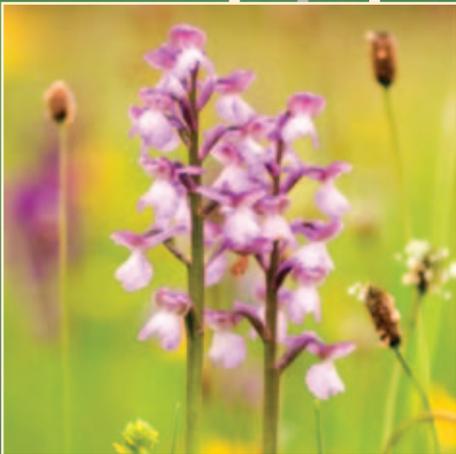


Biodiversity and Planning in Oxfordshire



Berkshire
Buckinghamshire
Oxfordshire



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WHO IS THIS GUIDANCE FOR?

This guidance should be helpful if you are:

- a planning officer in either policy or development management;
- writing a Neighbourhood Plan;
- going to be submitting a planning application;
- wanting to know more about the wildlife of Oxfordshire and its conservation.

There are 2 other documents in this series:

- [Community & Parish Guide to Biodiversity](#)
- [Guide to Biodiversity Action Plan & Oxfordshire's Conservation Target Area approach](#)

Published by BBOWT, Oxfordshire County Council and TVERC 2014.

Designed by www.lonelycottage.co.uk

Front cover images: silver-washed fritillary by Jim Higham; otter by Elliott Neep; green-winged orchid by Paul Lane; common lizard by Tom Marshall.

Back cover images: hazel dormouse by Terry Longley/seeing.org.uk; greater butterfly orchid by Bruce Shortland; curlew by Jon Hawkins/Surrey Hills Photography.

Cotswolds Area of Outstanding Natural Beauty, Oxfordshire
(Nick Turner)



1a About this guidance

Protecting and enhancing Oxfordshire's biodiversity

Oxfordshire supports a diversity of wildlife habitats and species, ranging from the chalk grasslands and beechwoods in the Chilterns, through pockets of rare fen, to the scarce flood meadows along the Thames. However, less than 10,000 hectares (ha) of Oxfordshire retains any special value for wildlife; around 4% of the total land area. Oxfordshire is also home to around 80 protected species and more than 200 species recognised as being a priority for conservation.

The [Berks, Bucks & Oxon Wildlife Trust \(BBOWT\)](#), [Oxfordshire County Council](#) and the [Thames Valley Environmental Records Centre \(TVERC\)](#) have worked in partnership to produce this guidance document, to help those involved in planning in Oxfordshire ensure that development within the county protects and enhances this valuable local biodiversity.

Some of the important sites and species in Oxfordshire are protected by legislation, others by planning policy. National and local planning policy identifies the need to protect existing biodiversity and deliver enhancements to achieve a net gain in biodiversity. Here we bring together legislation and planning policy, alongside information on the biodiversity of Oxfordshire, to help identify when and where biodiversity will need to be protected by the planning system, as well as how to identify opportunities to deliver biodiversity enhancements in the most effective way.



Amethyst deceiver
(Terry Longley/seeing.org.uk)



Otter (Helen Walsh)



Meadow pipit
(Mike Taylor/seeing.org.uk)

HOW TO USE THIS GUIDANCE

This guidance has been arranged to align with National Planning Policy Framework (NPPF) sections on biodiversity. This guidance has sections dealing with various biodiversity features which should be protected and enhanced through the planning system. In general Sections 2 and 3 outline those features which should be protected, and Section 4 outlines opportunities to deliver biodiversity enhancements.

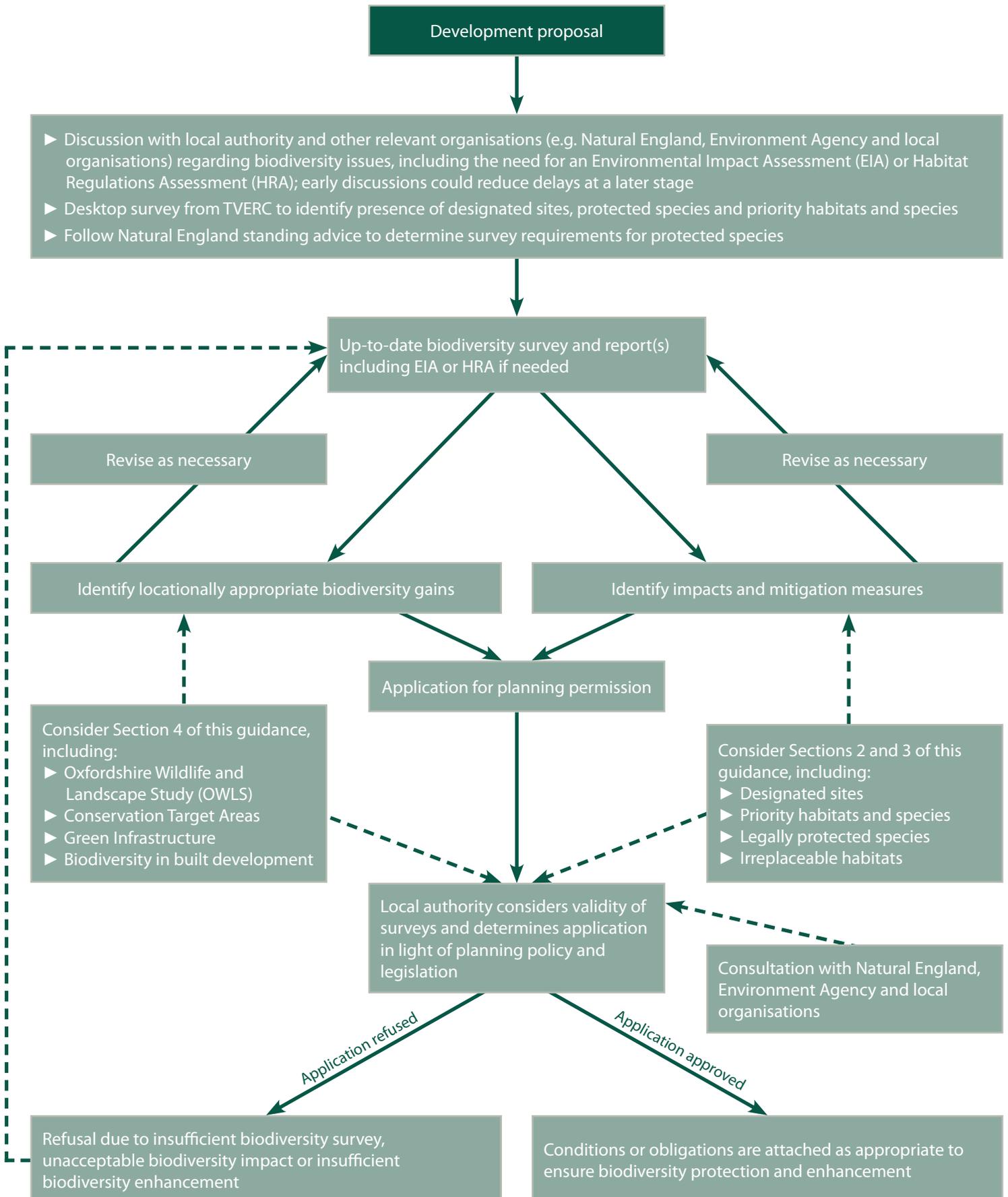
A page of information gives an overview of each feature and locally specific information. The column on the right hand side of the page provides a summary of relevant legislation or planning policy. Boxes on 'Further Information' provide sources of more detailed information and guidance. In the bottom right hand corner you will find 'Key Organisations' who you might wish to contact in relation to a particular issue.

For each biodiversity feature, a map identifies the distribution of that feature in Oxfordshire. It should be noted that these maps (produced by TVERC) are intended to provide a strategic overview and only show the situation at time of publication. More detailed and updated site-specific information is available directly from TVERC or, for those working in local authorities, much of this information will be available on GIS layers within your authority.

An online version is provided on the [Oxfordshire County Council website](#), which will be updated as regularly as possible to keep up-to-date with changes in legislation and policy. Legislation and policy change frequently. Please contact the Ecologist Planner at Oxfordshire County Council to check whether there have been any major changes since publication. The online version provides links to the documents, websites and key legislation highlighted.

1b Biodiversity in the planning process

This flow diagram illustrates the importance of taking biodiversity into consideration at all stages of the planning application process, highlighting the key features to take into account.



1c Information requirements

The importance of up-to-date information and assessment

The National Planning Policy Framework (NPPF) requires that development plan policies and planning decisions are based upon up-to-date information about the environmental characteristics of their areas, including the relevant biodiversity resources of the area (see right).

In submitting a planning application, the standard planning application form requires that applicants identify any protected or priority species, designated sites, important habitats, or other biodiversity features on, or adjacent to, the application site. This guidance document gives an overview of these features in Oxfordshire; more detailed site level information is available from TVERC. TVERC provide necessary local data that is not available from national data searches.

Where it is likely that a proposal will impact on any of these features, up-to-date biodiversity information will need to be provided with a planning application. The type of assessment needed will vary from a biodiversity survey and report to Environmental Impact Assessment and Appropriate Assessment if a European Site is involved. Adequate surveys and reports must be provided. Surveys must be undertaken to recognised standards (e.g. CIEEM methodology, at the correct time of year). For detailed advice on how to undertake these, see Further Information.

It is not within the scope of this guidance to explain how or when to undertake such assessments, there is other national and regional guidance available on this – see the 'Further Information' box. It is important to bear in mind that the survey work needed to inform such assessments will be seasonally restricted.

Discussion of biodiversity survey needs at pre-application stage can help reduce the likelihood of delays resulting from requirements for survey being identified at a late stage. Without this information it is unlikely that an application will be validated.

All ecological reports should include the following to demonstrate how the mitigation hierarchy outlined in paragraph 118 of the NPPF has been applied:

- a) What biodiversity is present
- b) How biodiversity impacts can be avoided
- c) If it is not possible to avoid impacts, how they can be mitigated
- d) If there is no way of mitigating impacts, compensation measures should be identified
- e) The report should demonstrate how the application can result in an overall enhancement in biodiversity

Avoidance, mitigation, compensation and enhancement measures must be clearly stated to enable report recommendations to be conditioned and enforced.

Dry Sandford Pit Nature Reserve, Oxfordshire
(Jim Asher)



PLANNING POLICY

The National Planning Policy Framework states that:

'165. Planning policies and decisions should be based on up-to date information about the natural environment and other characteristics of the area ... Working with Local Nature Partnerships where appropriate, this should include an assessment of existing and potential components of ecological networks ...

'121. Planning policies and decisions should also ensure that: ... – adequate site investigation information, prepared by a competent person, is present'

Check the relevant District Council's Local Plan for local policy.



FURTHER INFORMATION

- [ALGE Biodiversity Toolkit](#)
- [Ecological Impact Assessment Guidelines \(CIEEM\)](#)
- [Guidelines for Preliminary Ecological Appraisal \(CIEEM\)](#)
- [The Habitats Regulations Assessment Handbook](#)
- [The British Standard on Biodiversity: 'Biodiversity – Code of practice for planning and development' \(BS 42020:2013\)](#)
- [Working with Wildlife Guidance for the Construction Industry, CIRIA](#)
- [Natural England Standing Advice for Ancient Woodland](#)
- [Natural England Standing Advice on Protected Species](#)

2a Internationally and nationally designated sites

Internationally designated sites: Special Areas of Conservation (SAC)

Oxfordshire has seven sites designated at this level which fall partly or entirely within the county; they are shown in orange on **Map 1**. The law is very strict with regard to these sites; development proposals which will adversely affect these sites are not permitted*. If a development is proposed that could possibly impact on a SAC, the applicant will need to submit an assessment of potential impacts and their significance with their planning application; this information is used by the local authority to make an 'Appropriate Assessment' of the implications for the SAC.

Impacts that will need to be considered include direct impacts, for example habitat loss through land-take, and indirect impacts such as changes to water quality or quantity, air pollution or increased recreational pressure. Indirect impacts could result from development proposals some distance from a SAC; impacts on internationally designated sites in other counties should also be considered. These might include Special Protection Areas (SPAs), designated for their importance for birds (there are no SPAs in Oxfordshire).

