

Central
Bedfordshire

great
prospects



Environmental Framework

Understanding and improving Central
Bedfordshire's environment

A great place to live and work.

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Foreword

Central Bedfordshire has a high quality and much valued environmental setting. This includes a nationally significant landscape, a historic and picturesque setting and important habitats and geological features.

Over the coming decades, Central Bedfordshire faces a number of opportunities and challenges, largely brought about by the national need for growth in both housing and jobs, alongside the necessary infrastructure needed to make this sustainable.

This document, the Environmental Framework, plays an important role in summarising and interpreting the considerable body of work, in the form of various studies, assessments, strategies and guidance produced by the council. It applies the findings of this to national and local policy allowing for interpretation for how local environmental needs and issues should be interrelated with a view to also supporting economic and other growth.

By taking this enviro-economic approach, the Environmental Framework will help the Council to embrace the challenges and opportunities in faces in a truly sustainable way. This will ensuring that the area's rich environmental assets aren't just protected and enhanced, but are also used to help shape and steer growth.

Contents

| | |
|--|----|
| Foreword | 2 |
| Contents | 3 |
| Introduction | 4 |
| What is the Environmental Framework? | 4 |
| What does the Environmental Framework do? | 4 |
| How will the Environmental Framework be used? | 5 |
| Delivering National Policy | 8 |
| Why is the environment important for Central Bedfordshire? | 10 |
| The natural environment..... | 15 |
| Green Infrastructure | 16 |
| Landscape | 21 |
| Tranquillity | 24 |
| The Historic Environment..... | 27 |
| Biodiversity | 29 |
| Trees..... | 38 |
| Recreational Open Space..... | 41 |
| Outdoor Access..... | 45 |
| Landscape scale environmental initiatives..... | 48 |
| Chilterns AONB | 49 |
| Greensand Ridge NIA | 52 |
| The Forest of Marston Vale..... | 55 |
| Bedford and Milton Keynes Waterway Park | 57 |
| Climate change and Sustainability | 58 |
| Climate change | 59 |
| The Central Bedfordshire Council Climate Change Strategy | 59 |
| Local Climate Change Risk Assessment | 60 |
| Regulating Ecosystem Services in Central Bedfordshire | 62 |
| Flood Risk..... | 68 |
| Sustainable Drainage..... | 70 |
| Water efficiency..... | 77 |
| Energy efficiency and building scale renewable energy | 79 |
| Renewable Energy Generation..... | 81 |
| Contact us... .. | 82 |

Introduction

What is the Environmental Framework?

The Council, through its activities, functions and duties has considerable scope to maintain, enhance and grow existing environmental assets and create new ones.

This is underpinned by a range of studies, evidence, guidance and strategies, each focusing on specific key aspects and issues.

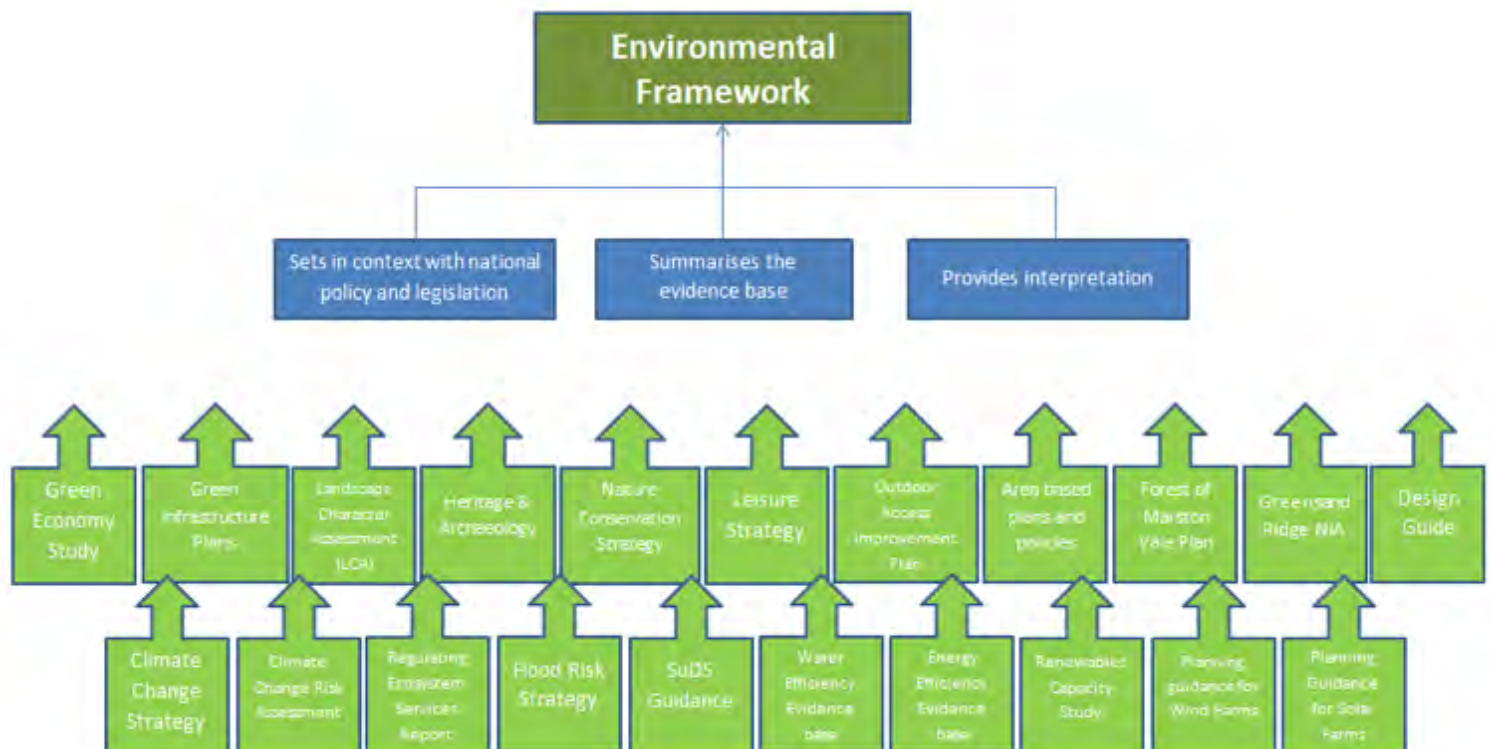
This document, the Environmental Framework, brings together this considerable volume of work, covering natural environmental enhancement and protection, sustainable resource management and the challenge of both mitigating the impact of climate change (through reducing CO₂ emissions) and adapting to the inevitable impacts.

What does the Environmental Framework do?

The Environmental Framework:

- Provides a summary of a range of existing plans, strategies, assessments and reports, covering various aspects of the environment.
- Sets these aspects of the environment in the context of relevant national policy and legislation.
- Provides a summary and interpretation of key points from the various plans, strategies etc.

The studies, assessments, guidance and plans summarised in this Framework are important documents in their own right and will be used to help in determining planning applications and will shape future planning policy.



What the Environmental Framework does

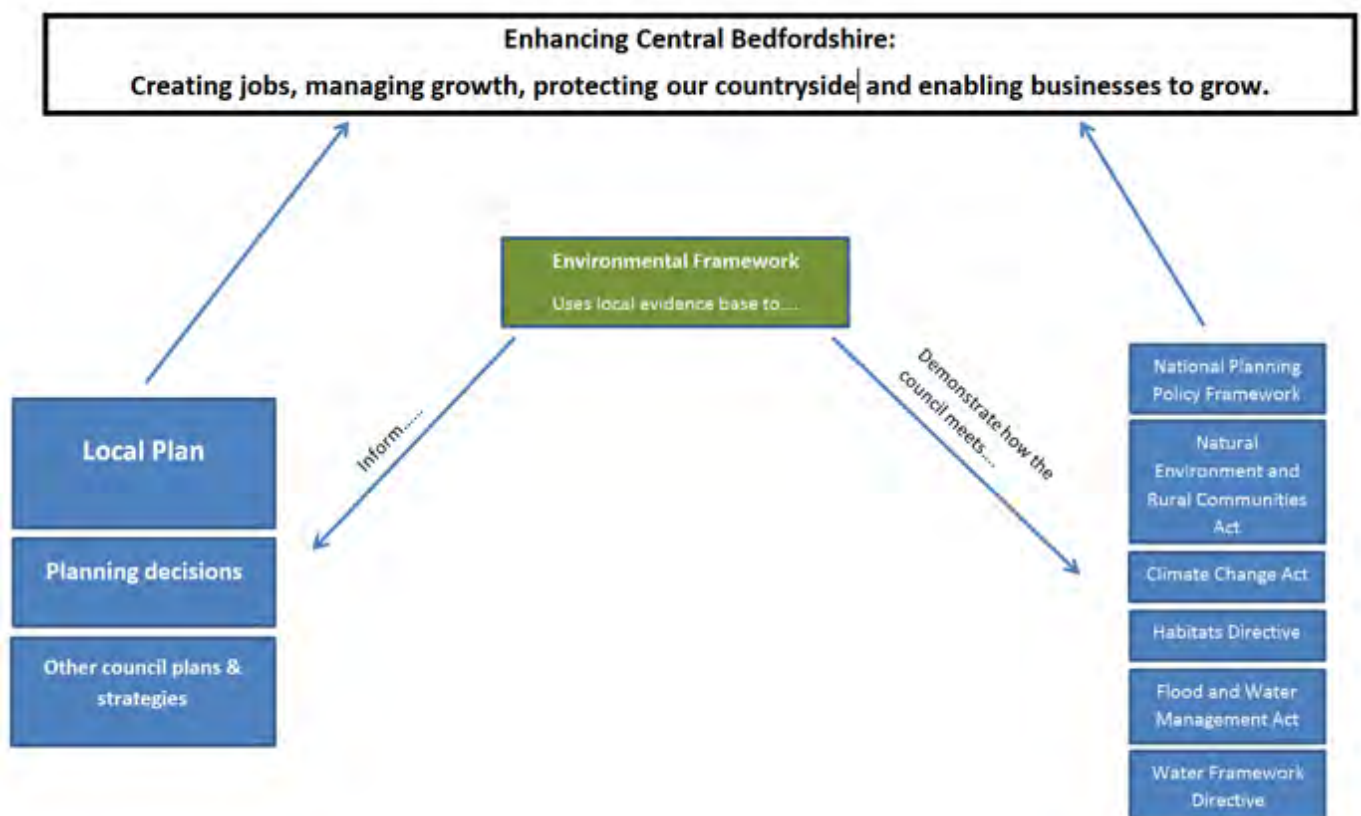
By providing this overview of the existing local evidence base, with associated strategies and plans, the Environmental Framework demonstrates how the Council meets a range of requirements associated with National policy and legislation, this includes:

- The National Planning Policy Framework (NPPF);
- The Natural Environment and Rural Communities (NERC) Act;
- The Climate Change Act;
- The Habitats Directive;
- The Water Framework Directive; and
- The Flood and Water Management Act.

How will the Environmental Framework be used?

It has a number of functions:

- Providing the environmental evidence base for the new Local Plan for Central Bedfordshire.
- Interpreting what the local evidence base means with respect to national policy and clarifying how this information is used.
- Informing development management decisions.
- Providing an environmental evidence base for other future Council plans and strategies.



How is information in the Environmental Framework used?

The Environmental Framework provides an overview of an existing evidence base. This evidence base is already in action. In a planning context, the environmental evidence base is used to inform planning decisions, both in terms of steering the location of growth, and in making decisions about individual planning applications.

