valleys of the River Stort, linear parks will be developed that will link important features such as woodland or species-rich grassland with the major ecological parks to the north and south of the Site. The importance of these tributary valleys, and the importance of buffering the streams and maintaining their link with the River Stort, was highlighted in the HGIP. The valleys contain some sites that have been designated CWS because of their ecological value; there are also features present of historical and cultural importance that have been designated as Scheduled Ancient Monuments. The Valley Parks will be managed to protect and enhance all these features. Other important habitat elements within the urban area such as veteran trees and important hedgerows will be linked via a network of local wildlife areas to the ecological parks.

Description of Local Ecology Proposals

Local Ecological Parks

4.33 Local ecological parks will be created, retaining ecologically important hedges, banks or other routeways with cover suitable for small mammals and breeding birds which will link to

neighbouring sites. The network of public open space, incorporated within the 'Corridors' of the Biodiversity Strategy and the retained open space surrounding and within the developed areas (See **Map 2**) will be multi-functional and designed to support ecology and maximise opportunities for recreation and public use, whilst minimising adverse effects of inappropriate use. The local ecological parks will form part of the network of wildlife sites throughout the development.

4.34 To ensure people can experience wildlife even at the street scale, small scale features of ecological value will be provided, such as for example, the retention of veteran and existing trees will continue to provide bird nesting habitat holes, the planting of new trees will provide future nest sites and insect habitat and the design of aspects of the sustainable drainage system. Unsurfaced areas could be provided along verges or centres of local roads and back streets, where possible, to encourage the establishment of rough grassland and ruderal species habitats, to provide insect and seed food for birds.

4.35 Habitats for birds, bats, insects and plants in gardens and on buildings will be created through specification in the design guides, for example by the design and construction of (i) bird, (ii) insect and (iii) bat, roosting sites in buildings. Green and brown roofs will be used and either planted or allowed to colonise with native species to provide new habitats, as well as benefits for storm water amelioration, reduction in heating and cooling costs, noise reduction, and absorption of air pollution.

Sustainable Urban Drainage

4.36 Sustainable drainage systems (SuDS) that maximise the quality of the freshwater environment and contribute to the quality of the urban environment will be implemented across the site. This will reduce adverse impacts on the natural hydrological regime of the area, help maintain healthy watercourses and provide additional wildlife habitats.

Retained Farmland

4.37 The extensive area of retained farmland to the west of the Site will be retained and enhanced to be of benefit to bats, birds and invertebrates. Specific measures will be included in an ecological management plan but will include sensitive hedgerow enhancement, invertebrate habitat creation and use of high nectar flower mixes.

5.0 CONCLUSION - KEY CONSTRAINTS AND OPPORTUNITIES

5.1 The site supports a number of areas with biodiversity value, particularly the blocks of Ancient Woodland to the north of the Site and the grasslands of the Stort Valley in the south. Many of these areas are recognised by conservation designation and are protected by local, regional and national policy. The habitats in turn support a variety of species also protected by legislation and policy (see **Maps 1a** and **1b)**.

5.2 The masterplan has been positively prepared to retain features of biodiversity value and along with the proposals contained in this Strategy provides for biodiversity at both strategic and local levels, linking into regional and local plans, such as the Harlow Green Infrastructure Plan (HGIP) and the Green Arc. Strategic proposals include the provision of the new Eastwick Wood Park, created by re-connecting and protecting the areas of fragmented ancient woodland to the north of the Site, many of which are designated as CWS. The existing woodland will be linked with extensive appropriate new woodland and grassland planting creating large scale new habitat for birds, bats, insects, amphibians reptiles and Badgers, and providing a new access to the countryside for recreational use. The development proposals will also help bring forward the creation of a Riverside Park in the Stort Valley floodplain, through the protection and enhancement of habitats of ecological importance. Such a proposal will create new wetland habitat within the Stort Valley, and similar parks will be developed along the Stort's tributary valleys. These Forest and Valley parks will be managed, using traditional methods, for biodiversity and recreation.