** In exceptional circumstances a proposal that would impact negatively on a SAC may be permitted but only where there are no alternative solutions and the proposal is necessary for imperative reasons of overriding public interest. Where this is the case, compensatory measures will be necessary.*

OXFORDSHIRE'S SPECIAL AREAS OF CONSERVATION

- **Oxford Meadows:** Lowland hay meadows including the larger of only two known sites in the UK for creeping marshwort
- **Cothill Fen:** Largest surviving example of alkaline fen in central England
- **Little Wittenham:** One of the best studied great crested newt sites in the UK
- **Aston Rowant:** One of the best remaining examples in the UK of lowland juniper scrub on chalk
- **Chilterns Beechwoods:** Extensive tract of beech forest in the centre of the UK range of this habitat
- **Hackpen Hill:** Significant population of early gentian
- **Hartslock Wood:** Yew woodland and chalk grassland supporting one of only three UK populations of monkey orchid

Nationally designated sites: Sites of Special Scientific Interest (SSSI)



Chinnor Hill SSSI (Jim Asher)

SSSIs are a series of sites from across the UK, which provide a representative sample of the country's best habitats. There are 102 SSSIs in Oxfordshire, covering a total of 4,012 ha. SSSIs are designated for either their biological or geological interest; they are shown in green on **Map 1**. Oxfordshire's SACs are also designated as SSSIs – the features for which the different types of site have been designated may differ.

SSSIs are given a high level of protection through both the planning and legal system. Normally development which would adversely affect a SSSI is not acceptable. Only in special cases, where the importance of a development outweighs the impact on the SSSI, would an adverse affect be permitted. In such cases, planning conditions or obligations would be used to mitigate the impact.

There is not a requirement to undertake an 'Appropriate Assessment' for SSSIs, but for developments likely to impact on a SSSI an Environmental Impact Assessment (EIA) will probably be necessary. CIEEM provide [guidance](#) for carrying out the ecological aspects of an EIA.

LEGISLATION

Special Areas of Conservation (SACs):
[EC Habitats Directive](#)

Special Protection Areas (SPAs):
[EC Birds Directive \(Council Directive 79/409/EEC on the conservation of wild birds\)](#)

In the UK these are implemented through UK law by the [Conservation of Habitats and Species Regulations 2010 \(as amended\)](#) and [Wildlife & Countryside Act 1981 \(as amended\)](#)

PLANNING POLICY

Because these sites are strictly protected by law, no further protection is required through the National Planning Policy Framework; paragraph 113 states that:

'113. Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.'

SACs are identified on proposals maps within Local Development Frameworks.*

LEGISLATION

[Wildlife and Countryside Act \(1981\)](#)

[Countryside and Rights of Way Act \(2000\)](#)

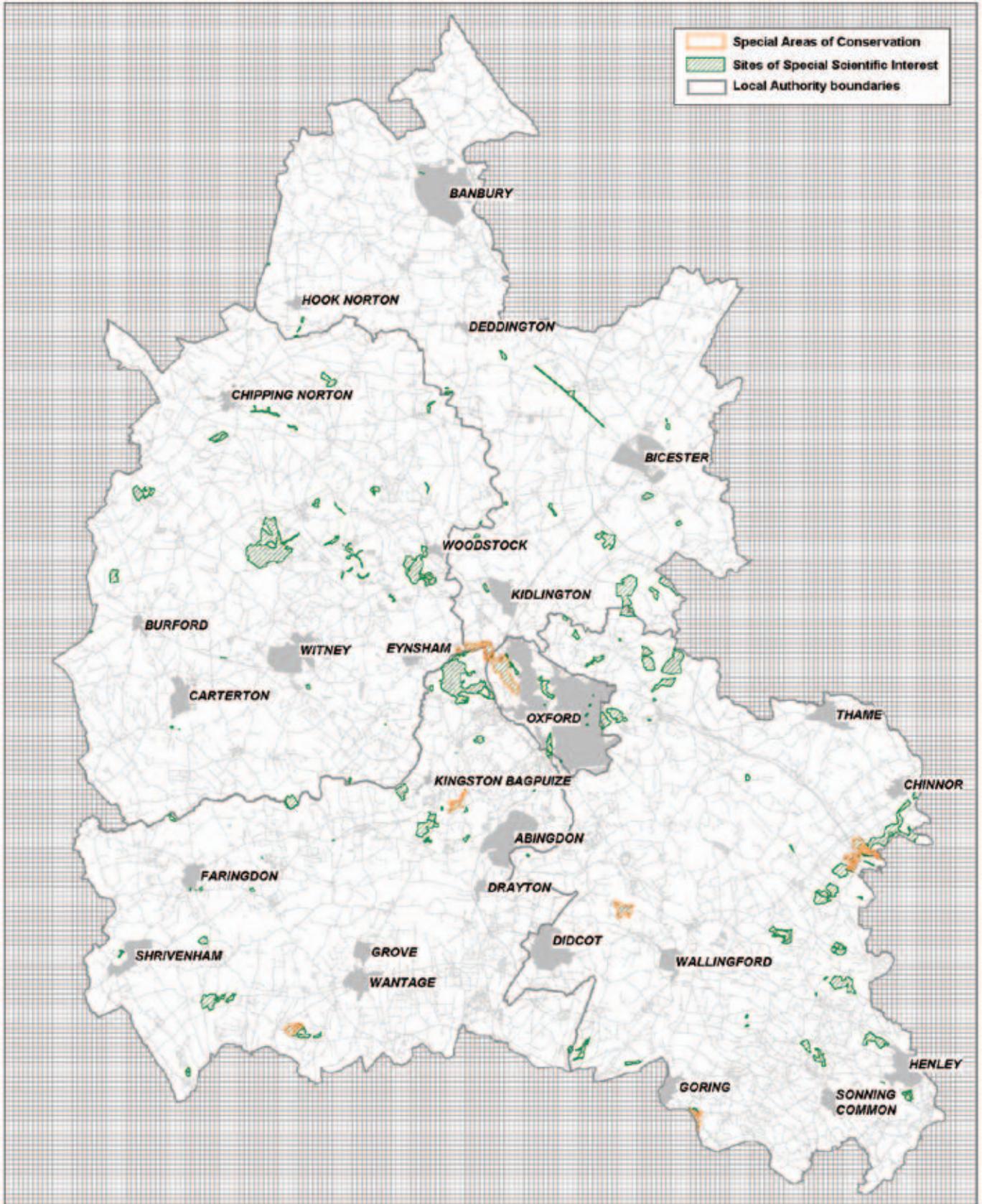
PLANNING POLICY

National Planning Policy Framework paragraph 118 states that:

'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.'

*Check the relevant District Council's Local Plan for local policy.

Special Areas of Conservation and Sites of Special Scientific Interest in Oxfordshire



Map produced by TVERC in 2008

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KEY ORGANISATIONS

- [Environment Agency](#)
- [Local authorities](#)
- [Natural England](#)

2b Legally protected species

Protected species occur throughout the county

An indication of current records is provided on **Map 2**. A full list of protected species occurring in Oxfordshire, and the level of protection they receive, can be downloaded from the [Protected and Notable Species page on the TVERC website](#). Species receiving the strictest protection are often referred to as 'European Protected Species', as they are protected under European Directives (see right). The European Protected Species found in Oxfordshire are bats, dormouse, great crested newt, natterjack toad, otter. These are protected against killing, injury, disturbance in their place of shelter, taking or selling. Cruelty to wild mammals is a criminal offence under The Wild Mammal (Protection) Act 1996.

Examples of activities that could breach the legislation include: in-filling or earthworks near to a great crested newt pond, felling of trees or demolition of buildings used by bats, clearance of woodland or hedgerows supporting dormice, or work on water course banks near an otter holt.

Species can receive varying levels of protection under the Wildlife and Countryside Act (WCA); Oxfordshire species receiving protection under this act include water vole, common lizard, grass snake, slow worm and roman snail; all these species are protected against killing, injuring, sale and advertisement for sale. It is also illegal to take a roman snail or freshwater crayfish. Water voles receive full protection under this Act, additionally making it illegal to obstruct access to, or destroy a water vole burrow, or to disturb a water vole in its burrow. The WCA makes it illegal to pick, uproot or destroy certain rare plants, of which there are records of 18 species in Oxfordshire.

Development needs to avoid impacts on protected species, and where this is not possible, mitigation or compensation will be necessary. If there is a possibility that a development proposal will impact on a protected species, surveys will need to be submitted with a planning application to determine the impacts. Please note: surveys to determine the presence of protected species need to be provided upfront with a planning application and should not be made a condition of planning permission since the local authority will need this information to inform their decision (see Circular 06/05, page 9). If planning permission is granted, a development licence, or conservation licence, from Natural England may be required.

BIRDS

All bird nests (while in use or being built), eggs and young are protected under the Wildlife and Countryside Act (WCA). Therefore, removal of any bird nesting habitat such as trees or scrub (or buildings in the case of birds such as barn owls, swifts, swallows, house martins and house sparrows) should only take place outside of the bird breeding season.

Some birds, listed on Schedule 1 of the WCA receive an extra level of protection which means that they cannot be disturbed during the breeding season; those likely to be found in Oxfordshire include red kite, kingfisher, barn owl, peregrine, hobby, harriers, little ringed plover, and Cetti's warbler. A full list can be downloaded from the [Protected and Notable](#)

[Species page on the TVERC website](#).

[Amendments to the Habitats Regulations](#) in 2012 mean that, when making decisions as a competent authority, local authorities must use "all reasonable endeavours" to avoid any pollution or deterioration of wild bird habitats. Public bodies, such as local authorities, in carrying out their normal duties must also take steps to preserve, maintain and re-establish habitat for wild birds. The objective of this duty is to maintain the populations of wild birds, while taking account of economic and recreational requirements.

In time, guidance will be issued by the Secretary of State for DEFRA on how to interpret the requirements, and compliance will be reviewed by Natural England. Until guidance is issued, authorities will, themselves, have to

LEGISLATION

[The Conservation of Habitats and Species regulations 2010 \(as amended\)](#)

[The Conservation of Habitats and Species \(Amendment\) Regulations 2012](#)

[Wildlife and Countryside Act \(1981\)](#)

[Protection of Badgers Act 1992](#)

[ODPM Circular 06/2005](#)

PLANNING POLICY

National Planning Policy Framework does not cover protected species specifically since they are protected by law. However, the National Planning Policy Framework paragraphs 109 and 118 state that net gains in biodiversity should be sought and net loss of biodiversity avoided.

Check the relevant District Council's Local Plan for local policy.



Badgers
(Terry Longley/
seeing.org.uk)

BADGERS

Badgers are a fairly common species, and are, therefore, quite likely to be encountered on a potential development site. Whilst not a rare species, badgers receive legal protection due to persecution and animal welfare issues.

Badgers are protected under the Protection of Badgers Act 1992 against killing, injury or taking. Badger setts are also protected against damage, destruction or obstruction and it is illegal to disturb a badger in its sett.

An up-to-date badger survey and report will be needed if a development is likely to impact on a badger sett, and appropriate mitigation will need to be put in place if impacts cannot be avoided.

Legally Protected Species in Oxfordshire



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This map is an example and may be out of date – for current information contact [TVERC](#)

KEY ORGANISATIONS

[Environment Agency](#)

[Local authorities](#)

[Natural England](#)

[RSPB](#)

2b Legally protected species

Where are protected species likely to occur?

As **Map 2** demonstrates, there are many records for protected species across the county.

There is a licensing process for impacts on protected species. There is case law that demonstrates that Local Planning Authorities need to take into account the likelihood of any impacts on protected species.

More information on how to determine when a protected species survey is required has been produced by Natural England in a Standing Advice Note.

It is important to bear in mind that protected species surveys can usually only be undertaken at certain times of year. For example, surveys of ponds for great crested newts must be undertaken between mid-March and mid-June when newts return to ponds to breed.



THE THREE TESTS

The 'Three Tests' (extract from [Natural England website](#)):

Wildlife licences permit otherwise unlawful activities, and can only be granted for certain purposes. Natural England has published [guidance on how we apply the three tests](#) set out in Regulation 53 of the Habitats Regulations 2010 when granting licences.