It also informs the Design Guide, which has a chapter on Green Infrastructure, Climate Change Adaptation and Sustainable Buildings. It is a material consideration in the determination of planning applications, and can be used to guide all types of development in Central Bedfordshire.

Many of the topics covered in this Environmental Framework include adopted guidance, for example, the technical guidance provided by the Leisure Strategy, the Sustainable Drainage Supplementary Planning Document, and the adopted Nature Conservation Strategy, Local Flood Risk Assessment and Outdoor Access Improvement Plan.

The details of how the topic based evidence is used are discussed in more detail throughout the Environmental Framework.

The Environmental Framework, Natural Capital and Ecosystem Services

Natural capital is the stock of natural assets, which includes rocks, soil, air, water and all living things. This natural capital enables the provision of ecosystem services, which can be grouped according to the type of services provided;

- Provisioning services include food production, supply of clean water, plant materials for fuel and building materials.
- Regulating services include climate regulation and natural flood protection.
- Cultural services include the experience of landscapes and tourism and recreation.

The concepts of natural capital and ecosystem services are gaining increased recognition, as a way of measuring the value of the environment, and ensuring this is taken into account in decision making.

We recognise that we do not have a full understanding of the stock of natural capital within Central Bedfordshire, or the extent and value of the ecosystem services provided.

However, the key principles of the ecosystem approach are demonstrated by the Environmental Framework. The key principles of the ecosystem approach are:

- **Involving people** – putting people at the centre of ecosystem management by involving them at the heart of decision-making.
- **Understanding how nature works** – working in harmony with ecosystem processes and functions, and the benefits (or ‘services’) they provide. Thinking about the whole ‘system’, not just its individual parts.
- **Valuing nature’s services** – understanding how people value nature, including monetary and non-monetary value, and the effect on their well-being

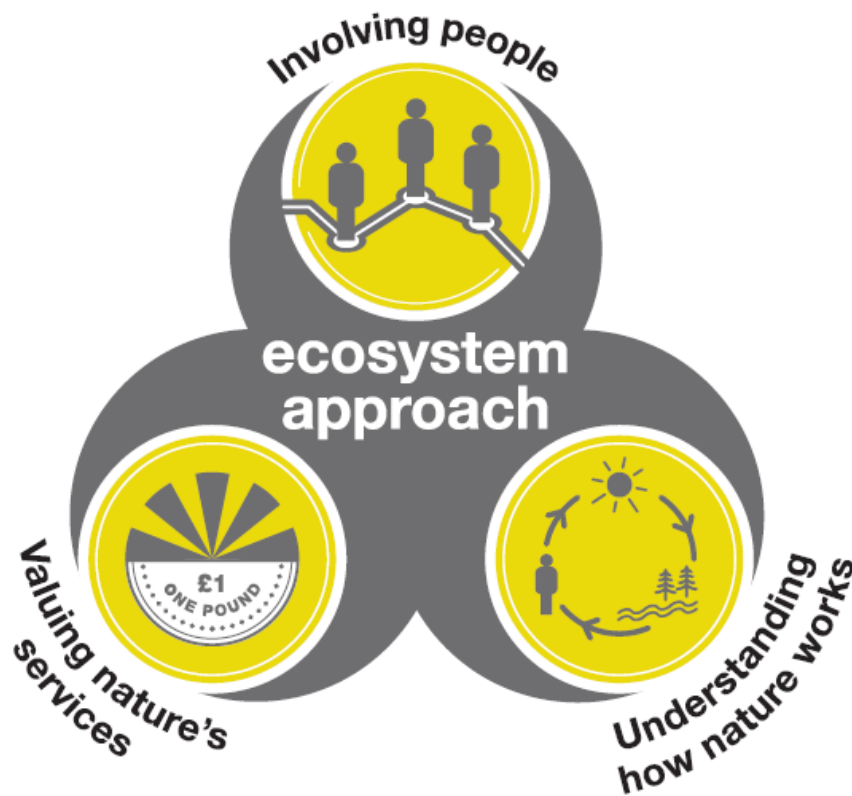


Figure 1 - Principles of the ecosystem approach

The Environmental Framework identifies the local evidence base for many areas of natural capital (such as biodiversity), and for many of the ecosystem services provided (such as regulating ecosystem services, flood risk, and climate). The evidence base set out in the Environmental Framework provides a good foundation for understanding how nature works, and the value of the environment to Central Bedfordshire's businesses and residents. By providing this information, and through public consultation on the Environmental Framework, involving them in decision making, and understanding what they value about the environment.

This enables the Council to demonstrate many of the principles of the ecosystem approach, including recognising the value of the environment in decision making, taking decisions at the appropriate spatial scale, recognising the cumulative impact of decisions, and adapting how the natural environment is managed in response to changing pressures such as climate change, and ensuring that relevant stakeholders are included in the decision making process.

Delivering National Policy

The purpose of the planning system is to contribute to the achievement of sustainable development. There are three dimensions to sustainable development: economic, social and environmental.

The Planning and Compulsory Purchase Act (2004) notes that:

“Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change.”

There is therefore a legal requirement for planning policy to contribute to climate change mitigation and adaptation.

The environmental role of planning, as set out in the National Planning Policy Framework (NPPF) is in contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

Environmental issues are identified in the ‘Core Planning Principles’ set out in the NPPF:

- Support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);
- Contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework.

Specifically, the NPPF notes that the planning system should contribute to, and enhance the natural and local environment by

- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the wider benefits of ecosystem services;*
- *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;*
- *preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The Environmental Framework provides an environmental evidence base, looking at the local context for many of these topics and issues, including landscapes, biodiversity, regulating ecosystem services, and ecological and green infrastructure networks. As such, it underpins Central Bedfordshire Council's Local Plan, and provides the evidence base for Local Plan policies that ensure that the natural and local environment is protected and enhanced.

There are many areas of environmental enhancement in relation to the specific topics discussed further in the rest of this Framework.

Developing the Environmental Framework, and delivery through the Local Plan

Central Bedfordshire Council recognises the high level of public interest in the local environment, and the expertise of the many environmental stakeholders across the area. In order to ensure that the Environmental Framework provides a good local evidence base, the Council consulted on the draft Environmental Framework in Spring 2016. Feedback was sought from members of the public, and statutory and local environmental organisations, asking for their views on how the local evidence base detailed within the framework can be used to shape and provide the focus for future policy and action. Consultation questions were designed to give us an indication of stakeholder preference to various approaches, as well as gather more in depth comment and opinion for further analysis.

Over forty responses were received from a range of stakeholders. This included the key statutory bodies, such as the Environment Agency and Natural England, developers, residents and other organisations, like the Forest of Marston Vale Trust and CPRE.

The feedback received highlighted additions and amendments to the Environmental Framework, which has been updated as a result. They also indicated preferred approaches in relation to issues such as tranquillity and the use of different standards for conservation in different areas. This opportunity was also used to canvass opinion on preferred approaches to renewable energy and other green technologies, particularly in relation to sustainable building methods.

This feedback has enabled review and amendment of the Environmental Framework, and has provided the Council with detailed suggestions as to how we should reflect the topics included within the Environmental Framework within the Local Plan for Central Bedfordshire. The environmental policies themselves will then be subject to further consultation as part of the Local Plan itself.

Why is the environment important for Central Bedfordshire?

The importance of the environment to Central Bedfordshire's residents

Central Bedfordshire's environment is key to its identity and widely valued by our residents, visitors and businesses. The varied and contrasting landscape, ecology and settlement pattern contributes to the much valued character and nature of the area.

The Central Bedfordshire residents survey (September 2014) asked residents about what the most important things are in making somewhere a good place to live. The response to this highlights just how important accessing the environment and visiting green spaces is to Central Bedfordshire's residents. Country parks, open spaces and rights of way are the third most cited aspect of what makes somewhere a good place to live.

This is underlined by seeing what other aspects are less cited (figure 1); for example, Country Parks, open spaces and rights of way are cited more frequently than education, and health services, challenging assumptions of what people consider important, and what are generally considered as funding priorities.

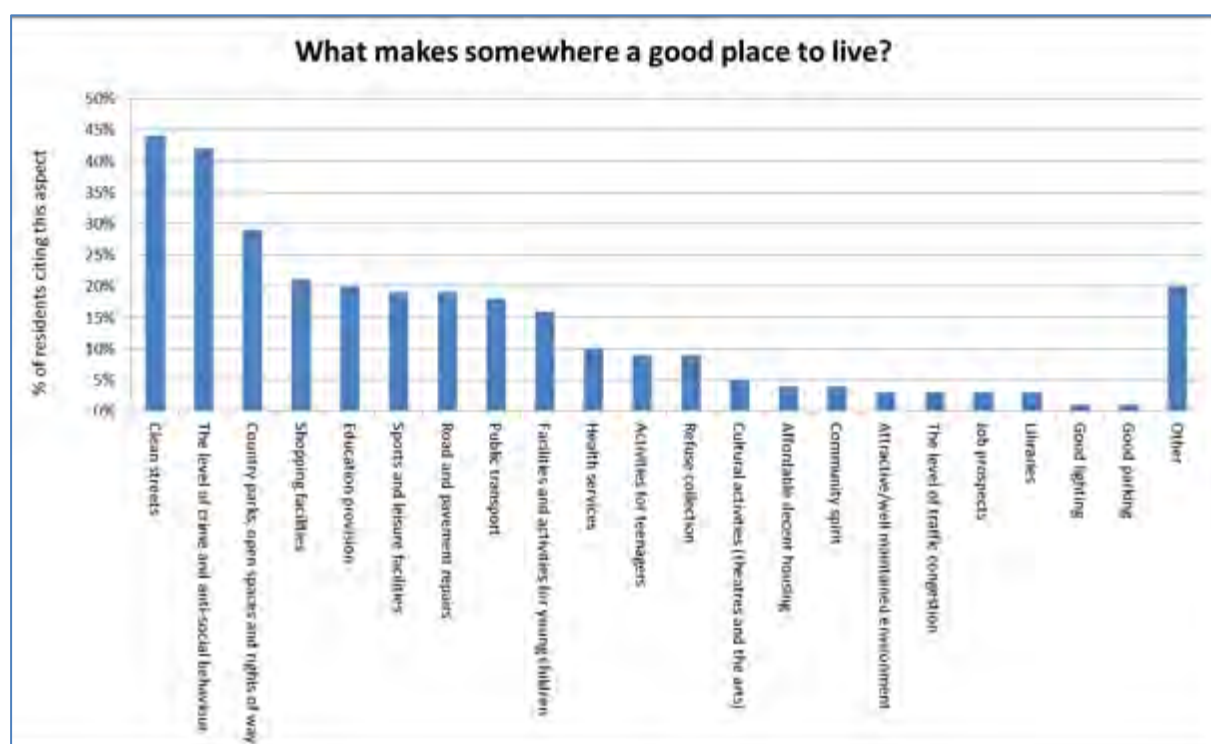


Figure 2 - Information from Central Bedfordshire Residents Survey, September 2014

Country Parks, open spaces and rights of way are the third most cited aspect of what makes Central Bedfordshire a good place to live – above education and health services.



