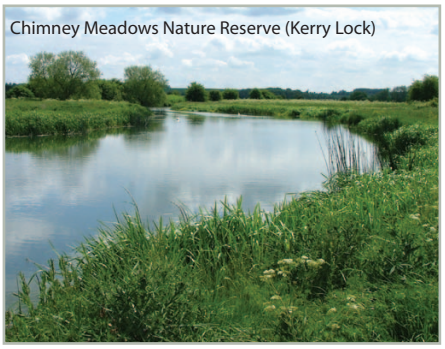
4a Oxfordshire's Wildlife and Landscape Study


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).

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

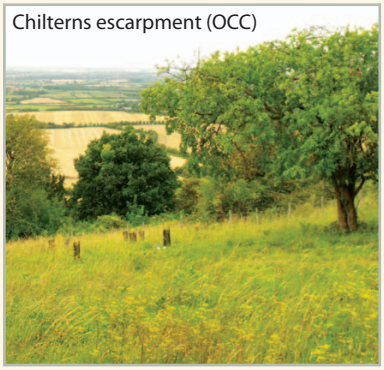

ROLLING FARMLAND


SETTLED ANCIENT PASTURES

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.

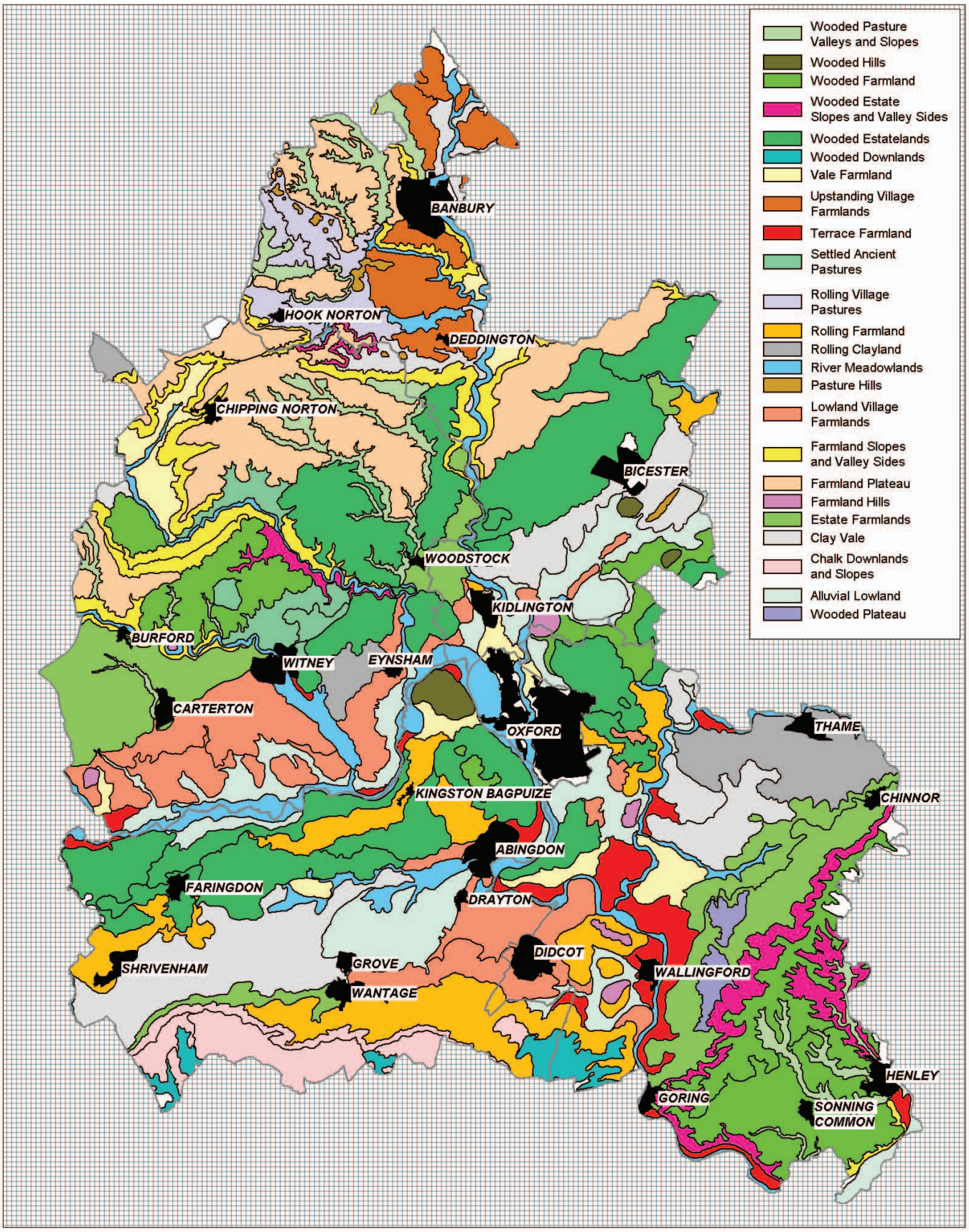
Landscape Character Assessments can be undertaken at many different scales. District authorities within Oxfordshire also have local landscape character assessments. These should be used together with OWLS as complementary resources. There are also landscape character assessments undertaken for the AONB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