These tests are:

- The consented operation must be for 'preserving 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'; and
- There must be 'no satisfactory alternative'; and
- The action authorised 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.'



THE MORGE CASE

R (Vivienne Morge) v Hampshire County Council [2011] UKSC 2 and [2011] UKSC 2 (Morge)

Local Planning Authorities have a duty to have regard to the requirements of the Habitats Directive (See Regulation 9(5) of the 2010 Habitats Regulations). The judgement in the recent case of Morge (FC) (Appellant) v Hampshire County Council [2011] UKSC 2 considered the application of this duty. It came to the conclusion that, if the Planning Authority concludes that the carrying out of the development for which permission has been applied for even if it were to be conditioned, would be likely to offend Article 12(1), by for instance, causing the disturbance of a species with which that Article is concerned, then it must consider the likelihood of a licence being granted.

FURTHER INFORMATION

- [ALGE – Biodiversity Planning Toolkit](#)
- [British Standard BS 42020:2013 Biodiversity. Code of practice for planning and development.](#)
- [British Standard BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations.](#)
- [Badgers and Development \(Natural England\)](#)
- [Bat Mitigation Guidelines \(Natural England\)](#)
- [Circular 06/05: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System](#)
- [Dormouse Conservation Handbook \(Natural England\)](#)
- [Great Crested Newts Mitigation Guidelines \(Natural England\)](#)
- [Natural England Standing Advice on Protected Species](#)
- [Reptile Mitigation Guidelines \(Natural England\)](#)
- [Water Voles \(Natural England advice\)](#)



3 Local sites and priority habitats and species



Lowland meadow, Oxfordshire (Andy Fairbairn)

Protection through the planning system

Legal protection for the following biodiversity features varies, but all are protected through the planning system:

- Local Wildlife Sites (LWS)
- Local Geological Sites (LGS)
- Priority Habitats
- Priority Species
- Irreplaceable Habitats (e.g. Ancient Woodland)
- Veteran trees

Development which would adversely affect these features is not normally acceptable. Only in special cases, where the importance of a development outweighs the impact on the feature, would an adverse affect be permitted. In such cases, planning conditions or obligations would be used to mitigate the impact.

Where a development has the potential to impact on a local site, or a priority habitat or species, a biodiversity survey and report will be required; in some circumstances an Environmental Impact Assessment (EIA) may be needed.

The following pages give information on these features as they occur in Oxfordshire.



Woodland, Oxfordshire (Nigel Phillips)

3a Local Sites

Valuable sites for Oxfordshire's local wildlife

Local Sites are sites of substantive nature conservation value or geological interest. In Oxfordshire, Local Sites consist of Local Wildlife Sites (LWS) and Local Geological Sites (LGS). In Oxford City, Sites of Local Interest for Nature Conservation (SLINCs) and wildlife corridors also fall under this category. In total, there are 362 Local Wildlife Sites in the county, these are shown on **Map 3**.

All Local Sites which meet the necessary criteria are designated; this differs significantly from the process of identifying SSSIs, as the latter are a representative sample of sites. Thus, Local Sites can be equal in quality to SSSIs. Local Sites do not have statutory status, but do receive protection through the planning system (see right).

The identification of LWSs is an ongoing process including monitoring and review which is undertaken by the Local Sites Partnership (see below). Lists of LWSs by district are downloadable from the [TVERC website](#), but as the number of LWSs in any one district is always changing with new site selections and de-designations, TVERC should be contacted for the most up-to-date information.

Before formal selection, proposed LWSs are identified for survey; if a development is likely to affect a proposed LWS ecological surveys will be necessary. Ideally the site should be visited by the Wildlife Sites Survey Officer, and survey information presented to the LWS Selection Panel before a planning application that is likely to affect a proposed LWS is considered. In any case, a biodiversity survey and report will be necessary to establish any likely impacts.

LEGISLATION

Local Sites are non-statutory sites: no additional legislation applies.

PLANNING POLICY

National Planning Policy Framework paragraph 113:

'Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.'

Check the relevant District Council's Local Plan for local policy.

FURTHER INFORMATION

- [Local Sites, Guidance on their Identification, Selection and Management \(DEFRA\)](#)
- [Single Data List](#)
- [Oxfordshire Local Wildlife Sites](#)

KEY ORGANISATIONS

[Berks, Bucks and Oxon Wildlife Trust](#)
[Local authorities](#)
[Thames Valley Environmental Records Centre](#)

Local Wildlife Site, Oxfordshire (BBOWT)



OXFORDSHIRE'S LOCAL SITES PARTNERSHIP

Local Sites are selected at a county level and the process is overseen by a Local Sites Partnership. The [Oxfordshire Wildlife Sites Project](#) is jointly run by BBOWT and TVERC, with support from Oxfordshire's local authorities.

In addition to identifying Local Wildlife Sites, the Project also offers land management advice to the site owners.

The performance of local authorities for biodiversity is measured by assessing the number of Local Sites in positive conservation management; this forms part of the Single Data List, a set of data that local authorities send to government. It is reported on by Oxfordshire County Council with information prepared by BBOWT.

Local Wildlife Site, Oxfordshire (Jim Asher)



Local Wildlife Sites in Oxfordshire



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This map is an example and may be out of date – for current information contact [TVERC](#)

3b Irreplaceable Habitats

[National Planning Practice Guidance](#) states that the significance of irreplaceable habitats may be derived from '... habitat age, uniqueness, species diversity and/or the impossibilities of re-creation. For example, research suggests that it can take up to 150 years to create species-rich grassland'. There is no currently agreed list of irreplaceable habitats, but if it is taken as referring to any habitat of principal importance for which the timescale involved in completely recreating it would go beyond the period of the strategic planning cycle, then the following habitats in Oxfordshire could be considered irreplaceable:

- Ancient Woodland
- Ancient/veteran trees (which are often outside of ancient woodlands)
- Ancient Hedgerows
- Traditional unimproved meadows/ancient grasslands
- Fens

Ancient woodland and veteran trees as examples of irreplaceable habitats

Ancient woods are those that are known to have had continuous tree cover since at least 1600 AD. They are found throughout Oxfordshire, although there are particular concentrations in the Chilterns in south Oxfordshire, Wychwood in west Oxfordshire and the edge of the Bernwood area in the east of Oxfordshire. Natural England's Ancient Woodland Inventory maps ancient woods over 2 ha in size. There are 7,059 ha of these woodlands mapped in Oxfordshire – these are identified on **Map 4**. More detailed [mapping](#) has recently been completed for the Chilterns.

Ancient and veteran trees are old trees, they may be associated with woodlands, wood pasture and parkland, traditional orchard UK priority habitats or may stand alone, for example, old trees are often found on old parish boundaries. Ancient trees are often in the third and final stage of their life and are old relative to other trees of the same species. Veteran trees on the other hand are usually in the second or mature stage of their life and contain important wildlife features such as holes, deadwood and wounds.

Ancient woodlands, and ancient and veteran trees, are likely to have biodiversity interest, as well as cultural and historical significance. Ancient woodlands, and ancient and veteran trees, may be protected by tree preservation orders, but they are also protected by planning policy (see right).

When assessing the potential impact of a development on trees and woodlands, potential impacts on tree roots, as well as the above ground features, must be taken into account as issues such as compaction or alterations to drainage could have significant impacts on trees.

LEGISLATION

[Town and Country Planning Act 1990](#):
Tree Preservation Orders

PLANNING POLICY

National Planning Policy Framework
paragraph 118:

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

- 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; ...'

Check the relevant District Council's Local Plan for local policy.

Chalk grassland at Aston Rowant, Oxfordshire (BBOWT)



FURTHER INFORMATION

- [Natural England Standing Advice for Ancient Woodland](#)

KEY ORGANISATIONS

[Chilterns Woodland Project](#)
[Forestry Commission](#)
[Local authorities](#)
[Natural England](#)
[Woodland Trust](#)
[Wychwood Project](#)

Beech woodland at Warburg Nature Reserve, Oxfordshire (Nigel Phillips)



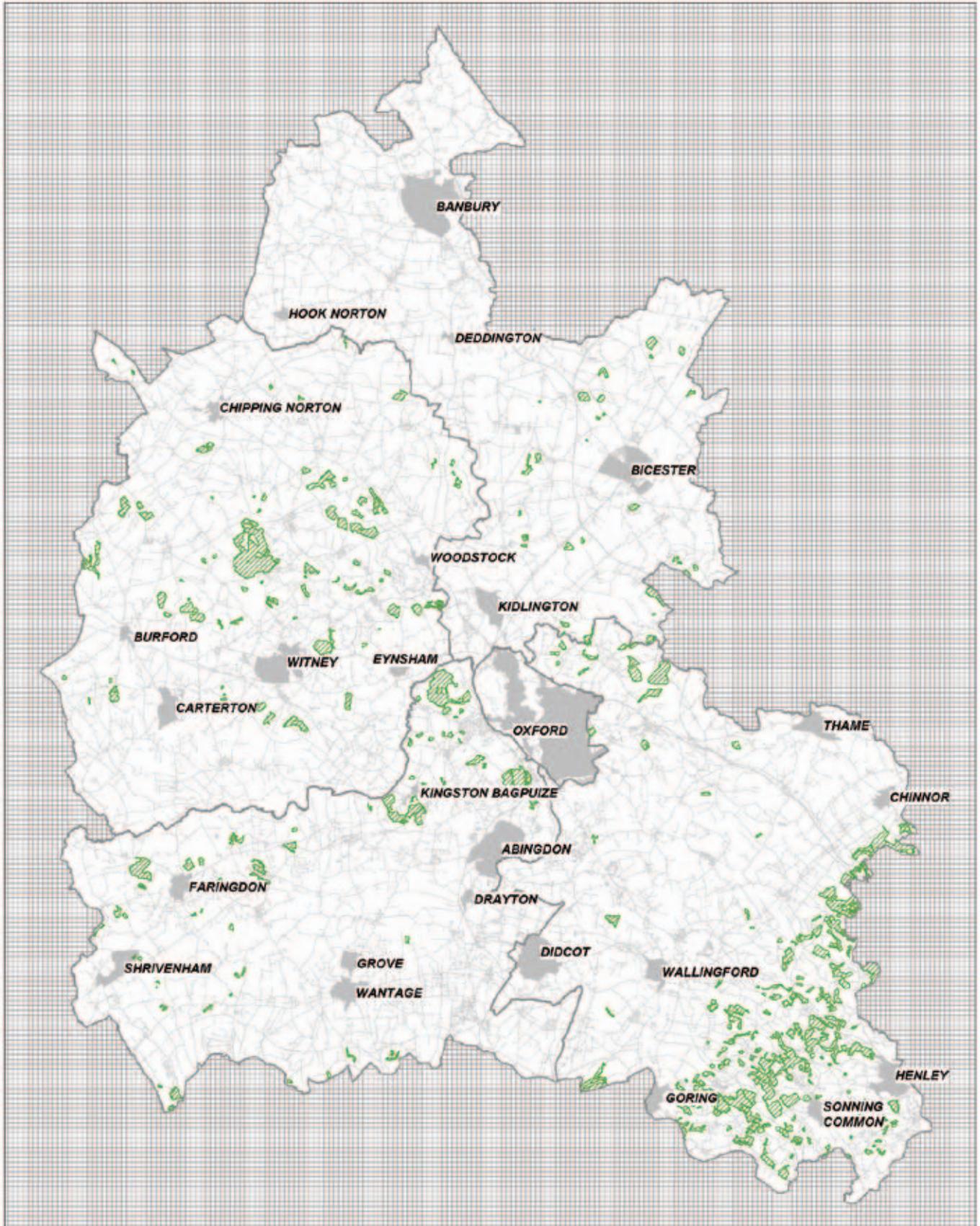
BIODIVERSITY OF ANCIENT WOODLANDS AND VETERAN TREES

Ancient woodlands are likely to have greater biodiversity interest than more recently planted woodlands; some ancient woodlands will also be UK priority habitats. Many woodland plants

with limited dispersal abilities are associated with ancient woodlands – some of these are used to help identify the presence of an ancient woodland and are known as ancient woodland indicators. In addition to ground flora interest, ancient woodlands are likely to support protected species, such as bats and dormice, as well as woodland birds and butterflies.