5.3 At the local level, the masterplan has been developed so that, as far as is possible, current features of ecological value, such as veteran trees or species rich hedgerows are retained and will become part of newly created local ecological parks, ensuring that they will receive appropriate management. These will form part of a network of linked areas across the site providing habitat and routeways for small mammals and birds and bats within the developed area. Small scale features of ecological value will also be provided at the street scale, and habitats created for birds, bats, insects and plants through specification detailed in design codes and patterns. The use of sustainable drainage systems and buffer zoning, as well as providing additional wildlife habitat, will reduce adverse impacts on water quality and the hydrological regime of watercourses in the area.

5.4 By following the principles contained in this Biodiversity Strategy development in the Gilston Area will retain, enhance and extend the features of ecological value on the Site in accordance with conservation priorities for the area as defined by national and local planning policies. The Government's main planning policy on the protection of biodiversity is the NPPF, with the objective of promoting sustainable development, conserving biodiversity and enhancing and restoring the diversity of England's wildlife. Key to the NPPF is the delivery of such benefits by development, which the proposals for the Gilston Area will accomplish. The proposals are also compliant with the relevant emerging policies of the District Plan. To ensure that key features are retained and protected, any site specific policy for the Gilston Area could reflect this requirement. The proposals can be seen as an opportunity to deliver ecological and biodiversity improvements to the area.

6.0 REFERENCES

Chris Blandford Associates 2005, A Green Infrastructure Plan for the Harlow Area

CIEEM 2016, Guidelines for Ecological Impact Assessment in the UK and Ireland (Second Edition), Chartered Institute of Ecology and Environmental Management 2016.

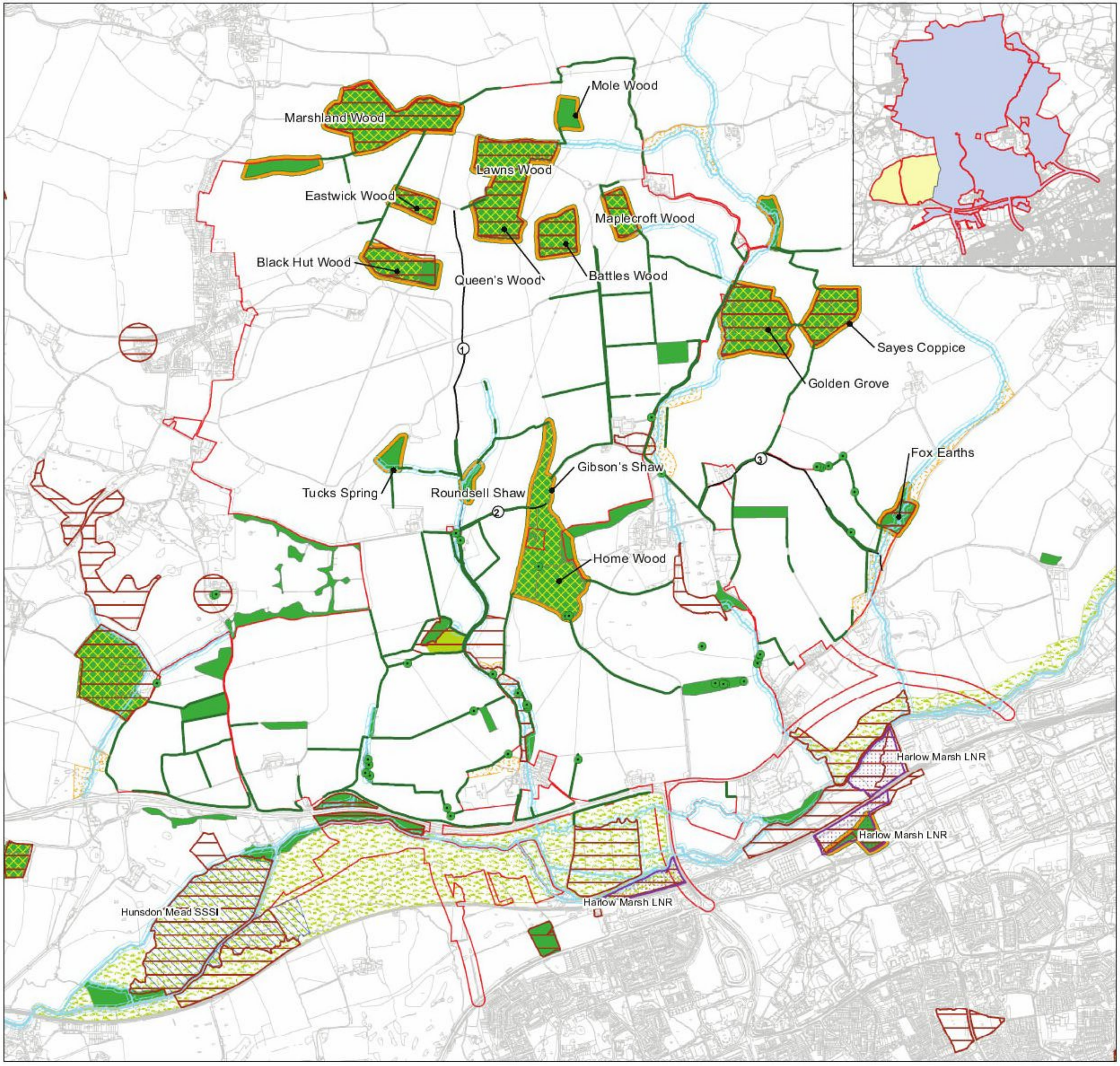
Government Office of East England 2008, The Revision to the Regional Spatial Strategy for the East of England, The Stationery Office.