Chilterns escarpment (OCC)

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

Map produced by TVERC in 2009

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

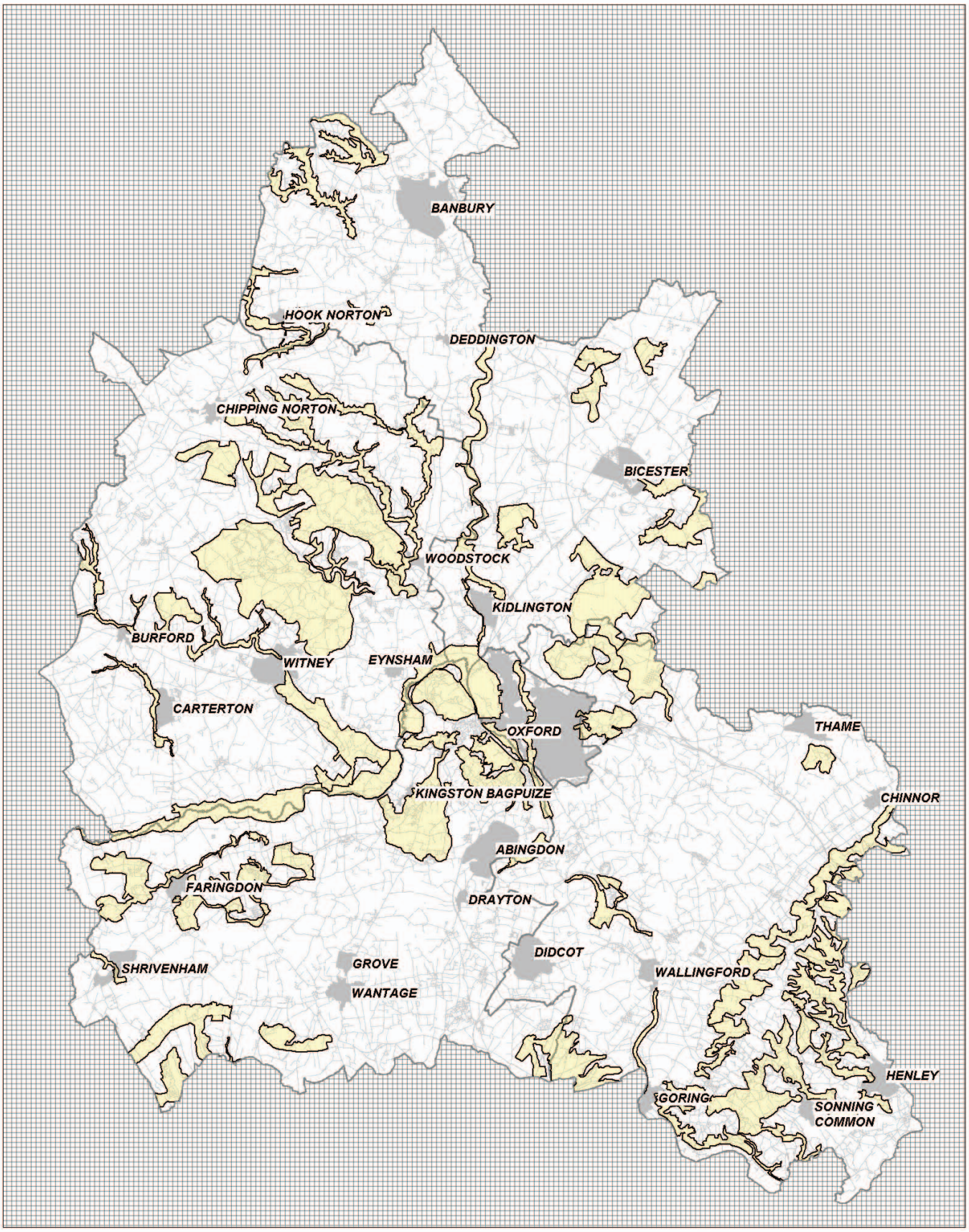
Natural England

Oxfordshire County Council

Thames Valley Environmental Records Centre

Wild Oxfordshire (formerly Oxfordshire Nature Conservation Forum)

Conservation Target Areas in Oxfordshire



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

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.