It has been estimated that Britain supports 80% of Europe's veteran trees, veteran trees are particularly important for the invertebrate communities they support, as well as providing good roosting habitat for bats and nesting sites for birds. Old trees are also likely to support a rich variety of lichens and mosses.

Ancient Woodland in Oxfordshire



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This map is only indicative. More recent mapping of ancient woodland has been carried out and is available from [TVERC](#)

3c Priority Habitats

Habitats of principal importance

The UK Post-2010 Biodiversity Framework replaces the UK Biodiversity Action Plan (BAP); it is the UK's response to the 'Aichi' strategic goals agreed by the Convention on Biological Diversity in Nagoya in 2010. The lists of priority species and habitats agreed under the UK BAP (BAP priority habitats and species) still form the basis of much of the country-led biodiversity work. England's approach is set out in Biodiversity 2020: A strategy for England's Biodiversity and Ecosystem Services which describes how the quality of the environment will be improved and follows on from policies in the Natural Environment White Paper.

The Oxfordshire BAP was one of the first to take a spatial approach by focusing conservation action on target areas. It sets targets for the restoration and creation of priority habitats in the county. The distribution of known UK priority habitats is identified on **Map 5**. These habitats do not receive statutory protection, but are protected by planning policy (see right). They are found both within and outside designated sites, and may occur in areas outside of those identified on Map 5. Priority habitats correspond to those identified under Section 41 of the NERC Act as habitats of principal importance for the conservation of biodiversity in England and have to be considered under planning policy.

UK PRIORITY HABITATS IN OXFORDSHIRE

(The UK definitions for each of these priority habitats can be downloaded from the [JNCC website](#))

GRASSLANDS

- **Lowland Calcareous Grassland:** a key habitat, associated with areas of chalk and limestone geology such as in the Chilterns and Cotswolds. Flower-rich, important for invertebrates (particularly butterflies). Sensitive to changes in nutrient status.
- **Lowland Dry Acid Grassland:** associated with sandy soils like those on the Mid-vale Ridge. Important for rare plants and invertebrates. Sensitive to changes in nutrient status.
- **Lowland Meadows:** a key habitat, important for flowers, invertebrates and ground-nesting birds. Sensitive to changes in hydrology and nutrient status.

WOODLANDS

- **Lowland Beech and Yew Woodland:** a key habitat, mainly in the Chilterns.
- **Lowland Mixed Deciduous Woodland:** can have rich ground flora. Also important for bats, woodland birds and butterflies, occasionally support dormice.
- **Wet Woodland:** restricted distribution, likely to be adjacent to waterbodies or part of a mosaic of wetland habitats. May support otter or rare invertebrates.
- **Wood-pasture and Parkland:** important for veteran trees, invertebrates and bats. Found mainly on old estates.

WETLANDS

- **Coastal and Floodplain Grazing Marsh:** a key habitat associated with river floodplains. Sometimes flower-rich, important for wading birds. Particularly sensitive to changes in hydrology and nutrient status.
- **Eutrophic Standing Waters:** likely to be found in old gravel pits and reservoirs, often important for waterbirds.
- **Lowland Fens:** a key habitat, particularly in the Cothill area. Important for rare invertebrates and plants, water vole and otter. Sensitive to changes in hydrology and nutrient status.
- **Ponds:** may be rich in plants and invertebrates. Likely to be breeding sites for amphibians. Sensitive to changes in hydrology and nutrient status.
- **Reedbeds:** restricted distribution. Important for birds, may support water voles or rare plants. Sensitive to changes in hydrology.
- **Rivers:** provide important wildlife corridors. Likely to support water vole, otter, and a variety of invertebrates. Chalk streams in Chilterns are a local speciality.

OTHER

- **Arable Field Margins:** where managed to provide benefits for wildlife, can provide important food sources for birds and invertebrates.
- **Hedgerows:** an important linking habitat used by foraging birds and bats, dormice and a range of invertebrates. (Subject to the Hedgerow Regulations 1997).
- **Lowland Heathland:** of restricted distribution, important for reptiles and invertebrates.
- **Open mosaic habitats on previously developed land:** examples include former quarries and ash lagoons – important for birds, invertebrates and specialist plants.
- **Traditional Orchards:** restricted distribution, dependent on traditional management methods. Important for bats, invertebrates, mosses, lichens.

LEGISLATION

[Natural Environment and Rural Communities Act 2006](#), Section 41 lists habitats of principal importance for the conservation of biodiversity in England (this replaces the list under Section 74 of the CRow Act 2000).

PLANNING POLICY

National Planning Policy Framework paragraph 117:

'To minimise impacts on biodiversity and geodiversity, planning policies should: ... 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; ...'

Many UK priority habitats are 'irreplaceable habitats', as described in paragraph 118 of the National Planning Policy Framework. Paragraph 118 states:

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

- 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; ...'

Check the relevant District Council's Local Plan for local policy.

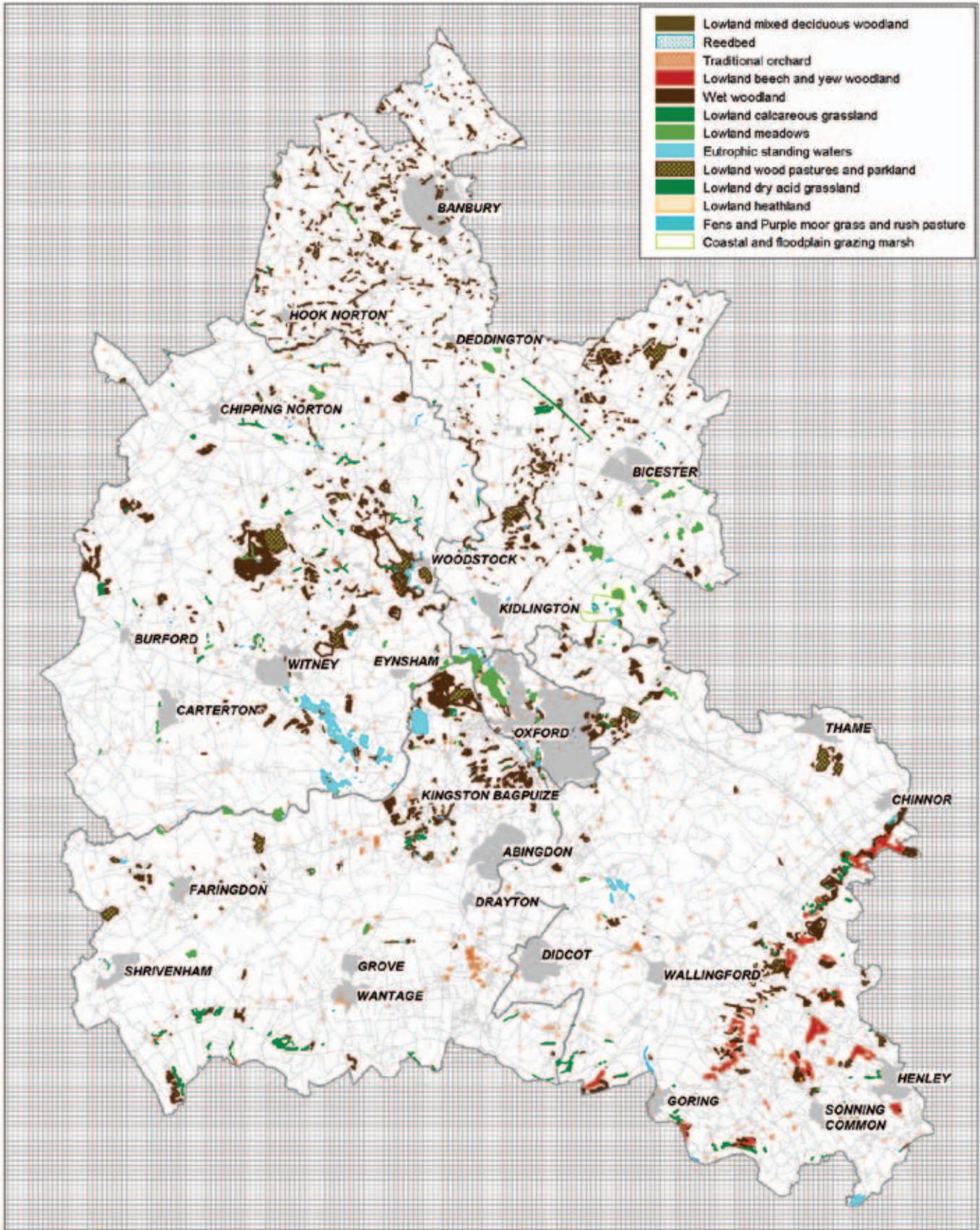
KEY ORGANISATIONS

[Wild Oxfordshire \(formerly Oxfordshire Nature Conservation Forum\)](#)

FURTHER INFORMATION

- [UK Biodiversity Strategy](#)
- [UK Post-2010 Biodiversity Framework \(2012\)](#)

UK Biodiversity Action Plan Priority Habitats in Oxfordshire



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3d Priority Species

Species of principal importance

In addition to listing priority species, Section 41 of the Natural Environmental and Rural Communities (NERC) Act 2006 also identifies UK priority species (formerly called UK BAP priority species). There are 1,149 priority species; locations where priority species have been recorded in Oxfordshire are identified on **Map 6**. Priority species are likely to be found both within and outside of designated sites, many priority species will be associated with priority habitats, but not exclusively so. Priority species include rare and declining species of mammals, birds, reptiles, amphibians, fish, plants, mosses, lichens and liverworts.

Inclusion on the list of priority species does not imply legal protection although some priority species are also protected under law (see Section 2b). Priority species correspond to those identified under Section 41 of the NERC Act as species of principal importance for the conservation of biodiversity in England and have to be considered under planning policy.

PRIORITY SPECIES IN OXFORDSHIRE

A full list of priority species occurring in Oxfordshire can be downloaded from the [Protected and Notable Species page on the TVERC website](#); examples of priority species that could be protected or enhanced through the planning system in Oxfordshire include:

■ **BROWN HAIRSTREAK BUTTERFLY:** A small species, not easily seen as it spends much of its time in the tree canopy, or hidden in hedgerows. This species is rare in the UK; its distribution is restricted to localities in southern Britain and mid-west Ireland. The brown hairstreak has undergone severe declines due to hedgerow removal and annual flailing, which removes their eggs.

An area in the north-east of Oxfordshire and over the border into Buckinghamshire is a hotspot for this species, which lays its eggs in the blackthorn hedges found here. Planning applications should avoid the removal or fragmentation of hedgerows where brown hairstreak occur, and existing and new hedgerows should be incorporated into the design of developments and managed to maintain and enhance brown hairstreak populations.

■ **FARMLAND BIRDS**, including skylark, linnets, yellowhammers, reed-bunting, curlew, tree sparrow, grey partridge, bullfinch, starling, song thrush and turtle dove, have shown dramatic declines within the last 30 years. All individual birds are protected under the Wildlife and Countryside Act 1981, however, opportunities should be taken to maintain and enhance the populations of these farmland birds wherever possible.

Development could impact on these species by direct loss of habitat, but also through increased recreational disturbance, especially associated with residential developments. Ground-nesting birds, such as skylark, can be protected by restricting access to areas they use during the breeding season. Species such as tree sparrow can benefit from the provision of suitable nest sites.

Wet grasslands along river valleys such as the Cherwell, Windrush and Ray provide important remnant habitat for curlew and other wetland birds such as snipe, lapwing and redshank. Development should avoid habitat fragmentation and impacts on the hydrology of these areas. Opportunities should be taken to improve and extend suitable habitat; this may be combined with areas needed to provide flood protection.



Yellowhammer
(Sherie New/seeing.org.uk)

LEGISLATION

[Natural Environment and Rural Communities Act 2006, Section 41](#) lists species of principal importance for the conservation of biodiversity in England (this replaces the list under Section 74 of the CRoW Act 2000).

PLANNING POLICY

National Planning Policy Framework paragraph 117:

'To minimise impacts on biodiversity and geodiversity, planning policies should: ...