IEEM 2006, Guidelines for Ecological Impact Assessment in the United Kingdom, Institute of Ecology and Environmental Management 2006

The Landscape Partnership 2007, The Stort Valley Feasibility Study.

Maps

Map 1a	Ecological Interest and Constraints - Habitats
Map 1b	Ecological Interest and Constraints - Species
Map 2	Proposed Biodiversity Strategies



MAP 1a Summary of Ecological Features & Constraints - Habitats

KEY

- Site boundary
- Survey area 1
- Survey area 2
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- County/Local Wildlife Sites (CWS/LWS)
- Ancient Woodland
- 20m Buffer around Ancient Woodlands
- Woodland
- Hedgerows
- Veteran Trees
- Unimproved Grassland
- Floodplain Grassland
- Permanent Pasture
- Watercourse
- 20m Buffer around Watercourses
- 20m Buffer around Woodlands
- Green/Old Lanes
  - ① Cockrobin Lane
  - ② Old Lane
  - ③ Channock Farm Green Lane

SCALE: 1:78,682 at A3

0 250 500 750 1,000 Metres

N

EPR

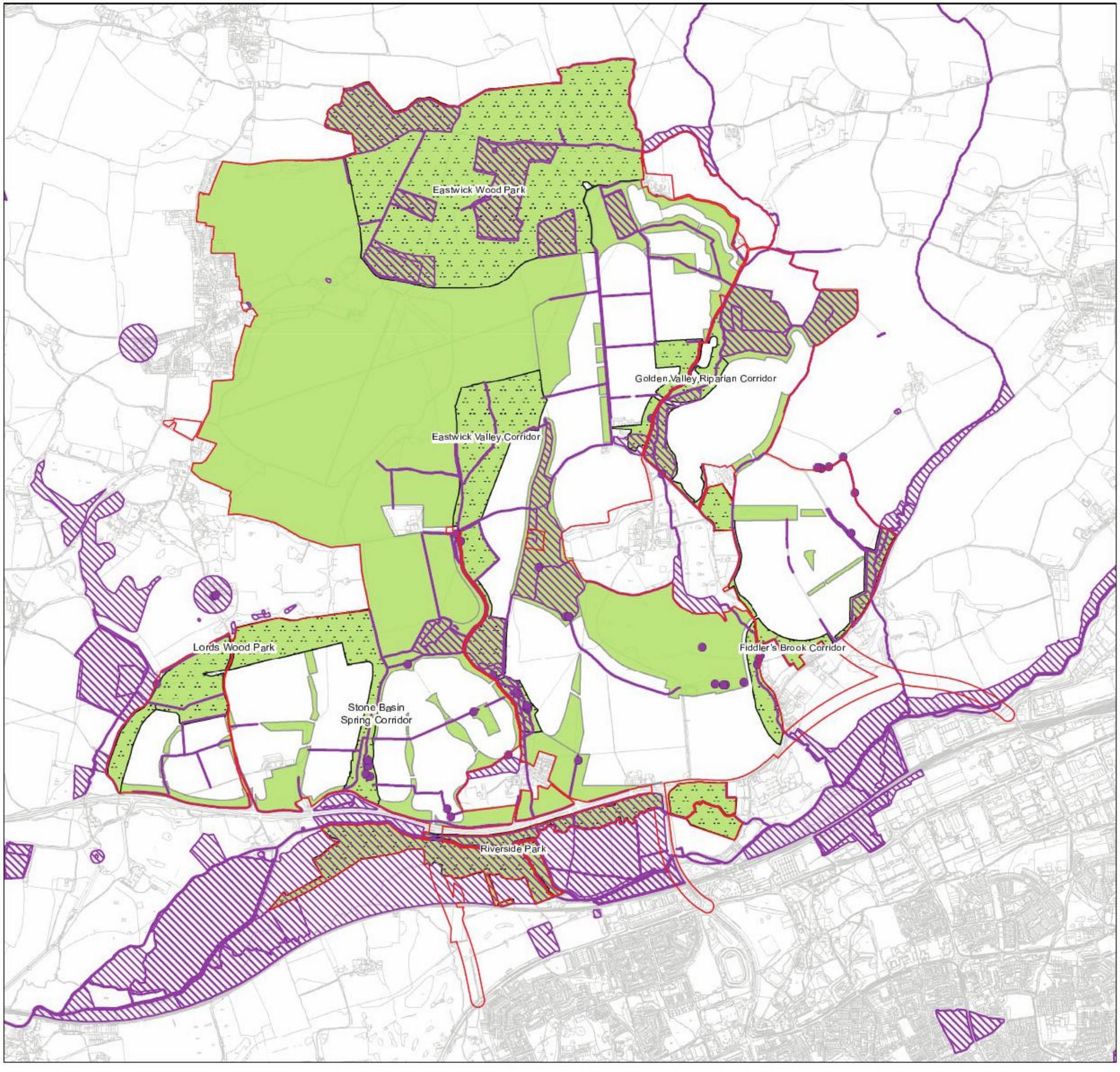
Ecological Planning & Research

CLIENT: Places for People and City & Provincial Properties

PROJECT: Gilston Area

DATE: October 2016

P12/58



MAP 2 Biodiversity Strategy

KEY

- Site boundary
- Linked protected & enhanced habitats
- Retained open space
- Habitat locations of principal importance for biodiversity (see Map 1a and Map 1b for detailed information)

SCALE: 1:20,000 at A3

0 250 500 750 1,000 Metres

N

EPR

Ecological Planning & Research

CLIENT: Places for People and City & Provincial Properties

PROJECT: Gilston Area

DATE: October 2016

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Appendix 1
CIEEM Ecological Impact Assessment Methodology

Determining the Value and Conservation Status of Ecological Features