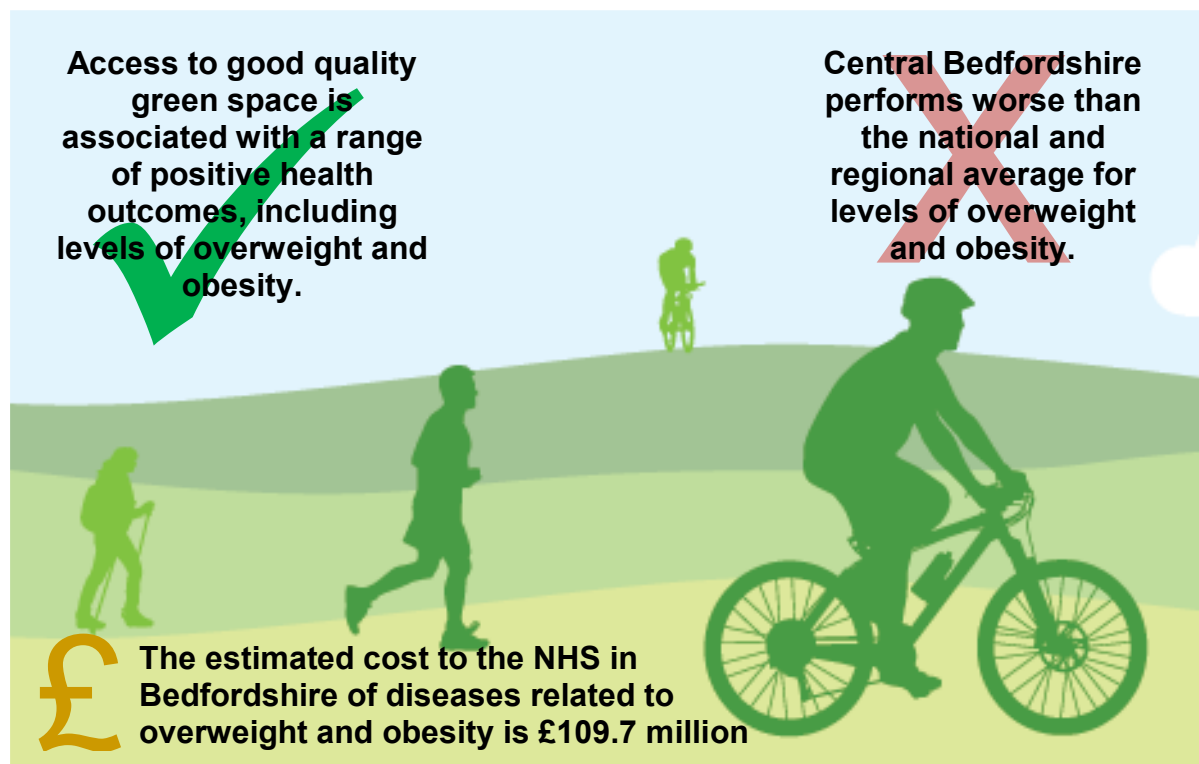
The environment is also important in people's health and wellbeing. There is significant and growing evidence on the physical and mental health benefits of green spaces. Research shows that access to green space is associated with better health outcomes, and income-related inequality in health is less pronounced where people have access to green space.

Access to good quality green space is associated with a range of positive health outcomes including better self-rated health; lower body mass index scores; overweight and obesity levels; improved mental health and wellbeing and increased longevity in older people.¹

Within Central Bedfordshire, obesity is a public health indicator where Central Bedfordshire is worse than the national and regional average. The estimated cost to the NHS of diseases related to overweight and obesity for 2015 across Bedfordshire is £109.7million.

As a public health authority, Central Bedfordshire Council has a duty to take steps to improve the health of its population and enhancing and improving access to the environment is a tool to improve health outcomes and reduce health inequalities.

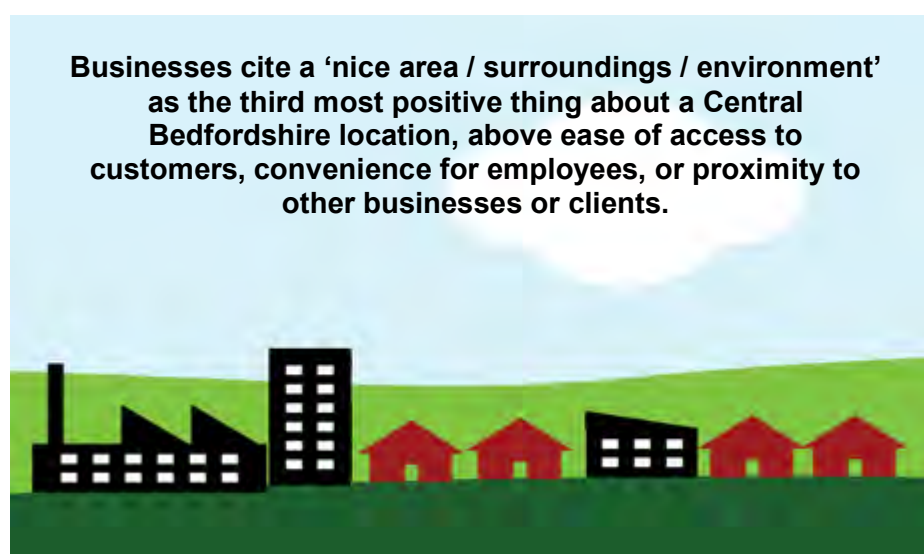
¹ Improving access to green spaces; Public Health England and UCL Institute of Health Equity; September 2014



The Importance of the environment for Central Bedfordshire's businesses

The environment is similarly important to Central Bedfordshire's businesses. The Business Survey (September 2014) asks business in Central Bedfordshire to rate the perceived best things about their location. A 'nice area / surroundings / environment' is the third most cited positive thing about a Central Bedfordshire location.

Similar comparison to how the environment rates against other aspects is enlightening; it is more cited by businesses than ease of access to customers, convenience for employees, or proximity to other businesses or clients. This underlines just how important the environment is to attracting and retaining businesses.



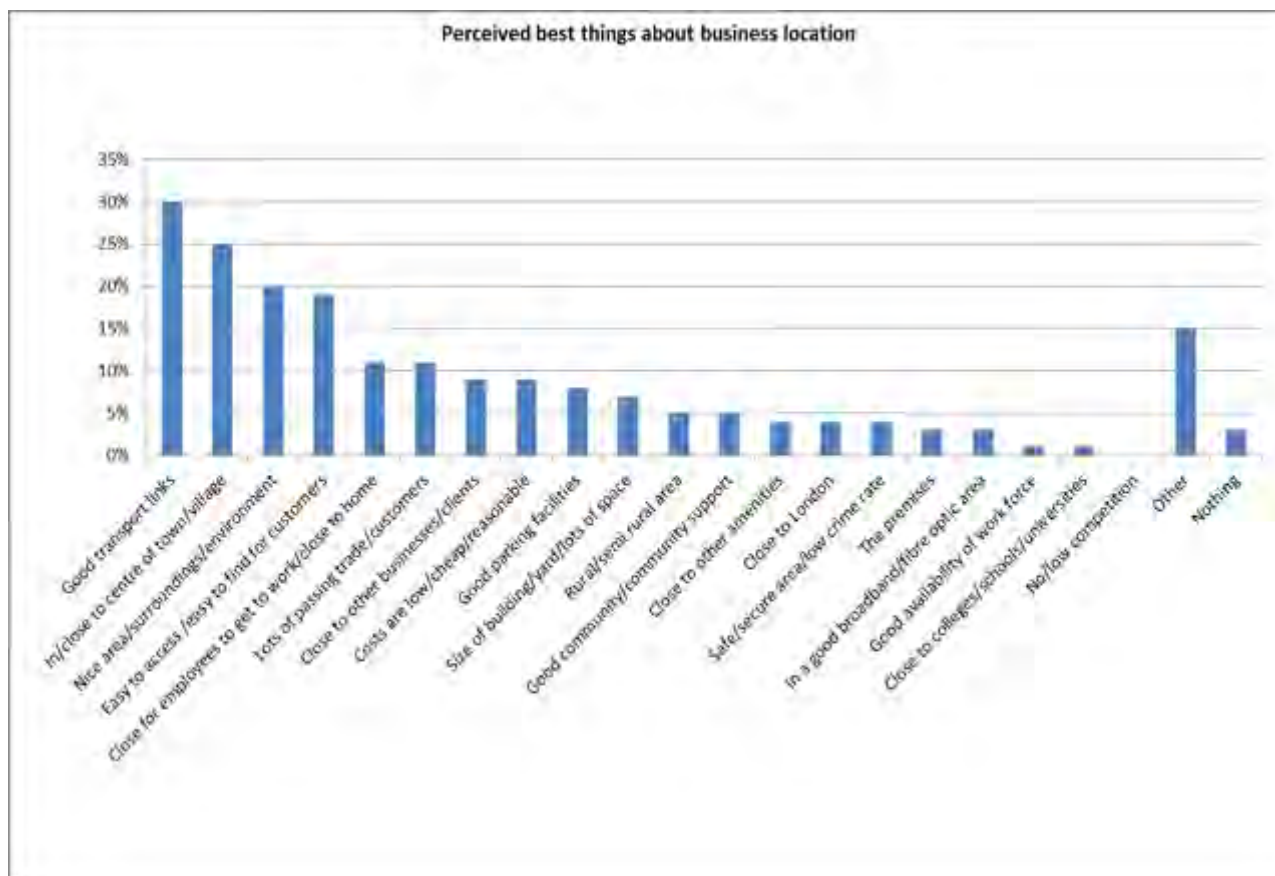


Figure 3 - Information from Central Bedfordshire Business Survey, September 2014

These survey results highlight just how important the environment is in terms of its strengths and selling points as a business location, and the quality of life for local residents.

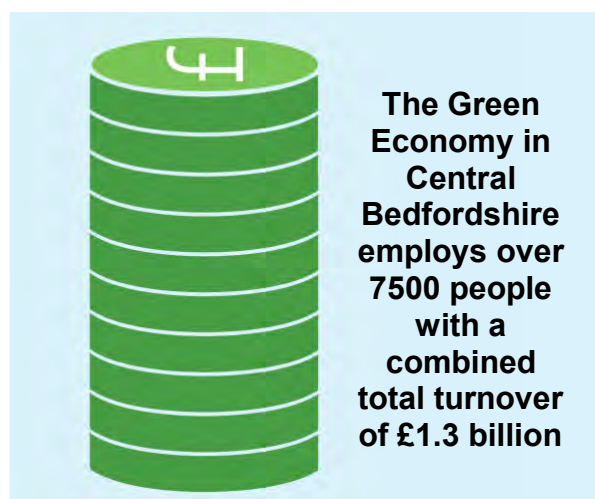
The importance of the Green Economy

The quality of the environment is not only an important factor for businesses choosing to locate in Central Bedfordshire, but it also plays a key role in the types of businesses that make up the local economy and provide local employment through taking an active part in the local Green Economy.

The 2015 study “Maximising the potential of the Green Economy” highlights that there are a number of significant businesses, which have a vested interest or operate within the green economy.

In total, 224 companies were identified, employing over 7500 people with a combined total turnover of £1.3 billion.

In our area the Green Economy is diverse, encompassing a wide range of businesses operating across a range of sectors.



Jobs are based across the range of sectors, with education and research and development being key areas.