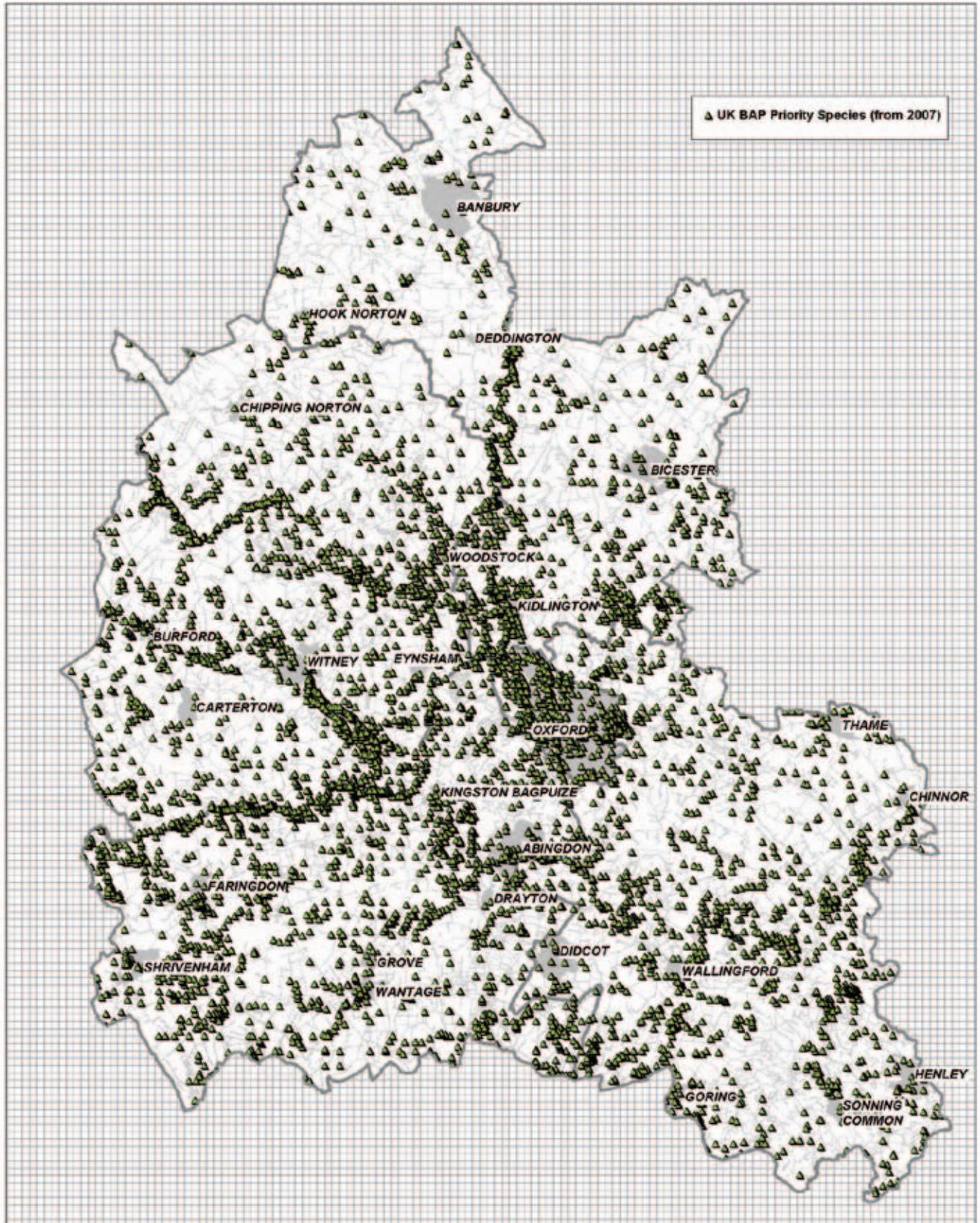
- promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan; ...'

Check the relevant District Council's Local Plan for local policy.

KEY ORGANISATIONS

[Amphibian and Reptile Group](#)
[Ashmolean Natural History Society](#)
[Rare Plants Group](#)
[Bat Conservation Trust](#)
[Butterfly Conservation](#)
[Chilterns Conservation Board](#)
[Cotswolds Conservation Board](#)
[Environment Agency](#)
Local authorities
[Mammal Society](#)
[North Wessex Downs AONB](#)
[RSPB](#)
[Water Vole Recovery Project, c/o BBOWT](#)
[Wild Oxfordshire \(formerly Oxfordshire Nature Conservation Forum\)](#)

UK BAP Priority Species in Oxfordshire



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3e Other areas of importance to biodiversity

There are a number of areas and sites of importance to biodiversity within the county which are identified in addition to (and via other mechanisms to) the biodiversity planning policy and legislation covered by this document. These include nature reserves and Areas of Outstanding Natural Beauty.

Nature Reserves

The term 'nature reserve' is used to describe a range of different types of site important for wildlife and people. Some of these nature reserves have a statutory designation in their own right; in other cases, the term 'nature reserve' does not in itself imply any special protection. However, most of these sites will receive another form of designation (SAC, SSSI, LWS) and most, if not all, support protected species or priority habitats or species. See **Map 7** for the range of nature reserves found in Oxfordshire.

National Nature Reserves (NNRs) protect sensitive biodiversity or geological features, provide sites for ecological research and offer opportunities for people to experience the natural environment. NNRs are a statutory designation made by Natural England. Oxfordshire has four NNRs:

- [Aston Rowant](#) is also a SAC and SSSI and is owned and managed by Natural England
- [Chimney Meadows](#) is also a SSSI and is owned by Natural England and managed by BBOWT
- [Cothill Fen](#) is also a SAC and SSSI, it is owned by Natural England and managed by the National Trust and BBOWT
- [Wychwood](#) is also a SSSI and is in private ownership

Local Nature Reserves (LNRs) are important for people and wildlife; they have features of local biodiversity or geological interest and offer opportunities for learning. LNRs are a statutory designation made by local authorities. There are 11 LNRs in Oxfordshire.

Road Verge Nature Reserves have been identified by Oxfordshire County Council; there are 35 across the county which are species-rich and characteristic of the area.

Berks, Bucks & Oxon Wildlife Trust (BBOWT) Nature Reserves: BBOWT manages 31 nature reserves within Oxfordshire to protect important biodiversity, and to provide opportunities for people to enjoy local wildlife. Many BBOWT nature reserves have SAC, SSSI or LWS status.

Royal Society for the Protection of Birds (RSPB), Otmoor: The RSPB owns and manages this nature reserve in the east of Oxfordshire.

Earth Trust (formerly Northmoor Trust) Reserves: The Earth Trust owns and manages Little Wittenham Clumps which includes a SAC and SSSI. They also manage Mowbray Fields (a Local Nature Reserve), Thrupp Lake and Clifton Hampden Meadow.

Banbury Ornithological Society (BOS) Reserves: BOS owns or leases five nature reserves in the north of the county; many of these have LWS status.

Woodland Trust Woods: There are 20 woods owned and managed by the Woodland Trust in Oxfordshire, some have SSSI or LWS status, and most are ancient woodland.

Areas of Outstanding Natural Beauty (AONBs)

AONBs are landscapes designated for the purpose of conserving and enhancing the natural beauty (including conservation of flora, fauna and geological and physiographical features) of an area. There are three AONBs which fall partly within Oxfordshire: the [Chilterns](#), the [Cotswolds](#) and the [North Wessex Downs](#).

AONBs support a large number of designated nature conservation sites and priority habitats. A significant proportion of Oxfordshire's Conservation Target Areas are within AONBs, as are many of the most biodiverse landscape areas (see Sections 4a and 4b).

All three AONBs have AONB Management Plans which are statutory plans and include reference to the conservation and enhancement of biodiversity as a component of natural beauty. The Chilterns and Cotswolds AONB management plans have been endorsed by Oxfordshire County Council as supplementary guidance for planning purposes. The management plan for the North Wessex Downs AONB has been adopted by all constituent authorities.

LEGISLATION

National Nature Reserves are designated under the [Wildlife and Countryside Act \(Section 35\)](#) and the [National Parks and Access to the Countryside Act 1949](#)

Local Nature Reserves are designated under the [National Parks and Access to the Countryside Act 1949](#)

PLANNING POLICY

Policies described in Sections 2 and 3 of this document should be applied according to the wildlife interest and any statutory designation that applies to the nature reserve, and biodiversity enhancements should be sought in line with National Planning Policy Framework and local policies as described in Section 4.*

FURTHER INFORMATION

- [Chilterns AONB Management Plan](#)
- [Cotswolds AONB Management Plan](#)
- [Cotswolds Conservation Board Position Statement on Biodiversity and Planning in the Cotswolds AONB](#)
- [North Wessex Downs AONB Management Plan](#)

LEGISLATION

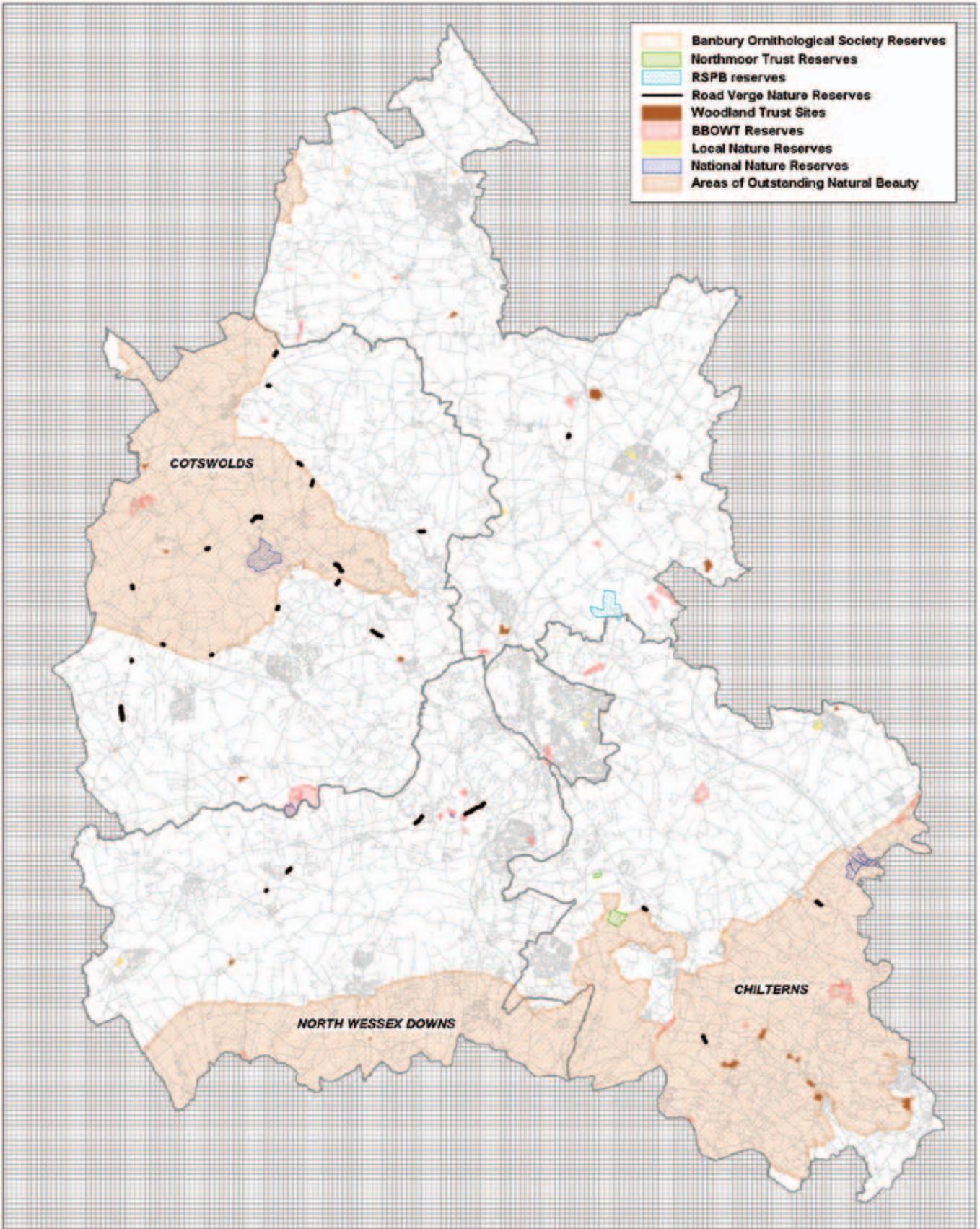
AONBs are designated under the [Countryside and Rights of Way Act 2000](#) and the [National Parks and Access to the Countryside Act 1949](#)

PLANNING POLICY

Policies described in Sections 2 and 3 of this document should be applied according to the wildlife interest and any statutory designation that applies to land within an AONB, and biodiversity enhancements should be sought in line with National Planning Policy Framework and local policies as described in Section 4.*

*Check the relevant District Council's Local Plan for local policy.