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

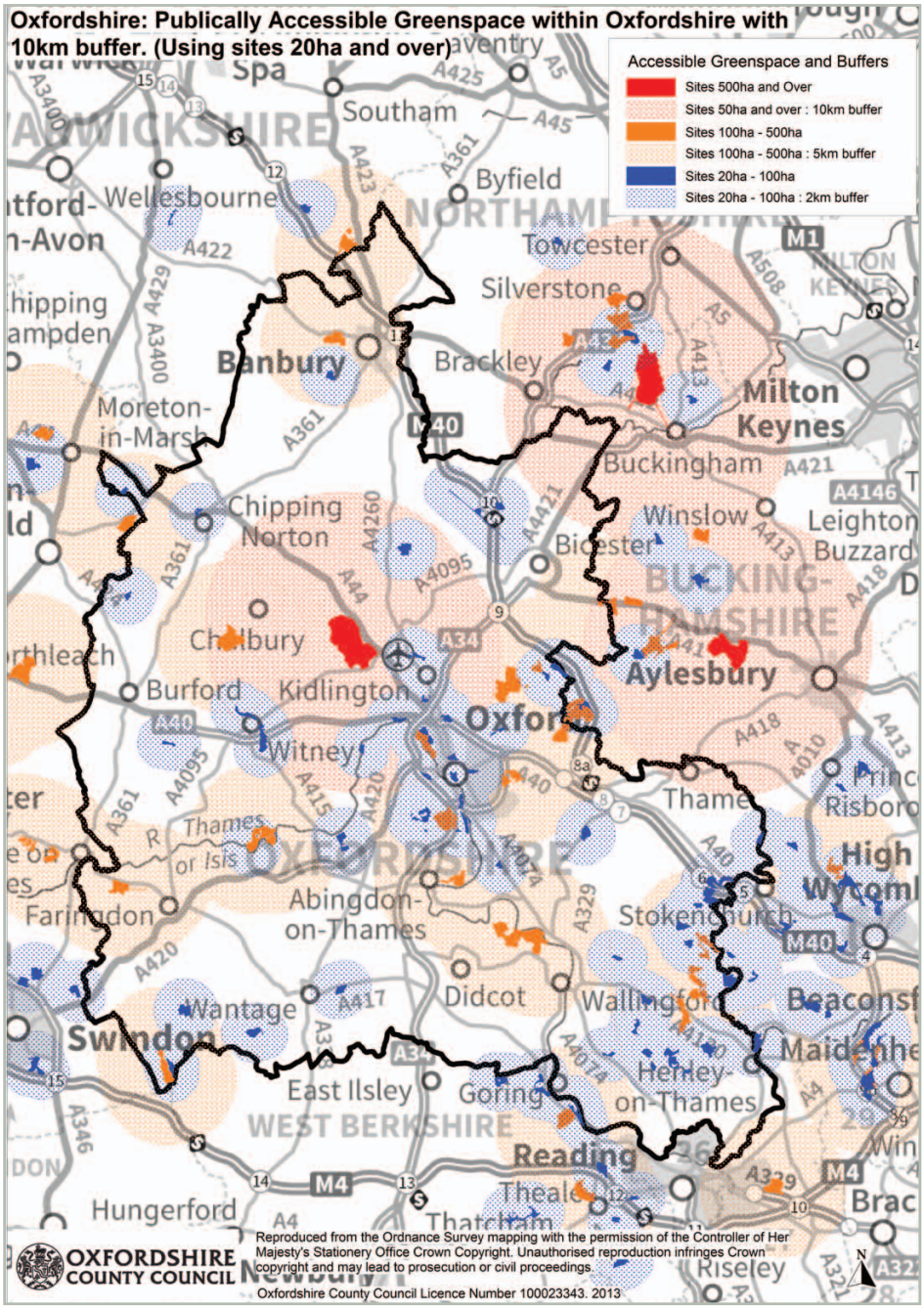
Outcome 1 – Habitats and ecosystems on land

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.

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




Urban flowers (Paul Hobson)

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


Warburg Nature Reserve (Ric Mellis)

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 kilometre 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 lease 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

Engineered solutions
- Bollards
- Security fences
- Paved courtyards
- Traditional roofs


OCC

Natural solutions
- Street trees
- Green walls
- Rain gardens
- Green roofs


Ian Yarham

Single function
- Wildlife and business kept in separate 'zones'.
- Amenity grassland and 'rec' grounds
- Single function flooding solutions


barneyboogles/Fotolia.com

Multi-functional
- Landscaped business parks with nature areas
- Wildlife-friendly mixed-use parks
- Sustainable Urban Drainage


Gemma de Gouveia

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

INFO	IDEAS	HELP
Buildings		
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. Building in biodiversity features can contribute to design guides and standards and corporate social responsibility objectives.	- 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.	Bats in Buildings Fitting swift nest places Green Roof Guide UK Green Building Council Portal CIRIA Advice on gardens
Roads and streets		
Roads can provide a barrier to wildlife, and collisions with animals such as deer can also pose a safety threat. Street trees can be used as natural traffic calming measures. They can increase land values, and improve air quality.	- 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.	Design Manual for Roads and Bridges Working with wildlife: guidance for the construction industry (C691) Sustainable Urban Drainage
Landscape design		
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. 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.	- 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.	Pond Creation Tool Kit Biodiversity by Design Oxfordshire Wildlife and Landscape Study How to encourage biodiversity in urban parks Rain Garden Guide
Long term management		
Positive management is needed in perpetuity for sites and features to contribute to biodiversity objectives and to be enjoyed by communities. Neglected spaces can have a negative impact on biodiversity value, land values, crime, health and social cohesion. Local organisations are unlikely to take on responsibilities for land if costs and funding are not agreed upfront.	- 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 business rents, cafés or carparks?	Paying for parks: eight models for funding greenspace Eco-towns green infrastructure Worksheet