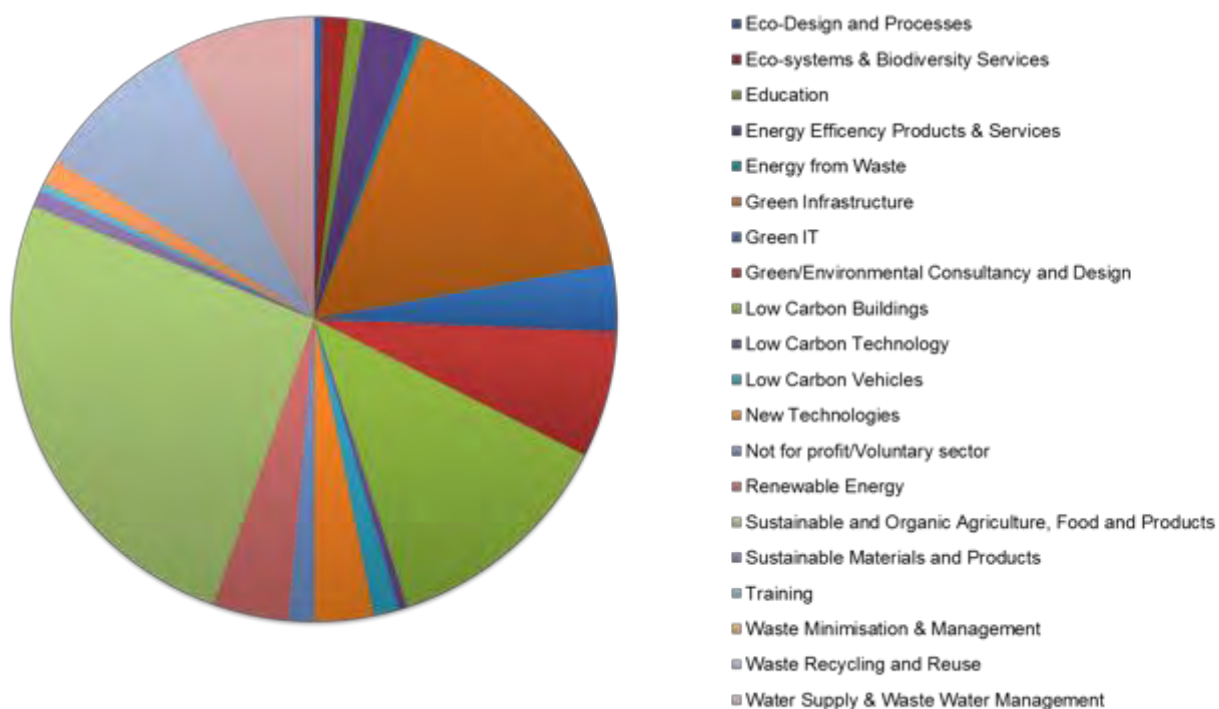


Figure 4 - Proportion of businesses operating in the Green Economy in Central Bedfordshire

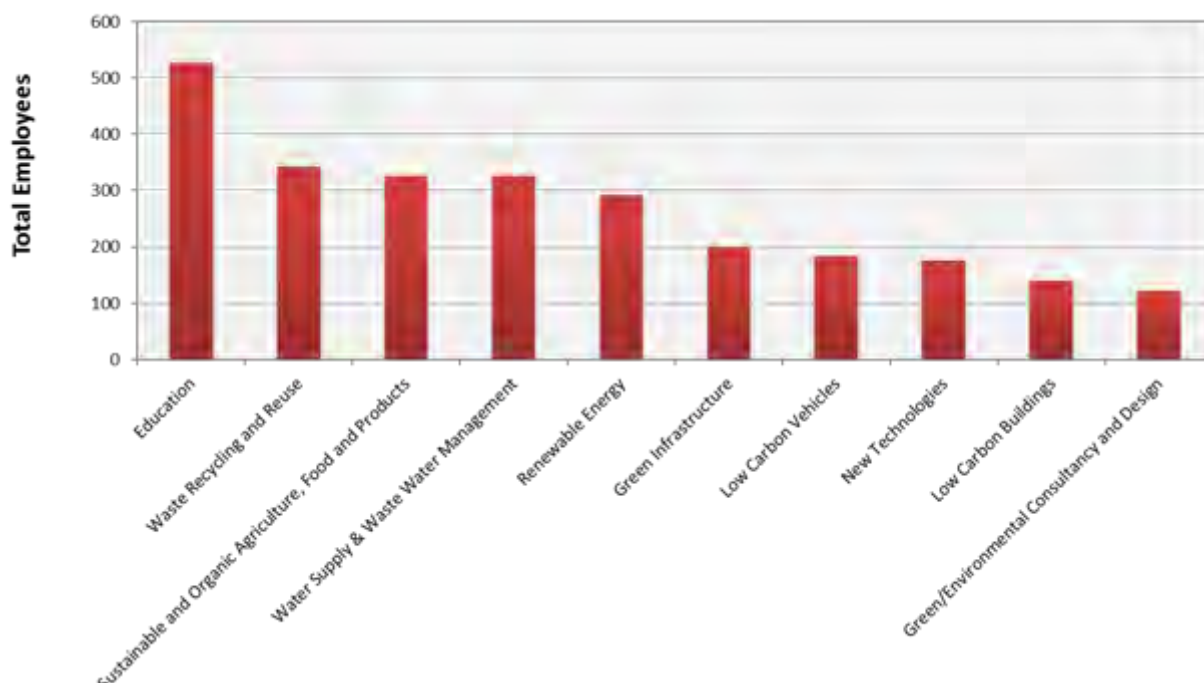


Figure 5 - Modelled number of employees per Green Economy sector

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The natural environment and setting

Environmental Framework



Green Infrastructure

Green Infrastructure (GI) is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages and towns. Individually, these elements are GI assets, and the roles that these assets play are GI functions.

When appropriately planned, designed and managed, the assets and functions have the potential to deliver a wide range of benefits – from providing sustainable transport links, allowing access to the natural environment, facilitating benefits to physical and mental health, as well as mitigating and adapting to the effects of climate change.

What national policy says

National planning policy (as set out in NPPF paragraphs 109 to 119) details the expectations of what Local Planning Authorities should do in relation to green infrastructure through the planning process and in determining planning applications. It states that:

“Local planning authorities should set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure.”

The local evidence base

The planned GI network is set out in the GI Plans that cover Central Bedfordshire on a number of scales. These include (ranging from large scale to smaller scale):

- The Bedfordshire Green Infrastructure Plan, covering the whole of Bedfordshire identifies priority corridors. These corridors highlight areas where investment and project delivery can make most impact in securing multi-functional green infrastructure.
- District level green infrastructure plans, which cover the former district authority areas of Mid Bedfordshire and South Bedfordshire, as well as Luton. These build on the strategic level GI plan, identifying GI opportunities at a more local level (e.g. around the urban centres). These plans provide more detail on assets and opportunities and overlap with the Bedfordshire GI Plan.
- Green Wheels and Greenways, showing opportunities for using existing and new paths to create off road, multi-user accessible corridors, encircling or linking one or more communities, linking areas of wildlife, heritage and landscape value.
- Parish and community green infrastructure plans, which show aspirations for enhancing green infrastructure at a community level. These relate to areas where previous planned growth is and has taken place. They aim to ensure that local aspirations for environmental enhancements are evidenced, to enable improvements to the local environment being identified alongside development opportunities.

These GI plans identify existing green infrastructure assets that should be protected from, and integrated within development. They describe a ‘multifunctional’ network of GI which includes important habitats, nature reserves, landscapes, heritage sites, green

spaces, waterbodies the rights of way network and green links which, when taken together, will help provide a robust natural environment. This includes highlighting opportunities for the green infrastructure enhancements that developments should deliver. The aim is to both protect and enhance the green infrastructure network in Central Bedfordshire.

The GI plans are based on the spatial analysis of existing assets for protection, and identification of opportunities to buffer, extend and create new resources in a network across Central Bedfordshire, and linking across administrative boundaries.

The GI network is designed to be a strategically planned and managed system of green spaces, access routes, wildlife habitats, landscapes and historic features which meet the needs of existing and new communities

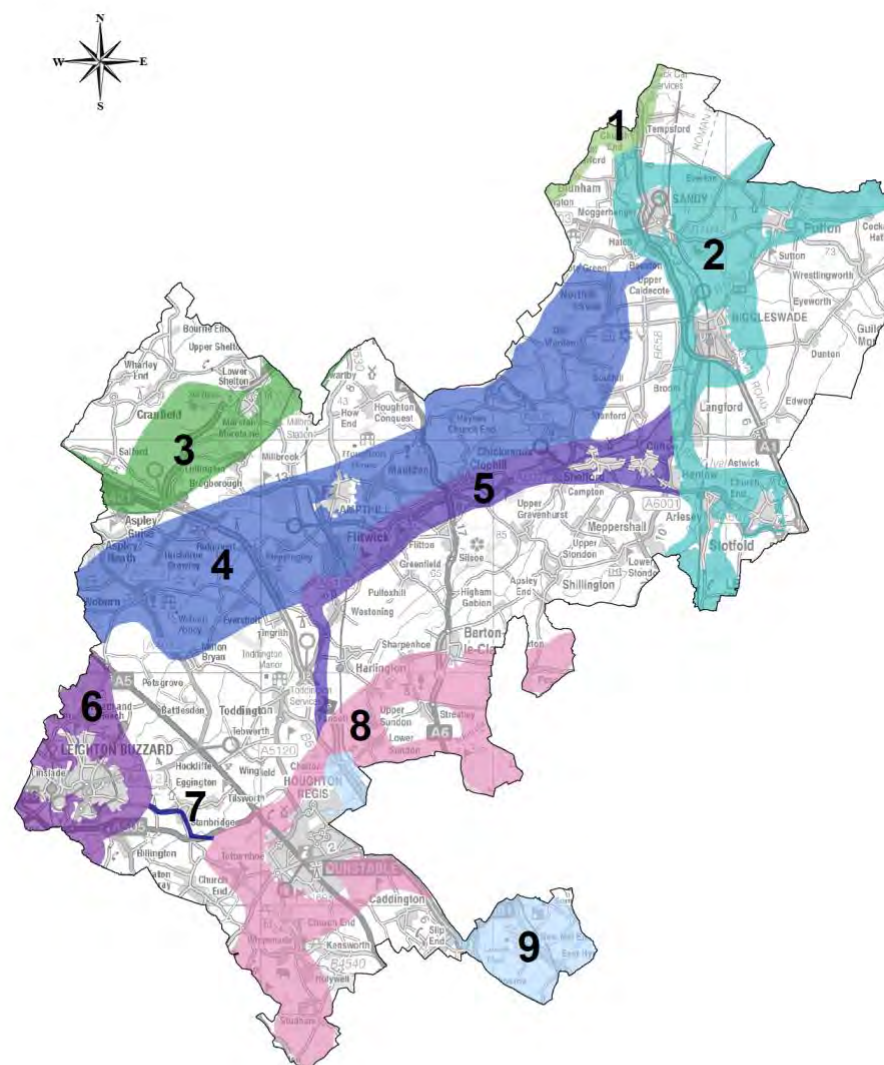
What the evidence base shows

The Strategic GI plan identifies priority corridors, which create a strategic green infrastructure network.

These corridors highlight areas where investment and project delivery can make most impact in securing multi-functional green infrastructure.

The strategic green infrastructure corridors in Central Bedfordshire are:

1. Lower Great Ouse River Valley
2. Ivel River Valley
3. Bedford to Milton Keynes (Marston Vale)
4. Greensand Ridge
5. Flit Valley
6. Ouzel River Valley
7. Leighton Linlade to Dunstable
8. The Chalk Arc
9. Upper Lea River Valley



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Central Bedfordshire Council.

Figure 6 - Strategic scale green Infrastructure corridors

The District GI plans use the strategic GI plan as a basis, with additional areas identified where there are concentrations of green infrastructure opportunities at a more local level (e.g. around the urban centres).

There is therefore much overlap in the areas identified as priorities, but with more detail provided on assets and opportunities.