Oxfordshire Nature Reserves and Areas of Outstanding Natural Beauty



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4a Oxfordshire's Wildlife and Landscape Study

Chimney Meadows Nature Reserve (Kerry Lock)



The beauty of Oxfordshire's landscapes and wildlife inspire and enrich our lives and are an important part of our local identity.

What is landscape?

Landscape is defined as: "An area, as defined by people, whose character is the result of action and interaction of natural and/or human factors" (European Landscape Convention, 2000). All landscapes are important to local communities, from our everyday landscapes and townscapes to our Areas of Outstanding Natural Beauty.

Every landscape is unique, characterised by distinctive patterns resulting from human and natural interactions. Biodiversity is therefore a key part of

landscape. The type, distribution and diversity of habitats help make each landscape unique.

Oxfordshire Wildlife and Landscape Study (OWLS)

The Oxfordshire Wildlife and Landscape Study is the county's landscape character assessment. It helps to set out what is special and unique about each part of Oxfordshire.

OWLS defines 24 Landscape Types and describes the key characteristics of those landscapes – both the human and the natural factors that make each landscape type different.

Bioscores

The landscape assessment for OWLS was undertaken together with a biodiversity appraisal, which assessed the number, type, size, extent, proximity and status of habitats within the landscape units. Each unit was ascribed a 'bioscore'. This helped to form the county's landscape-scale biodiversity approach – the Conservation Target Areas, which highlights those areas within the county that are most special for biodiversity (see 4b).

USING OWLS WITHIN BIODIVERSITY PLANNING

OWLS can be used to assess the potential impacts of a development on the landscape, and to inform what kinds of biodiversity and landscape enhancement measures may be appropriate in any particular location. It provides information on land use, vegetation, biodiversity, habitat distribution, native and common species, and it also provides a biodiversity strategy and guidelines for each Landscape Type that can be used to help set biodiversity conservation objectives.

Landscape Character Assessments can be undertaken at many different scales. District authorities within Oxfordshire also have local landscape character assessments. These should be used together with OWLS as complementary resources. There are also landscape character assessments undertaken for the AONB areas, and National Character Area Assessments available via Natural England.

Chilterns escarpment (OCC)



OXFORDSHIRE'S LANDSCAPES:

Oxfordshire has 24 landscape types, describing the wide range of landscapes found in Oxfordshire. The full descriptions are found [here](#), with a few examples below.



**CHALK
DOWNLAND
AND SLOPES**



CLAY VALE



**WOODED
PASTURE
VALLEYS
AND SLOPES**



**FARMLAND
PLATEAU**



**ROLLING
FARMLAND**

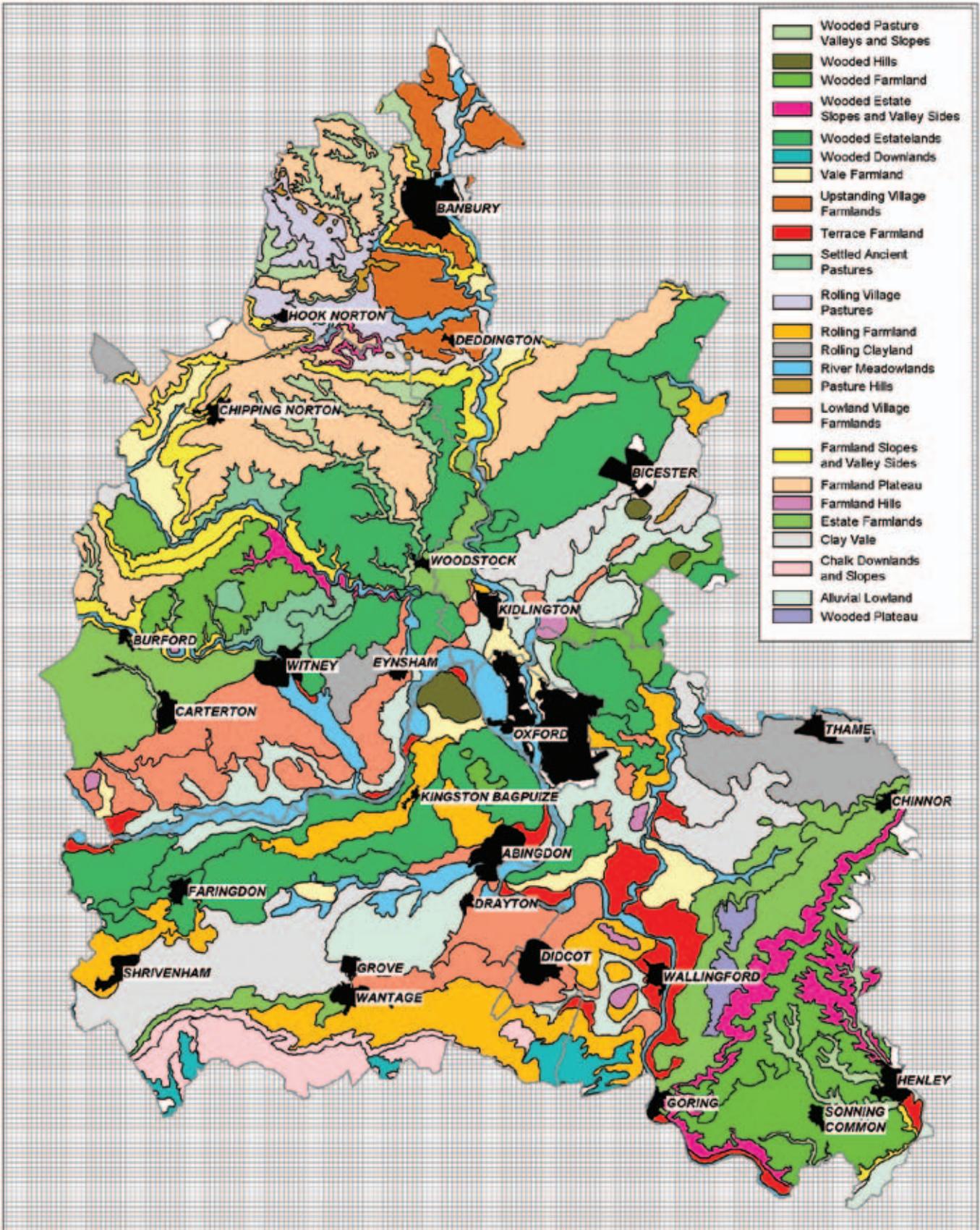


**SETTLED
ANCIENT
PASTURES**

KEY ORGANISATIONS

- [Chilterns AONB](#)
- [Cotswolds AONB](#)
- [District Authorities](#)
- [Natural England](#)
- [North Wessex Downs AONB](#)
- [Oxfordshire County Council](#)

**Landscape Types in Oxfordshire
(from the Oxfordshire Wildlife and Landscape Study (OWLS))**



Scale 1:190,000

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4b Conservation Target Areas

Important areas for wildlife conservation

Conservation Target Areas (CTAs) identify the most important areas for wildlife conservation in Oxfordshire, where targeted conservation action will have the greatest benefit. The main aim within CTAs is to restore biodiversity at a landscape-scale through the maintenance, restoration and creation of UK priority habitats. CTAs are identified on **Map 9**, they are equivalent to the Biodiversity Opportunity Areas that have been mapped across South East England.

The local planning approach to CTAs is being developed in emerging Local Plans across the county, in accordance with paragraph 117 of the National Planning Policy Framework (see right).

In general, development that would prevent the achievement of the aims of a CTA should be avoided. In many cases this involves protecting the designated and priority habitats and species in the CTA (see Sections 2 and 3), but consideration should also be given to whether development will affect habitat connectivity, either positively or negatively.

The National Planning Policy Framework requires development to “provide net gains in biodiversity where possible”. As with all development, proposals within or adjacent to a CTA will be expected to deliver biodiversity enhancements, but within a CTA such enhancements will be most effective when they are tailored to meet the aims of a CTA. The scale of enhancements should be proportional to the size of the development.

Examples of measures that might be involved include:

- restoration or maintenance of habitats through suitable management secured by planning obligations;
- habitat creation to link fragmented habitats;
- funding towards conservation initiatives in the CTA, secured by planning conditions and obligations;
- and provision of capital items needed to secure biodiversity enhancements (such as fencing to allow grazing).

Where a development has the potential to impact, either positively or negatively, on the known biodiversity interest of a CTA, a biodiversity survey and report will be required, to identify both constraints and opportunities. In some circumstances an Environmental Impact Assessment may be needed.

DELIVERING BIODIVERSITY GAINS IN OXFORDSHIRE'S CONSERVATION TARGET AREAS

The CTAs were mapped by TVERC in consultation with local authorities and conservation organisations in Oxfordshire. They were identified by taking into account existing concentrations of UK priority habitat and important areas for priority species. The potential for habitat restoration was also considered and took into account geology, topography and hydrology. Archaeological interest and public access were also taken into consideration.

A statement has been produced for each **CTA** identifying the features of biodiversity importance and targets for maintenance, restoration and creation of habitats.

The CTAs provide a focus for coordinated biodiversity action in the county, including:

- Biodiversity project work by a range of organisations
- Delivery of agri-environment schemes
- Provision of biodiversity enhancements through the planning system

Delivery of CTA aims is coordinated by Wild Oxfordshire (formerly ONCF), who also coordinate working groups for CTAs. Details of organisations leading these working groups are available from Wild Oxfordshire.

PLANNING POLICY

National Planning Policy Framework paragraph 109:

The planning system should contribute to and enhance the natural and local environment by: ... 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;

National Planning Policy Framework paragraph 117:

To minimise impacts on biodiversity and geodiversity, planning policies should: ...

- plan for biodiversity at a landscape-scale across local authority boundaries;
- 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;
- 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.

CTAs are recognised in a number of Local Plans within Oxfordshire. Reference should be made to these for further details of the approach taken.

KEY ORGANISATIONS

[Berks, Bucks and Oxon Wildlife Trust](#)
[District authorities](#)
[Environment Agency](#)
[Natural England](#)
[Oxfordshire County Council](#)
[Thames Valley Environmental Records Centre](#)
[Wild Oxfordshire \(formerly Oxfordshire Nature Conservation Forum\)](#)

Conservation Target Areas in Oxfordshire



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4c Green Infrastructure

Oxfordshire's green spaces, rights of way, rivers, lakes, canals, commons and wildlife habitats are important assets at the heart of our Green Infrastructure networks that intersperse and connect our villages, towns and city. They have a wide range of benefits not just for wildlife but also for people, e.g. quality of life, recreation, access to nature, attracting businesses and visitors, maintaining land value, and climate change adaptation. In new developments Green Infrastructure can help deliver attractive and innovative places that people want to live, work and play in.

Green Infrastructure and biodiversity

Planning and delivering Green Infrastructure has a significant role to play in maintaining and restoring the natural environment – not just habitats and species but also ecosystem services and functioning ecological systems. Ecosystem Services are the 'benefits people obtain from ecosystems, such as food, water, flood and disease control and recreation' (National Planning Policy Framework 2012). Multi-functionality is central to the green infrastructure approach, which recognises these many benefits. This does not mean that every site or feature has to be multi-functional, but that sites, routes and links taken together should seek to create a multifunctional and connected network.

Green Infrastructure should provide a network of interconnected habitats to enable dispersal of species across the wider environment. Open spaces within developments should be linked to biodiversity in the wider countryside, including on designated sites, priority habitats and CTAs. Green Infrastructure should also be planned to provide ecosystem services such as flood protection, microclimate control and filtration of air pollutants.

How much Green Infrastructure, what and where?