The baseline value and conservation status of ecological features identified within the Zone of Influence is determined to identify those features with sufficient value and vulnerability to effects from a proposed scheme to be taken forward for consideration at the assessment of likely significant effects stage.

CIEEM advocates the use of a geographic scale of reference to use both to value ecological features within the potential Zone of Influence of a scheme as follows:

- International;
- UK;
- National;
- Regional;
- County;
- District;
- Parish/Local; and
- Zone of Influence Only

At the upper levels, the CIEEM system may be directly comparable to the designation system for sites of recognised nature conservation value and therefore determining the value of ecological features makes use of any designations, protection under European or national legislation and inclusion on the national Section 41 list of Species and Habitats of Principal Importance to Biodiversity in England or local Biodiversity Action Plan lists. However, the underlying factors that are used to derive these designations and lists are based on the Ratcliffe criteria, particularly diversity, rarity, naturalness, fragility and typicalness, which can be applied at all levels of the scale.

Ecological features are also assigned a conservation status that takes account of natural and man-made trends affecting their baseline status. The approach used is based on that applied to describe the condition of SSSIs by Natural England, which uses the following categories:

- Favourable;
- Unfavourable, recovering;
- Unfavourable, no decline;
- Unfavourable, declining;
- Part destroyed; and
- Destroyed.

This approach is most easily applied to habitats, where an assessment is made of the condition i.e. soundness of the habitat. The same factors are considered for species, but in terms of the population size, diversity, robustness to external forces and comparability to other known populations.