Areas identified as priorities at this level are:

- The Forest of Marston Vale
- The Ivel Valley
- The Greensand Ridge
- The Flit Valley
- The Southern Clay Ridge and Vale
- The Chilterns
- The Ouzel Valley
- The Chalk Arc
- Leighton Linslade to Dunstable
- The Upper Lea River Valley

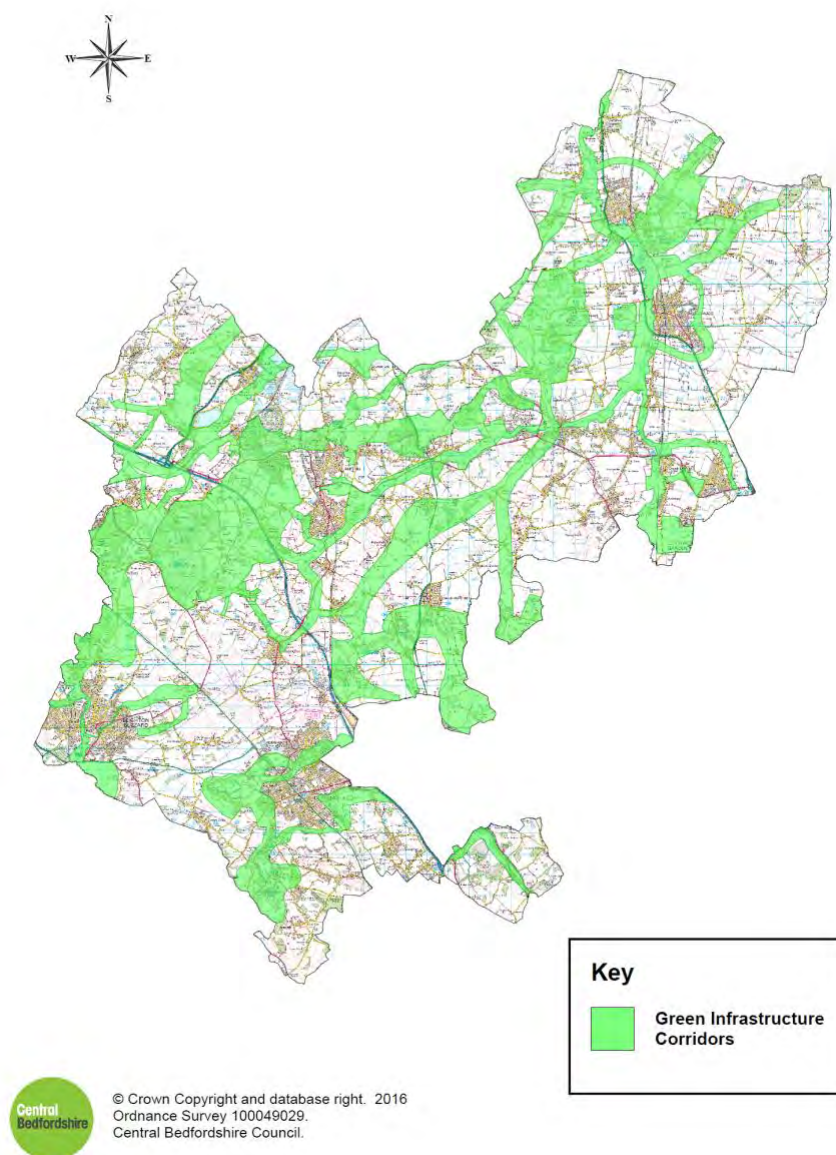


Figure 7 – 'District' scale green infrastructure corridors.

The parish/community GI plans show aspirations for enhancing green infrastructure at a community level. They have been carried out in areas where planned growth is taking place, to ensure that local aspirations for environmental enhancements can be evidenced, to ensure that improvements to the local environment are identified alongside development opportunities.

How this information is used

The green infrastructure plans identify existing green infrastructure assets and opportunities for enhancement. This information can help inform strategic planning decisions, as part of the process for identifying appropriate locations for growth, and the infrastructure required to support growth. It can also be used to inform planning decisions to evaluate the impact of proposed developments on the green infrastructure resource, and inform how development can be planned to deliver identified aspirations for green infrastructure enhancements.

Further information about the plans can be found here:

- [Strategic Green Infrastructure Plan](#)
- [Mid Bedfordshire Green Infrastructure Plan](#)
- [Luton and South Bedfordshire Green Infrastructure Plan](#)
- [Parish and Community Green Infrastructure Plans](#)
- [Green Wheel plans](#)



Landscape

The United Kingdom is a member of the “European Landscape Convention” which came into force in 2004. The Convention promotes multifunctional landscapes, the management of valued features and the positive management of change through the creation of new landscapes. It defines landscape as:

“An area as perceived by people... our living, natural and cultural heritage, be it ordinary or outstanding, urban or rural. Landscape must be recognised for its own value as well as being an integrating element for other resources.”

What national policy says

Landscape policy has a long history stemming from the National Parks Act 1949. This enabled the designation of “Areas of Outstanding Natural Beauty” (AONBs) such as the Chiltern Hills, to protect the nation’s finest countryside.

Since the 1990s the holistic approach to land management has been based on the objective study of landscape character, which also includes public perception. This approach places a value on all landscapes and puts people at the heart of landscape.

An understanding of how the landscape has evolved and how one landscape is different from another and engenders a sense of place can be used to inform strategies for enhancement.

The NPPF contains core planning objectives that recognise the intrinsic character and beauty of the countryside as well as policies for the protection of National Parks and AONBs. The NPPF also recognises the importance of appreciating and strengthening landscape character across rural and urban areas.

The NPPF requires local planning authorities to work across administrative boundaries to deliver strategic planning priorities which include:

- the conservation and enhancement of the landscape (paragraph 156)
- sustainable development to be well sited and of a good design quality that responds to local character (paragraph 58)
- protection and enhancement of valued landscapes (paragraph 109)
- mitigation of adverse effects through good design (paragraph 65)
- development which connects people and place and which is integrated into the environment (paragraph 61).

Natural England promotes strategic landscape conservation and enhancement through policies contained in the Natural Character Area (NCA) profiles. These profiles provide a detailed summary of landscape character, assess landscape change and describe how the landscape functions in terms of agriculture, forestry and wider ecosystem services.

Four NCAs are found in Central Bedfordshire:

- [87: East Anglian Chalk](#)
- [88: Bedfordshire Claylands](#)
- [90: Bedfordshire Greensand Ridge](#)
- [110: Chilterns](#)

Landscape scale restoration at the regional scale, to conserve or restore traditional landscapes and enhance biodiversity, receive the greatest funding support. This includes through the Heritage Lottery. Examples in Central Bedfordshire include support for restoration of parkland, chalk downland and the Greensand Ridge.

The Local Evidence Base

The key evidence base is the Landscape Character Assessment (LCA). Updated and revised in 2015, it replaces the assessments undertaken for the former Mid Bedfordshire and South Bedfordshire areas.

The LCA provides an objective study of the diverse landscape in Central Bedfordshire. It describes 38 distinctive landscape character areas, providing a strategy and guidelines to manage change, help integrate development and promote design which respects the key characteristics of the locality, as well as promoting appropriate land management. The LCA also provides some evidence of what is perceived and valued locally.

The LCA has been undertaken at the scale of 1:25,000. More detailed landscape assessments have also been undertaken at the 1:10,000 scale:

- [The “Chalk Arc” – a landscape sensitivity study of the urban fringe landscape north of Dunstable and Houghton Regis \(2007\)](#)
- The “Aspley Guise “Triangle” Landscape Assessment (2007) – a study of the landscape between Cranfield and Aspley Guise.

Studies of particular landscape types

A more detailed study of the Greensand Ridge has been undertaken to support the Heritage Lottery Living Landscapes “Greensand Country” project, which was published in 2016.

Central Bedfordshire contains 13 Registered Parks and Gardens. A study of parklands across Bedfordshire, carried out in 2011, has assessed these in relation to habitat.

What the evidence base shows

The LCA highlights the variety of landscapes present, with often a distinctive change between the landscape types e.g. between the escarpment and the surrounding vales. The LCA also lists the threats to landscape character through incremental change such as through the loss of small scale traditional features such as pastures within or on the edge of settlements or urbanisation through highway improvements. It also highlights the scope for green infrastructure to integrate development and the opportunities to strengthen landscape character.

The previous Character Assessments contained judgements on the condition of the character areas with the conclusion that all but three were in decline or declining. Assessment of landscape change and condition will be undertaken as part of the Landscape Strategy which will update these judgements.

How this information is used

The LCA provides a good high-level overview of landscape type and character for Central Bedfordshire. This information is used to inform scheme design, planning decisions and to mitigate negative impact of development on the landscape.

There is scope to take a more proactive approach, building on the LCA and the guidance contained for the NCAs to inform a more proactive plan for conservation and enhancement.

This also highlights the need to review the LCA regularly and at a finer scale, particularly for areas that, in the future, face the potential for rapid change brought about through growth and new development.

The platform of understanding, provided by the LCA, also provides a future opportunity to gain a better understanding about what is valued, in landscape terms, by the public and why. This can be achieved through contact with Parish Councils and community groups and lead to an evidence base which includes photographic records of key features and views. This approach can also identify key detractors within the area. This process can support Neighbourhood Planning and link to Green Infrastructure Plans.

More information

- [Central Bedfordshire Council Landscape Character Assessment](#)



Tranquillity

Tranquillity attracts people to visit an area. Visual and audible tranquillity encourage participation in the natural environment, improves physical and mental health, largely due to stress reducing effects of peace and quiet. This 'attractor' in turn supports local businesses and local economies.

Finding tranquillity is not reliant on large scale land or seascapes; relative tranquillity can be found in small pockets within a busier mass.

The Campaign for the Protection of the Rural Environment (CPRE) have commissioned a number of studies and produced maps assessing what constitutes tranquillity, the benefits and impact of change.

From CPRE surveys, tranquillity is defined by seeing and hearing natural landscapes, and natural features including:

- Seeing natural woodland, stars at night, rivers and the sea.
- Peace and quiet, hearing wildlife, bird song and the sound of water.

Negative impacts on tranquillity are highlighted in CPRE surveys as:

- Traffic and transport, transport corridors
- Light pollution
- Urban areas, large numbers of people
- Pylons and power lines, masts and wind turbines

Policy Overview

This aspect of landscape character is recognised in the NPPF, paragraph 123, where Local Authorities are given the power to: *"identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason"*.

Local Evidence Base:

CPRE have produced a nationwide study of "intrusion" which involved comparative studies of the impact of development between the 1960s, the 1990s and 2007. This showed that over two-thirds of Central Bedfordshire is considered to be disturbed by intrusive development or noise.

Since over 70% of people are reported as valuing tranquillity most in the countryside and cite it as a key factor in their reasons for their visits, safeguarding tranquillity must be seen as priority not only in terms of landscape quality but also for health and the rural economy.

Mapping of tranquillity has also been carried out. The CPRE mapping represents assessment of 44 different factors relating to tranquillity based on 500m area squares.

The CPRE studies and mapping relating to Central Bedfordshire show the road corridors are key factors in reducing tranquillity; the M1 corridor, A6, A505, A507 and A600 are particular detractors to tranquillity.