The National Planning Policy Framework does not define specific standards that apply to Green Infrastructure planning, so early discussions with the local planning authority are important, ideally at a pre-application stage. The following may help define qualitative or quantitative standards and objectives for Green Infrastructure in specific locations:

- District greenspace strategies and/or Green Infrastructure plans
- Accessible Natural Greenspace Standards
- National quality standards for greenspaces e.g. Green Flag Criteria or Natural England's Country Park criteria
- Oxfordshire's Rights of Way Improvement Plan
- Wildlife Trusts' Biodiversity Benchmark
- Oxfordshire's Biodiversity Action Plan Targets & approach
- AONB Management Plans
- Local design guides
- Oxfordshire Wildlife and Landscape Study
- Oxfordshire Flood Risk Management strategy

PLANNING POLICY

National Planning Policy Framework 2012:

"A network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities."

Natural Environment White Paper (2011):

"A term used to refer to the living network of green spaces, water and other environmental features in both urban and rural areas. It is often used in an urban context to cover benefits provided by trees, parks, gardens, road verges, allotments, cemeteries, woodlands, rivers and wetlands. Green infrastructure is also relevant in a rural context, where it might refer to the use of farmland, woodland, wetlands or other natural features to provide services such as flood protection, carbon storage or water purification. Green infrastructure maintains critical ecological links between town and country."

Biodiversity 2020: A strategy for England's wildlife and ecosystem services

Outcome 1 – Habitats and ecosystems on land

By 2020 we will have put in place measures so that biodiversity is maintained and enhanced, further degradation has been halted and where possible, restoration is underway, helping deliver more resilient and coherent ecological networks, healthy and well-functioning ecosystems, which deliver multiple benefits for wildlife and people.

EXAMPLES OF GREEN INFRASTRUCTURE ASSETS IN OXFORDSHIRE:



Jim Asher

Local: Street trees, green roofs, hedgerows, local parks and gardens, village greens, local routes and walks, cemeteries, churchyards, ponds and streams, woodlands, play areas, Local Nature Reserves, school grounds, sustainable urban drainage schemes.



Cathie Hasler

Landscape/strategic: River Thames, Windrush Valley, Oxford Canal, Wilts and Berks Canal, Cotswolds, Chilterns, and North Wessex Downs AONBs, RSPB Otmoor, Bernwood, The Ridgeway and Thames Path National Trails, Oxfordshire Way, D'Arcy Dalton Way.



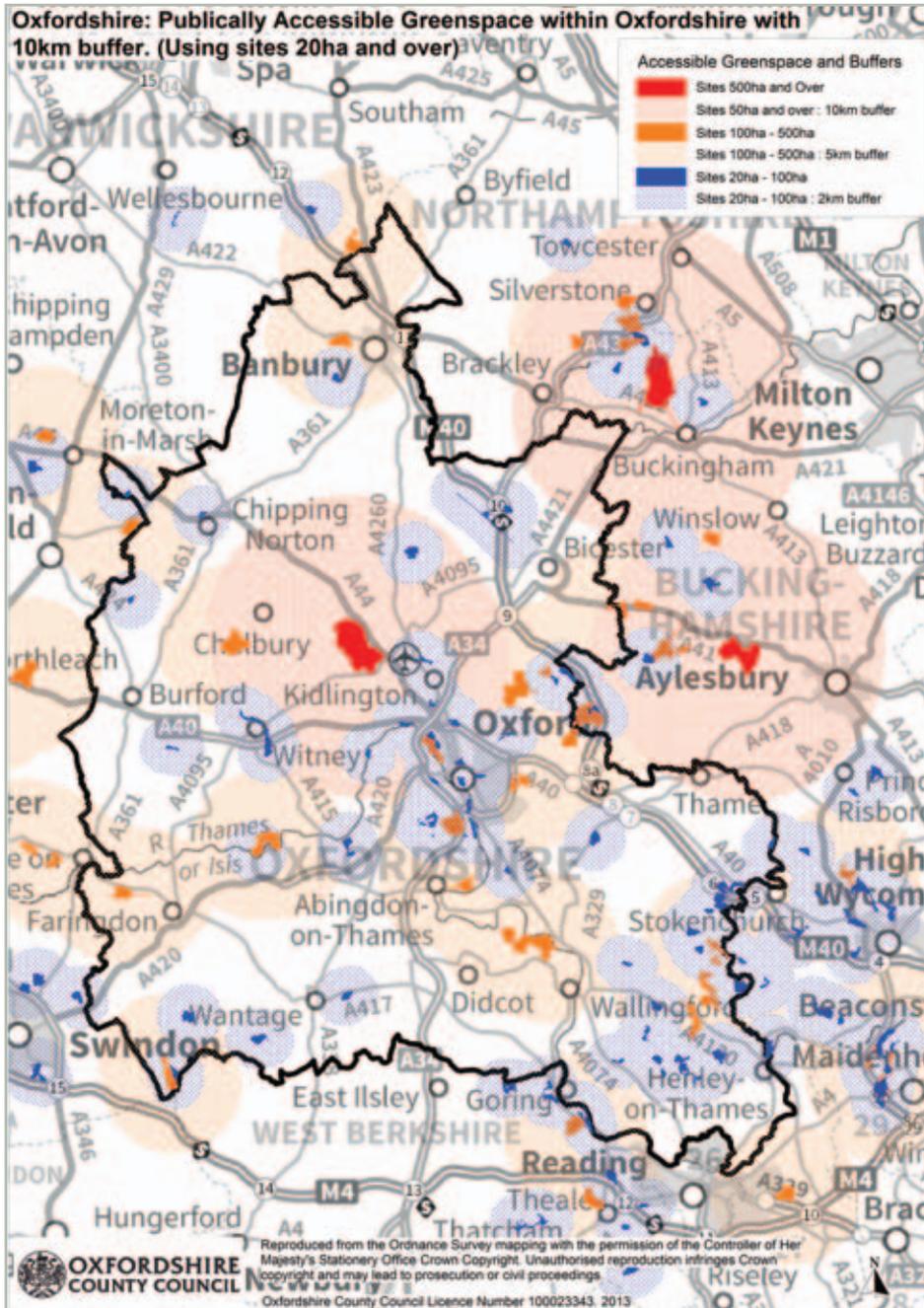
Jim Asher

Town/village: Shotover Country Park, Brasenose, Wittenham Clumps, Spiceball County Park, Witney Lakes, Abbey Meadows, Farmoor Reservoir, Rushy Common and Standlake, Cothill Fen NNR/SSSI, connected networks of Rights of Way, greenways and cycle paths.

FURTHER INFORMATION

- [Good practice guidance for green infrastructure and biodiversity \(2012\)](#)
- [Natural England: Green Infrastructure Guidance](#)
- [Local Green Infrastructure: helping communities make the most of their landscape](#)

Map 10



KEY ORGANISATIONS

Local authorities:

[Cherwell District Council](#)

[Oxford City Council](#)

[Oxfordshire County Council](#)

[South Oxfordshire District Council](#)

[Vale of White Horse District Council](#)

[West Oxfordshire District Council](#)

AONBs:

[Chilterns AONB](#)

[Cotswolds AONB](#)

[North Wessex Downs AONB](#)

Other:

[Berks, Bucks and Oxon Wildlife Trust](#)

[Natural England](#)

EXAMPLES OF NATIONAL GREEN INFRASTRUCTURE STANDARDS: ANGST

ANGSt recommends that everyone, wherever they live, should have accessible natural greenspace:

- of at least 2 hectares in size, no more than 300 metres (5 minutes walk) from home;
- at least one accessible 20 hectare site within two kilometres of home;
- one accessible 100 hectare site within five kilometres of home; and
- one accessible 500 hectare site within ten kilometres of home; plus
- at least one hectare of statutory Local Nature Reserves per thousand population



Map 10: Greenspace meeting 'accessible' and 'natural' criteria at a county scale (over 20 ha) showing ANGST buffers.

EXAMPLES OF LOCAL GREEN INFRASTRUCTURE STANDARDS: OXFORD GREEN SPACES STRATEGY 2013-2027

Objective 04: Improving local access to green space

Our aspiration is that people do not have to walk more than 1900 m to their nearest large park, not more than 750 m to their nearest medium park and not more than 400 m to their nearest small park. This standard will be applied to all new developments as well as existing residential areas.

4d Biodiversity in built development

Biodiversity can be proactively planned into new developments of all kinds and at all scales, from individual houses or new roads, to masterplans for large development sites. Features for biodiversity within the site should be planned to link up to habitats and features in the surrounding landscape. The following checklist suggests steps that should be followed to achieve best practice. The ecologist for the determining authority should also be consulted early in the process, ideally at pre-application stage.

Checklist:

Pre-application:

- Have appropriate ecological surveys and assessments been undertaken to understand the habitats and species present and the direct and indirect impacts of development?
- Can different options be pursued in the siting, scale and location of development to reduce impacts?
- How will the adverse impacts of development be mitigated?

Planning /masterplanning:

- Can existing biodiversity habitats and features be incorporated into the site design?
- What measures can be taken to ensure an overall gain in biodiversity? How will net gain be quantified?
- Consider the creation of new habitats – can these link or buffer existing habitats?
- Will the scheme provide people with access to nature – at home, at work or school?
- Have the impacts of people on biodiversity sites and features been considered?
- Is there enough publicly accessible natural greenspace?
- Is new green infrastructure linked to the rights of way network?

Design of buildings, roads & sites:

- Do the detailed designs include specifications for biodiversity features and areas? [See below].
- Have the impacts of lighting been considered?

Long term management:

- Has a long-term management plan been prepared to set out how sites will be managed?
- Have capital and annual management costs been properly estimated?
- Who will manage the assets, and where will the money come from?

Biodiversity is not only found in the countryside and special nature reserves; the built environment also provides opportunities to deliver enhancements for biodiversity. Bringing nature into the built environment can also increase land values by making developments more attractive. Increasing the amount of vegetation, water bodies and 'natural' surfaces (rather than non-porous, hard surfaces) also improves the resilience of built areas to extreme weather events such as drought, heavy rainfall and flooding.

PLANNING POLICY

National Planning Policy Framework paragraph 109:

The planning system should contribute to and enhance the natural and local environment by: ... 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;

National Planning Policy Framework paragraph 118:

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles: ... opportunities to incorporate biodiversity in and around developments should be encouraged.

KEY ORGANISATIONS

[Bat Conservation Trust](#)

[Berks, Bucks and Oxon Wildlife Trust](#)

[District authorities](#)

[Freshwater Habitats Trust](#)

[Oxfordshire County Council](#)

[RSPB](#)

[Swift Conservation](#)

[UK Green Building Council](#)

Smarter building: from grey to green

<p>Engineered solutions</p> <ul style="list-style-type: none"> ■ Bollards ■ Security fences ■ Paved courtyards ■ Traditional roofs 	 <p>OCC</p>	<p>Natural solutions</p> <ul style="list-style-type: none"> ■ Street trees ■ Green walls ■ Rain gardens ■ Green roofs 	 <p>Ian Yarham</p>
<p>Single function</p> <ul style="list-style-type: none"> ■ Wildlife and business kept in separate 'zones'. ■ Amenity grassland and 'rec' grounds ■ Single function flooding solutions 	 <p>barneyboogles/Fotolia.com</p>	<p>Multi-functional</p> <ul style="list-style-type: none"> ■ Landscaped business parks with nature areas ■ Wildlife-friendly mixed-use parks ■ Sustainable Urban Drainage 	 <p>Gemma de Gouveia</p>