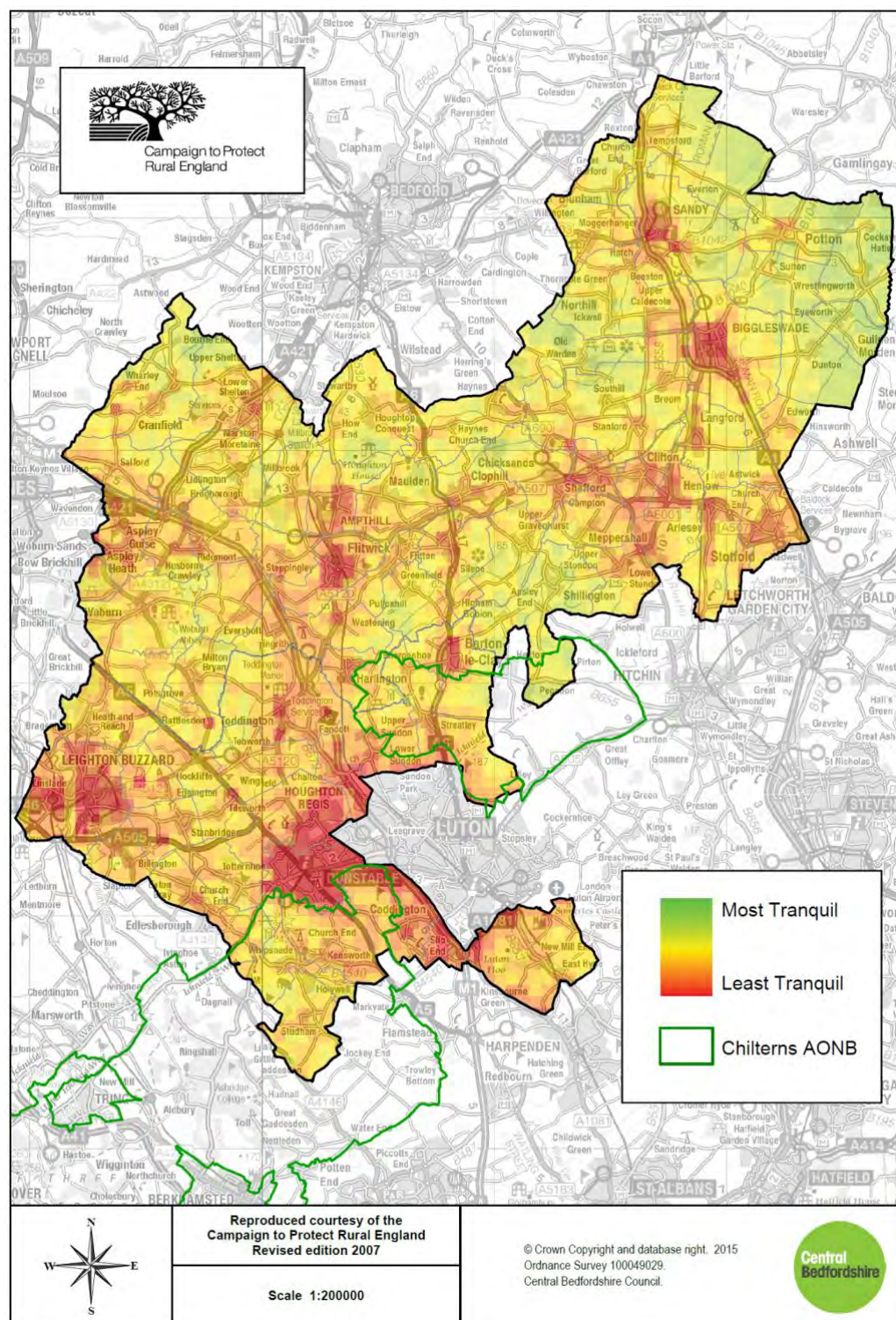


Figure 8 - Tranquillity across Central Bedfordshire

This map shows that the most extensive areas of tranquil countryside in CBC are in pockets along the Greensand Ridge extending from Haynes through to Potton and Wrestlingworth, in the clay vales to the east of Potton, and the Cranfield clay hills.

There are limited tracts of relative tranquillity close to urban areas, such as north of Luton and north of Leighton Buzzard, which are highly significant in terms of the contrast in experience and enjoyment of the landscape from adjoining urban areas.

Useful links:

- www.cpre.org.uk/resources/countryside/tranquil-places



The Historic Environment

As well as being indispensable to the study of history and archaeology, the historic environment is vital to our understanding of how our society and our landscape have developed over time.

Its contribution to modern life is immense, ranging from shaping and defining the places we live in, enhancing the quality of life, providing opportunities for recreation, as well as contributing significantly to environmentally led regeneration, employment and economic growth.

Policy Overview

The NPPF defines the historic environment as:

“all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.”

All buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions, because of their heritage interest are referred to as “heritage assets” by the NPPF.

Heritage assets include **Designated Assets**:

- Listed Buildings
- Scheduled Monuments
- Registered Parks and Gardens
- Registered Battlefields
- Protected Wreck Sites
- Conservation Areas
- World Heritage Sites

Heritage assets also include **Non-Designated Assets** and these are sites/monuments/buildings/landscapes identified by the Local Planning Authority as important, (including assets identified on local lists). The extent, nature and character of non-designated heritage assets are often defined in the **Historic Environment Record (HER)**.

Section 12 of the NPPF deals with the conservation and enhancement of the historic environment. Key themes in section 12 are that Local Planning Authorities should recognise that heritage assets are a non-renewable resource and that they should set out a positive strategy for the conservation and enjoyment of the historic environment.

Local Evidence Base

The NPPF requires Local Planning Authorities to maintain or have access to up-to-date information about the historic environment and Central Bedfordshire Council maintains a Historic Environment Record (HER). The Historic Environment Record contains details of all known archaeological sites, historic buildings and historic landscape features within the area.

The HER comprises a computer database; GIS information, written and printed documents, plans, illustrations, aerial and other photographs. The whole resource is

available for use by all. In addition, the Bedfordshire and Luton Archives and Records Service (BLARS) contains a large collections of archival material associated with Bedfordshire and Luton. BLARS is also publicly accessible.

What the evidence base shows

Central Bedfordshire has a unique and diverse historic environment. The Historic Environment Record has over 11,000 entries and is constantly being updated. Central Bedfordshire has 1909 Listed Buildings, 84 Scheduled Monuments, 60 Conservation Areas and 13 Registered Parks & Gardens.

How the information is used

The Historic Environment Record is the main source for identifying Heritage Assets for inclusion in Heritage Statements that are submitted as part of planning applications. These Heritage Statements show the potential impact of development proposals on heritage assets.

More information

Further information on Central Bedfordshire's historic environment and its management can be obtained from the Council's webpages below:

- [Archaeology](#)
- [Historic Environment Record](#)
- [Listed Buildings](#)
- [Conservation Areas](#)



Biodiversity

Central Bedfordshire's geology and surrounding landscape means that there are already many high quality wildlife habitats close to where people live and work, as well as scope for further enhancement. This provides many benefits such as regulating environmental functions like air pollution, to providing a positive 'sense of place' and promoting health and wellbeing.

Policy overview

International

The United Kingdom is one of 192 governments that signed up to the Aichi Targets during the 10th meeting of the Convention on Biological Diversity in Nagoya, Japan during October 2010. These 20 Targets aim to halt the loss in biodiversity worldwide by 2020. Within the targets there are a range of challenges, from protecting our best habitats and rarest species, to restoring the services our natural environment provides and tackling climate change.

The EU 2020 Biodiversity Strategy outlines a long-term vision of ensuring that by 2050 European Union biodiversity and the ecosystem services it provides are protected, valued and appropriately restored.

National

The UK Post-2010 Biodiversity Framework (July 2012) describes how the Aichi Targets will be implemented across the UK and is underpinned by a Biodiversity Strategy for each Country. In England this is *Biodiversity 2020: A strategy for England's wildlife and ecosystem services* (August 2011).

Just before England's Biodiversity Strategy was published the Government also produced The Natural Choice – Natural Environment White Paper (June 2011). These two documents together set out the strategic direction for biodiversity policy until 2020. The mission for the Strategy is:

"To halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people."

The Natural Environment White Paper had the ambition to ensure that the benefits of high quality natural environments are available to everyone.

It responded to compelling evidence from the UK National Ecosystem Assessment (NEA) published in June 2011 which assessed the social and economic benefits we get from the natural environment and showed that 30% are in decline. The NEA also highlighted the huge opportunities for improved health, wealth and happiness.

The White Paper recognises that success in protecting and improving the natural environment will depend on action taken at local level. It promotes partnership working,

advocating Local Nature Partnerships and Nature Improvement Areas to support opportunities to enhance and reconnect nature creating resilient ecological networks, including:

- Core areas of high nature conservation value which contain rare or important habitats or provide ecosystem services. They include protected wildlife sites and other semi-natural areas of high ecological quality;
- Corridors and 'stepping stones' that enable species to move between core areas. These can be made up of a number of small sites acting as 'stepping stones' or a mosaic of habitats that allows species to move and supports ecosystem functions;
- Restoration areas, where strategies are put in place to create high-value areas (the 'core areas' of the future) so that ecological functions and wildlife can be restored;
- Buffer zones that protect core areas, restoration areas and 'stepping stones' from adverse impacts in the wider environment; and
- Sustainable use areas, focused on the sustainable use of natural resources and appropriate economic activities. Together with the maintenance of ecosystem services, they 'soften' the wider countryside, making it more permeable and less hostile to wildlife.

Section 11 of the National Planning Policy Framework ("conserving and enhancing the natural environment"), demonstrates the Government's commitment to sustainable development and the protection and enhancement of the natural environment. In accordance with paragraph 109, the planning system should "...*contribute to, and enhance, the natural and local environment by:*

- *Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services;*
- *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.*
- *Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability and*
- *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate".*

The NPPF also requires policies to reflect the strength of protection according to the hierarchy of international, national and locally designated conservation sites and to map components of local ecological networks for habitat restoration or creation, and states that planning permission for development that would result in the loss or deterioration of irreplaceable habitats should be refused.

Local Evidence base

The Bedfordshire & Luton Biodiversity Forum has done valuable work mapping the opportunity areas which have the greatest potential for enhancing, restoring and creating priority habitats. This work, contained in "*Rebuilding Biodiversity in Bedfordshire & Luton*" (2006) has also informed the production of the various Green Infrastructure Plans across Central Bedfordshire.

Phase I Habitat Surveys for the whole county were undertaken in 1987-1989. This is a widely used method to relatively quickly record the vegetation types which are found in an area. This county wide phase 1 survey has not been repeated since but a rolling programme of surveys of a small number of sites is ongoing under the umbrella of the Bedfordshire Wildlife Working Group. In the late 1990s guidelines, based on nationally agreed principals, were developed for recognising County Wildlife Sites (CWS).

It is important to keep the information used in the CWS system up-to-date. Since 1990 41 additional CWS have been designated in Central Bedfordshire and there have been modifications to the boundaries of others. There have also been more specialist surveys conducted to broaden our knowledge about some of the sites. The survey information which underpins the CWS system is held for the CWS Panel by the BRMC.

In 2013/14 the funded a CWS survey update of 38 sites in the area. As of October 2014 Central Bedfordshire has 259 CWS within its boundary (of which 8 are 'shared' with Bedford Borough Council and 5 'shared' with Luton Borough Council)

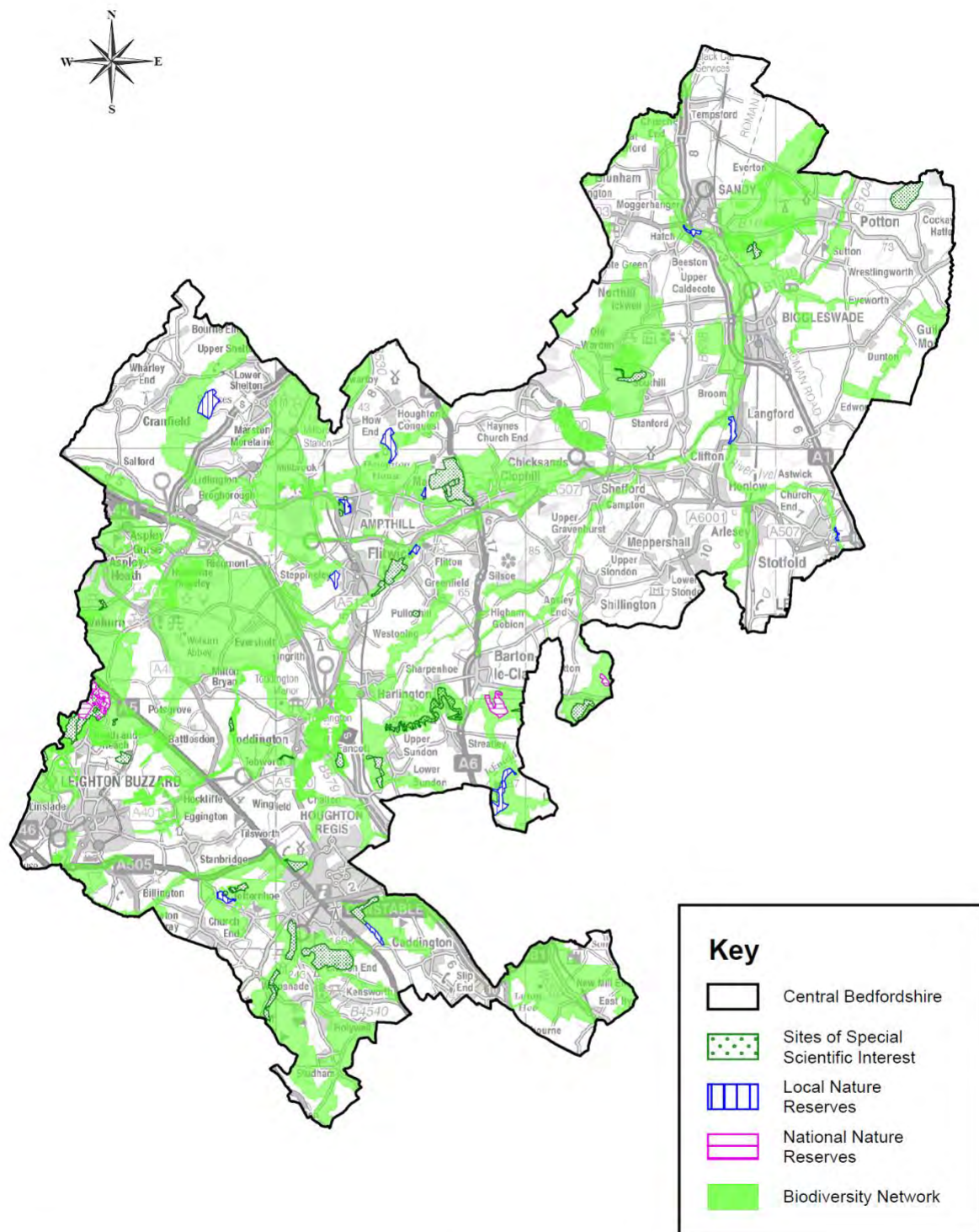
What the evidence base shows

Compared to the national average, a lower percentage of Central Bedfordshire is covered by ecological designations. One of the most serious problems facing biodiversity is the continued fragmentation of habitats, including migration and feeding corridors for birds and bats, many of which have become isolated islands surrounded by intensively farmed agricultural land, development and busy transport routes. Not only does isolation critically reduce genetic diversity and hence chances for long term survival, it also makes habitats more susceptible to the effects of climate change as species cannot easily adapt, for example by migration.

The Local Biodiversity Action Plan, the Landscape Character Assessments and the Green Infrastructure Plans together provide a detailed framework and strategy designed to address the problems facing biodiversity in Central Bedfordshire.

Within the locality some areas are designated as being of particular importance for biodiversity and geology/geomorphology. They include 32 nationally designated Sites of Special Scientific Interest (SSSIs) such as Dunstable Downs, Flitwick Moor and Sandy Warren. There are also three National Nature Reserves (NNRs) at King's Wood near Heath and Reach, Barton Hills and Knocking Hoe near Shillington. In addition to these statutory designations, there are a range of other designated sites for biodiversity, including 12 Local Nature Reserves (LNRs), numerous County Wildlife Sites (CWS), Local Geological Sites (LGS) and Roadverge Nature Reserves. There is also the Greensand Ridge Nature Improvement Area, a landscape scale initiative, which is covered in more detail later in this Environmental Framework. There are no internationally designated sites in Central Bedfordshire.

The Biodiversity Network shows broad areas where habitat enhancement, linkage and creation would be most beneficial in the creation of ecological networks that link these designated sites and areas.



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Figure 9 - Biodiversity Sites

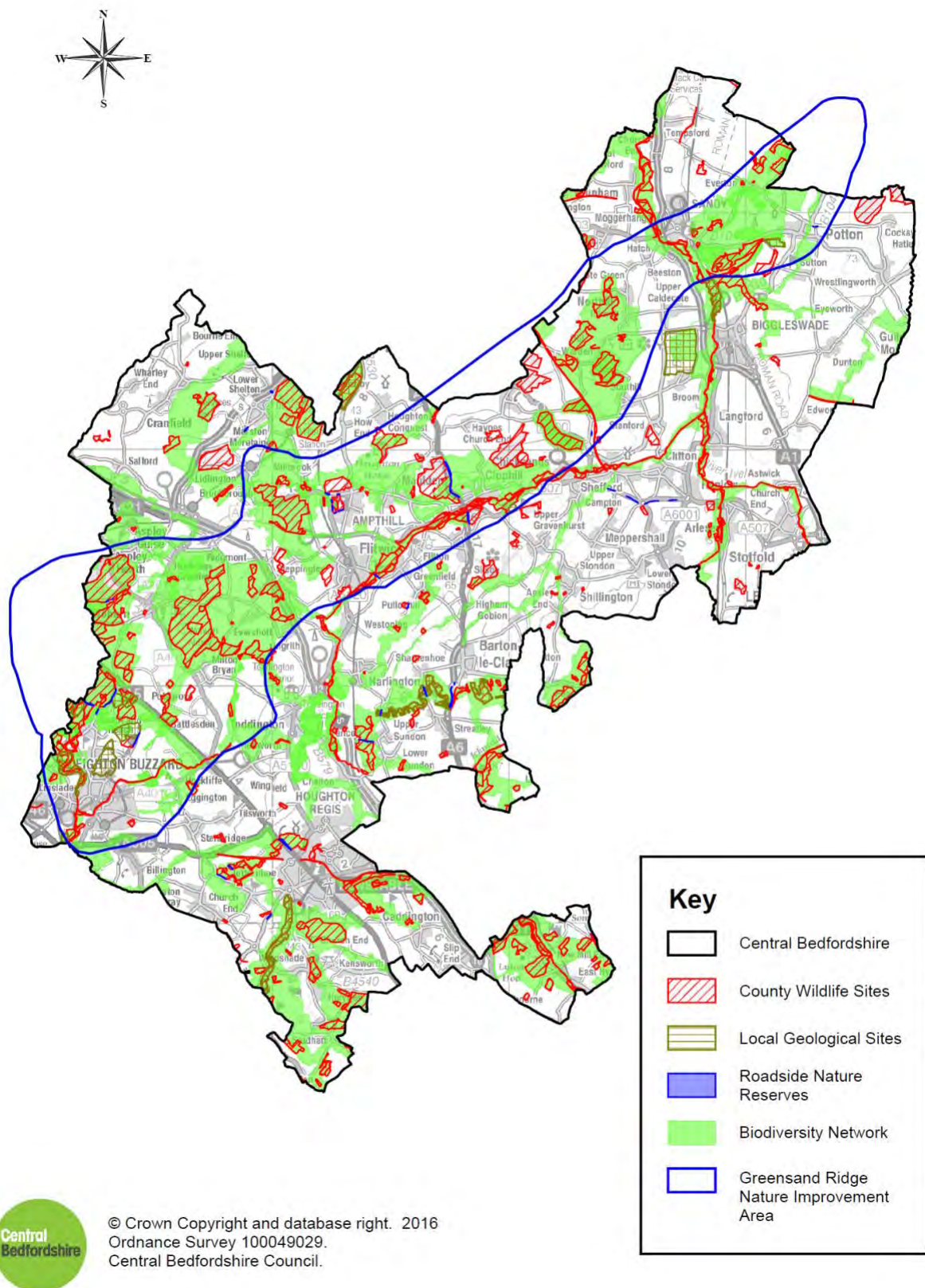


Figure 10 - Biodiversity networks

Central Bedfordshire contains a variety of habitats and species which are recognized in Section 41 of the NERC Act 2006 as of “principal importance for the purpose of conserving biodiversity”. As part of this Act, Local Authorities are expected to contribute towards protecting and enhancing the listed habitats and species as part of their ‘Biodiversity Duty’. About 107 species of ‘principal importance’ have been recorded in Central Bedfordshire. Habitats found in Central Bedfordshire include a range of rare grassland habitats, traditional orchards, lowland heath and wetland habitats, such as wet woodlands.