From grey to green: ideas for buildings, roads and outdoor spaces

INFO	IDEAS	HELP
Buildings		
<p>Modern buildings can be tightly sealed to conserve energy, but leave little room for the species that have traditionally lived in our roof spaces and outbuildings, such as bats and birds.</p> <p>Building in biodiversity features can contribute to design guides and standards and corporate social responsibility objectives.</p>	<ul style="list-style-type: none"> - There are a wide range of boxes, bricks, tubes, and tiles that can be incorporated into the building design or attached to the outside to benefit some species of bats, and birds such as swifts and house martins. - Green roofs on buildings or sheds can provide foraging opportunities for birds, and support a range of native plants. Green walls can also support biodiversity. - Thought should also be given to the impact of lighting on wildlife, especially bats; areas of no or low level lighting along bat foraging routes should be considered. - Even small gardens can be wildlife-friendly and provide valuable habitats. 	<p>Bats in Buildings</p> <p>Fitting swift nest places</p> <p>Green Roof Guide</p> <p>UK Green Building Council Portal</p> <p>CIRIA</p> <p>Advice on gardens</p>
Roads and streets		
<p>Roads can provide a barrier to wildlife, and collisions with animals such as deer can also pose a safety threat.</p> <p>Street trees can be used as natural traffic calming measures. They can increase land values, and improve air quality.</p>	<ul style="list-style-type: none"> - Mammal fencing can be used to exclude mammals from the road, and underpasses can be created for a range of species including badger, otter, hedgehog and amphibians. - Green bridges can be created in order to provide a safe crossing for both people and animals. - Street trees can be built into design specifications. In rural areas hedgerows, trees and small copses can be planted or semi-natural grasslands created along verges. - Balancing ponds and Sustainable Urban Drainage schemes can be designed to enhance biodiversity. 	<p>Design Manual for Roads and Bridges</p> <p>Working with wildlife: guidance for the construction industry (C691)</p> <p>Sustainable Urban Drainage</p>
Landscape design		
<p>Appropriate landscaping within developments can help reduce fragmentation of habitats by allowing wildlife to live within and move through built areas to the wider countryside.</p> <p>The Oxfordshire Wildlife and Landscape Study (Section 4) can provide useful background information in determining the most appropriate plants to use in landscaping schemes in different parts of Oxfordshire.</p>	<ul style="list-style-type: none"> - Landscaping should aim to retain and enhance existing biodiversity features, and link up habitats. For example, native hedgerows and strips of species-rich grasslands provide routes along which species such as hedgehogs, butterflies and bats can move. - Native plant species, particularly those of local provenance, will be of most benefit to wildlife as they are likely to support a wider range of native animals. Consider incorporating plants that provide sources of food and nectar for birds, bees and insects. - Ponds can provide an important habitat for wildlife. They should be designed with gently sloping edges to allow animals easy access in and out, and a variety of depths. A series of ponds can link with wetland features in the wider countryside. - Biodiversity can be built into many other greenspaces, such as staff picnic areas, dipping ponds in school grounds. Allotments and playing fields can be designed with biodiversity-rich grass margins, mown less frequently. 	<p>Pond Creation Tool Kit</p> <p>Biodiversity by Design</p> <p>Oxfordshire Wildlife and Landscape Study</p> <p>How to encourage biodiversity in urban parks</p> <p>Rain Garden Guide</p>
Long term management		
<p>Positive management is needed in perpetuity for sites and features to contribute to biodiversity objectives and to be enjoyed by communities.</p> <p>Neglected spaces can have a negative impact on biodiversity value, land values, crime, health and social cohesion.</p> <p>Local organisations are unlikely to take on responsibilities for land if costs and funding are not agreed upfront.</p>	<ul style="list-style-type: none"> - Estimate what the annual land management costs may be at an early stage, including any capital that may be needed to replace/repair features. - Agree funding and governance arrangements. Who will manage the land, and where the money will come from? - Will new council tax precepts cover costs, or realistically is more money needed? Consider setting up a legally binding residents association, ground rents or business precepts. - Are there opportunities to set up a management trust, funded by revenue-generating assets such as business rents, cafés or carparks? 	<p>Paying for parks: eight models for funding greenspace</p> <p>Eco-towns green infrastructure Worksheet</p>

5 Further information

Key legislation and policy

Legislation	
Conservation of Habitats and Species Regulations 2010 (as amended)	http://www.legislation.gov.uk/ukSI/2010/490/contents/made
Countryside and Rights of Way Act 2001	www.opsi.gov.uk/acts/acts2000/ukpga_20000037_en_1
EC Birds Directive	www.jncc.gov.uk/page-1373
EC Habitats Directive	www.jncc.gov.uk/page-1374
EIA Regulations	www.opsi.gov.uk/si/si1999/19990293
National Parks and Access to the Countryside Act 1949	www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1949/cukpga_19490097_en_4#pt3
Natural Environment and Rural Communities Act 2006	www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1
Protection of Badgers Act 1992	www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1
The Conservation of Habitats and Species (Amendment) Regulations 2012	http://www.legislation.gov.uk/ukSI/2012/1927/made
Wildlife and Countryside Act 1981	www.jncc.gov.uk/page-3614

National Planning Policy	
Circular 06/05: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System	www.communities.gov.uk/documents/planningandbuilding/pdf/147570.pdf
National Planning Policy Framework	https://www.gov.uk/government/publications/national-planning-policy-framework--2
Local Planning Policy	
Local Planning Policy is updated regularly on local authority websites. Links to the Planning pages of local authority websites are below	
Cherwell District Council	http://www.cherwell.gov.uk/index.cfm?articleid=1717
Oxford City Council	http://www.oxford.gov.uk/PageRender/decP/Planning.htm
South Oxfordshire District Council	http://www.southoxon.gov.uk/services-and-advice/planning-and-building
Vale of White Horse District Council	http://www.whitehorsedc.gov.uk/services-and-advice/planning-and-building
West Oxfordshire District Council	http://www.westoxon.gov.uk/residents/planning-building/
Oxfordshire County Council	https://www.oxfordshire.gov.uk/cms/public-site/planning

Glossary

ANGSt	Accessible Natural Greenspace Standard	IROPI	Imperative Reasons of Over-riding Public Interest
AONB	Area of Outstanding Natural Beauty	LDF	Local Development Framework
ASNW	Ancient Semi-Natural Woodland	LNR	Local Nature Reserve
BAP	Biodiversity Action Plan	LGS	Local Geological Site
BBOWT	Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust	LWS	Local Wildlife Site
BOA	Biodiversity Opportunity Areas	NE	Natural England
BOS	Banbury Ornithological Society	NERC	Natural Environment and Rural Communities Act 2006
CABE	Commission for Architecture and the Built Environment	NNR	National Nature Reserve
CIEEM	Chartered Institute of Ecology and Environmental Management	NPPF	National Planning Policy Framework
CIRIA	Construction Industry Research and Information Association	ONCF	Oxfordshire Nature Conservation Forum
CRoW	Countryside and Rights of Way Act (2000)	OWLS	Oxfordshire Wildlife and Landscape Study
CTA	Conservation Target Area	RSPB	Royal Society for the Protection of Birds
CWS	County Wildlife Site – this term has now been replaced by Local Wildlife Site	RVNR	Road Verge Nature Reserve
DEFRA	Department of the Environment, Food and Rural Affairs	SAC	Special Area of Conservation
EA	Environment Agency	SLINC	Sites of Local Importance for Nature Conservation (an Oxford City designation)
EclA	Ecological Impact Assessment	SPA	Special Protection Area
EIA	Environmental Impact Assessment	SSSI	Site of Special Scientific Interest
EPS	European Protected Species (under the EC Habitats Directive)	TCPA	Town and Country Planning Association
GCN	Great Crested Newt	TPO	Tree Preservation Order
GI	Green Infrastructure	TVERC	Thames Valley Environmental Records Centre
HRA	Habitat Regulations Assessment (also known as Appropriate Assessment)	WCA	Wildlife and Countryside Act (1981)

6 Contacts

<p>Ashmolean Natural History Society Rare Plants Group W: http://www.oxfordrareplants.org.uk/</p>	<p>Forestry Commission Berks Bucks & Oxon Area Office, Forestry Commission, SE England Region, Upper Icknield Way, Aston Clinton, Aylesbury, Bucks HP22 5NF E: fc.seeng.cons@forestry.gsi.gov.uk W: http://www.forestry.gov.uk/england</p>	<p>Royal Society for the Protection of Birds 46 The Green, South Bar, Banbury, Oxon OX16 9AB T: 01295 253330 W: www.rspb.org.uk</p>
<p>Bat Conservation Trust 15 Cloisters House, 8 Battersea Park Road, London SW8 4BG T: 020 7501 3635 E: enquiries@bats.org.uk W: www.bats.org.uk</p>	<p>Freshwater Habitats Trust First Floor, Bury Knowle House, North Place, Headington, Oxford OX3 9HY T: 01865 595505 E: info@freshwaterhabitats.org.uk W: www.freshwaterhabitats.org.uk</p>	<p>Thames Valley Environmental Records Centre c/o Oxfordshire County Council, Signal Court, Old Station Way, Eynsham, Oxon OX29 4TL T: 01865 815451 E: tverc@oxfordshire.gov.uk W: www.tverc.org</p>
<p>Berks, Bucks & Oxon Wildlife Trust 1 Armstrong Road, Littlemore, Oxford OX4 4XT T: 01865 775476 E: conservation@bbowt.org.uk W: www.bbowt.org.uk</p>	<p>Lower Windrush Valley Project c/o Oxfordshire County Council, Signal Court, Old Station Way, Eynsham, Oxon OX29 4TL L T: 01865 815426 E: jane.bowley@oxfordshire.gov.uk</p>	<p>Town and Country Planning Association 17 Carlton House Terrace, London SW1Y 5AS T: 0207 930 8903 W: www.tcpa.org.uk</p>
<p>Butterfly Conservation Manor Yard, East Lulworth, Wareham, Dorset BH20 5QP T: 01929 400209 E: info@butterfly-conservation.org W: www.butterfly-conservation.org</p>	<p>Mammal Society 3 The Carronades, New Road, Southampton SO14 0AA T: 02380 237874 E: info@themammalsociety.org W: www.mammal.org.uk</p>	<p>Wild Oxfordshire (formerly ONCF) Manor House, Little Wittenham, Abingdon, Oxon OX14 4RA T: 01865 407034 E: hilary@wildoxfordshire.org.uk W: www.wildoxfordshire.org.uk</p>
<p>Chilterns Conservation Board The Lodge, Station Road, Chinnor, Oxon OX39 4HA T: 01844 355500 E: office@chilternsaonb.org W: www.chilternsaonb.org</p>	<p>Natural England Red Kite House, Howbery Park, Crowmarsh Gifford, Wallingford, Oxon OX10 8BD T: 0845 600 3078 E: enquiries@naturalengland.org.uk W: www.naturalengland.gov.uk</p>	<p>Woodland Trust Autumn Park, Dysart Road, Grantham, Lincs NG31 6LL T: 01476 581111 E: england@woodlandtrust.org.uk W: www.woodlandtrust.org.uk</p>
<p>Cotswolds AONB Fosse Way, Northleach, Gloucs GL54 3JH T: 01451 862000 W: www.cotswoldsaonb.org.uk</p>	<p>North Wessex Downs AONB Denford Manor, Hungerford, Berks RG17 0UN T: 01488 685440 E: info@northwessexdowns.org.uk W: www.northwessexdowns.org.uk</p>	<p>Wychwood Project c/o Oxfordshire County Council, Signal Court, Old Station Way, Eynsham, Oxon OX29 4TL T: 01865 815423 E: wychwood@oxfordshire.gov.uk W: www.wychwoodproject.org</p>
<p>Earth Trust Hill Farm, Little Wittenham Abingdon, Oxon OX14 4QZ T: 01865 407792 E: admin@earthtrust.org.uk W: www.earthtrust.org.uk</p>	<p>Oxfordshire Amphibian and Reptile Group E: info@oxfordshire-arg.org.uk W: www.oxfordshire-arg.org.uk/contacts.htm</p>	<p>Local Authority Contacts: Cherwell District Council T: 01295 227001 W: www.cherwell.gov.uk Oxford City Council T: 01865 249811 W: www.oxford.gov.uk South Oxfordshire District Council T: 01491 823000 W: www.southoxon.gov.uk Vale of White Horse District Council T: 01235 520202 W: www.whitehorsedc.gov.uk West Oxfordshire District Council T: 01993 861000 W: www.westoxon.gov.uk Oxfordshire County Council T: 01865 792422 W: www.oxfordshire.gov.uk</p>
<p>Environment Agency Red Kite House, Howbery Park, Crowmarsh Gifford, Wallingford, Oxon OX10 8BD T: 01491 828346 E: enquiries@environment-agency.gov.uk W: www.gov.uk/government/organisations/environment-agency</p>	<p>Oxfordshire County Council Natural Environment Team, Countryside Service, Oxfordshire County Council, Signal Court, Old Station Way, Eynsham, Oxon OX29 4TL T: 01865 815046 www.oxfordshire.gov.uk</p>	



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