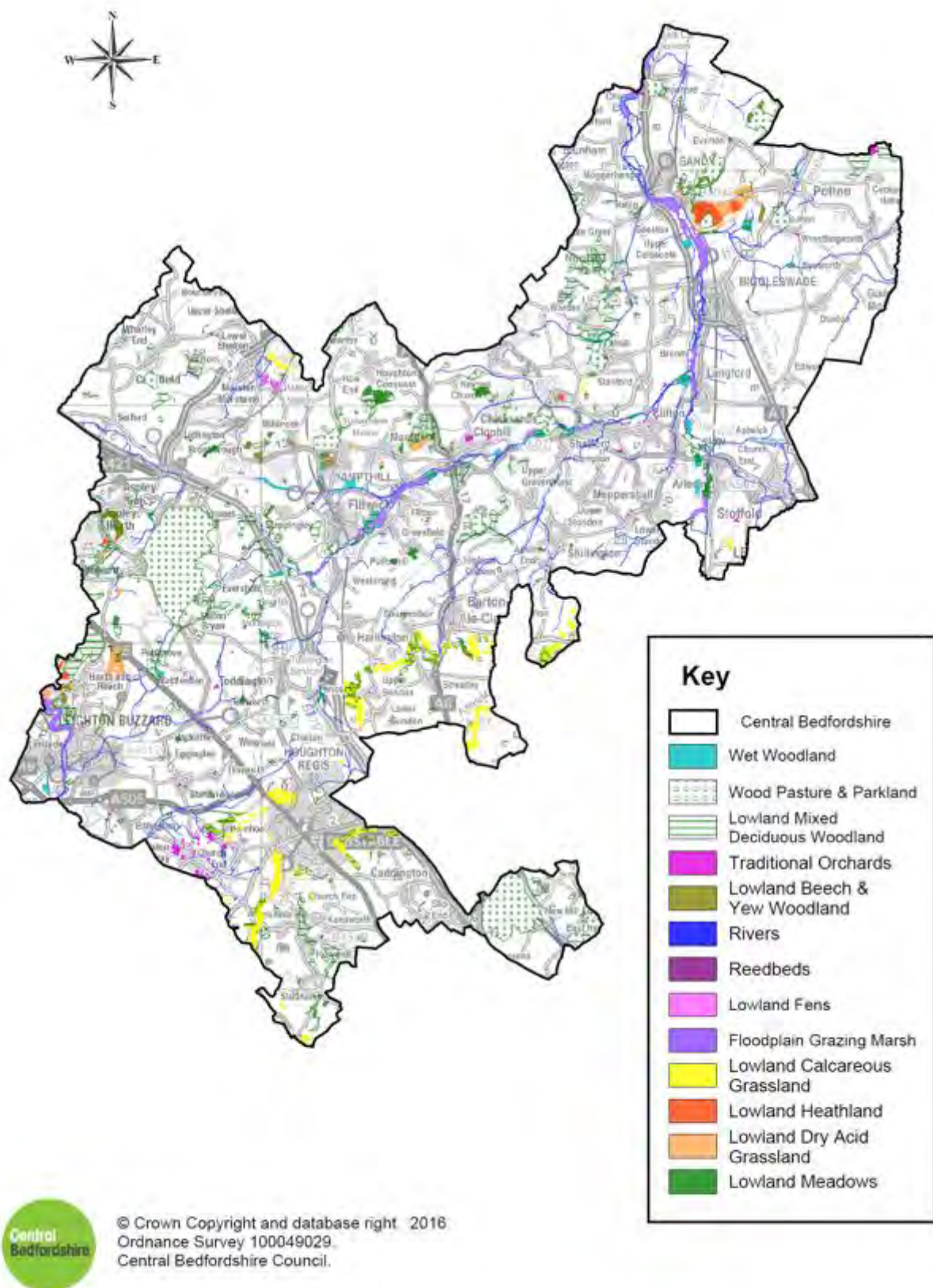


Figure 11 - Habitats of principal importance

The 18 habitats shown in the table below are listed under Section 41 of the NERC Act as of “principal importance for the purpose of conserving biodiversity” and are found in Central Bedfordshire:

| Habitat of “Principal Importance for the Purpose of Conserving Biodiversity” | |
|--|---|
| • Lowland dry acid grassland | • Lowland mixed deciduous woodland |
| • Cereal field margins | • Open mosaic habitats on previously developed land |
| • Floodplain grazing marsh | • Ponds |
| • Hedgerows | • Purple moor grass and rush pastures |
| • Lowland beech and yew woodland | • Reedbeds |
| • Lowland calcareous grassland | • Rivers |
| • Lowland fens | • Traditional orchards |
| • Lowland heathland | • Wet woodland |
| • Lowland meadows | • Wood-pasture and parkland |

As well as being important for biodiversity these habitats are also valued by people. They allow Central Bedfordshire’s residents to experience nature within their landscape, for example seeing the beauty of flower-rich grasslands in spring or the changing seasons in Central Bedfordshire’s woodlands. Research has shown that access to such areas improves people’s health and wellbeing.

The Nature Conservation Strategy, adopted October 2015, has been developed to identify the overall aims, objectives and priorities for the conservation of biodiversity in Central Bedfordshire and bring them together within a single document and acts as a reference document for anyone working within Central Bedfordshire. The aims of the Strategy are as follows:

- To identify and protect species and habitats across Central Bedfordshire and ensure their management is correct.
- To identify and promote opportunities for enhancing the wildlife resource of existing areas and for the provision of additional wildlife habitat.
- To protect and enhance the biodiversity network across the urban area including stepping stones and linear habitats.
- To identify and monitor Central Bedfordshire’s natural resources and the policy background to nature conservation in a single subject document and to provide a framework for the activities of the Council, local groups and other organizations.
- To generate interest in biodiversity and the environment and to encourage community involvement in the creation and management of sites. Also, to make areas of wildlife interest accessible to all people within Central Bedfordshire.

How the information is used

This information is used to inform broad policy decisions (such as indicating preferred locations for growth), and support planners and developers in assessing and making development proposals. By identifying existing biodiversity assets and mapping opportunities for enhancing, restoring and creating networks of priority habitats, this information can be used to avoid harm, and inform how net biodiversity gains can be delivered through development.

More information

- [Central Bedfordshire Council Nature Conservation Strategy](#)
- [England's Biodiversity Strategy](#)



Trees are important. They contribute to the environment by providing oxygen, storing carbon, improving air quality, improving the local climate, conserving water, preserving soil, and supporting wildlife. They help shape the landscape, character and identity of the area. They provide raw materials for construction, fuel for heating and fruits to eat.

Policy Overview

Ancient woodland, aged and veteran trees are all referenced in the NPPF, which states that: *“...development that would result in the loss or damage to ancient woodland, and the loss of aged or veteran trees outside ancient woodland would be unacceptable, unless the need for and benefits of the development clearly outweighed the loss”*.

Trees are also protected through tree preservation orders (TPOs). TPOs protect specific trees, groups of trees or woodlands from being cut down, lopped, topped, uprooted or wilfully damaged or destroyed. Trees in Conservation Areas are similarly protected.

Local context

Within Central Bedfordshire, trees are an important part of local character. Concentrations of ancient woodlands and plantations (e.g. along the Greensand Ridge) are particularly distinctive and urban and hedgerow trees contribute a range of benefits. Central Bedfordshire is a lightly wooded area with around 7% woodland cover, significantly less than the national average cover of 10%, with many woodlands under threat from a lack of management and indirect pressure from development. Local long term initiatives aim to increase understanding and management of woodlands as well as promote tree planting include the Marston Vale Community Forest and the Working Woodlands Centre on the Greensand Ridge.

The landscape and biodiversity value of individual trees, notably ancient and specimen trees, including those found in avenues and traditional orchards, should not be underestimated. This is particularly the case where they provide landmarks or ‘stepping stones’ between otherwise isolated habitats. Hedgerows also provide vital wildlife corridors as well as being habitats in their own right. Aged and veteran trees not only play an important role in landscape and amenity value but also in provision of wildlife habitat.

The Council will develop a Tree Strategy to review the existing resource and identify threats and opportunities for enhancing and extending this. This will help make it more resilient to climate change and diseases, provide a more economically viable, and multifunctional network of trees, woodlands and hedgerows that improves ecological connectivity, contributes to health and wellbeing, and maintains and enhances local character.

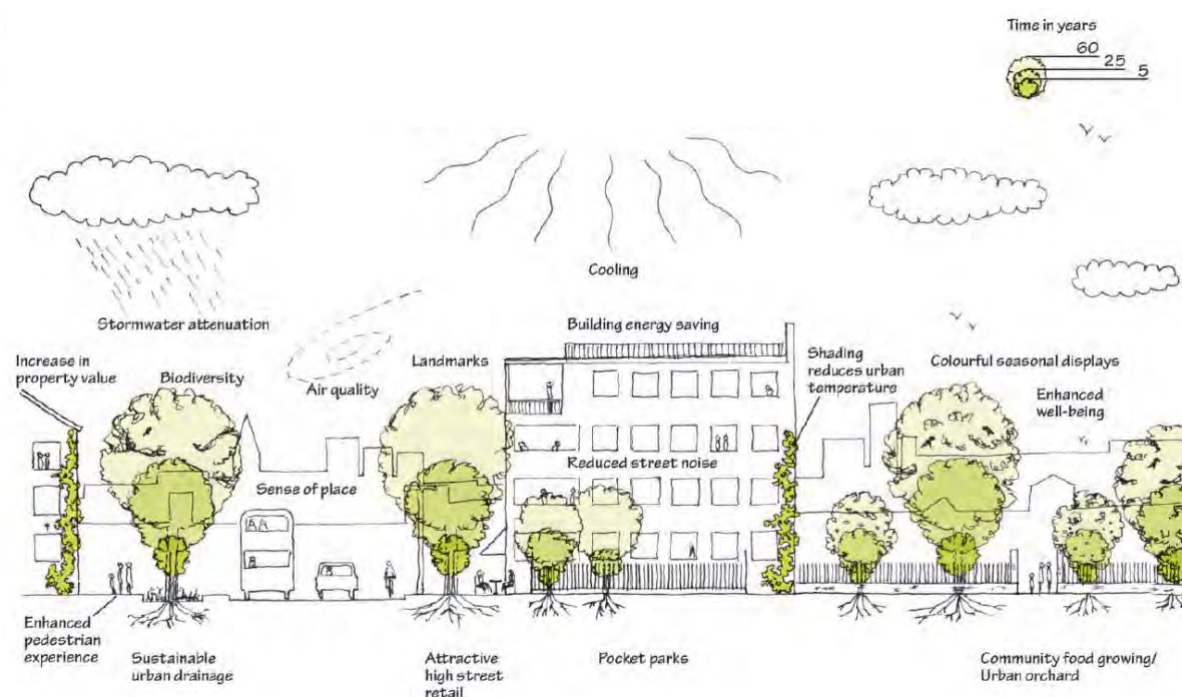


Figure 12 - The benefits of trees in towns

There are a number of challenges facing trees and woodlands across Central Bedfordshire.

Over the past two decades there has been an increase in the number of pests and diseases. These cause the loss of mature trees and reduce the ability of new trees to establish themselves. These pests and diseases will inevitably affect Central Bedfordshire's tree populations. Ash and Oak trees, which are the main canopy trees of many of our woodlands and feature heavily as hedgerow trees, are both being affected by specific diseases. This is resulting in their premature death and loss of mature trees from the area. Natural regeneration of woodland and trees are also being affected by high numbers of introduced deer species and other mammals which reduce establishment rates and quality of our woodland trees. Extreme weather events, such as high winds and droughts also pose a threat.

Planting of trees in inappropriate locations (e.g. lacking space to grow to their full potential size – both roots and canopy) can also be perceived as causing problems with roads and properties, which can lead to poor tree health, or the inappropriate management and removal of trees, if the benefits and the risks are not properly assessed.

To maintain the quality of woodland and trees across Central Bedfordshire, a range of trees need to be managed and planted. These need to be appropriate to the base soil type and their position in the urban or rural environment. The trees need to be grown from a diverse seed source to ensure resilience to current and future pressures.

How we will use this information

In order to plan and manage trees across Central Bedfordshire the Council will produce a Tree Strategy. The scope is to be determined, but could include the use of trees in new developments, management of street trees and protected trees, as well as use of the Council's estate to maintain and increase tree cover. This will respond to the recommendations made by the Independent Panel on Forestry, which seeks to increase

woodland cover whilst stimulating employment linked to woodland management and products. The eventual aim will be to ensure we have a full understanding of the tree resource across Central Bedfordshire, and a strategy for protecting, enhancing, extending and managing this resource.



Recreational Open Space

Open spaces for recreation underpin people's quality of life. If planned for properly it can deliver a range of benefits, such as supporting an urban and rural renewal with local networks of high quality and well managed open spaces, providing opportunities for recreation and to enhance the visitor economy. This in itself can play an important role in the regeneration of the economies of rural areas. Recreational open spaces also have a significant role in promoting and delivering health and well being, supporting healthy living and preventing illness through exercise and easy access to the countryside.

Policy Overview

The National Planning Policy Framework (paragraph 73) recognises the importance of access to high quality open spaces, and opportunities for recreation in terms of the important contribution they make to health and well being. On this basis, local policy is required to be based on robust and up to date assessments of the need for open space, sports and recreation facilities, and opportunities for new provision. Assessments need to identify specific needs and qualitative and quantitative deficiencies or surpluses of open space, sports and recreational facilities in the local area, and use this information to assess what open space, sports and recreational provision is required.

Paragraph 74 states that existing open space, sports and recreational land should not be built on, unless it is clearly surplus to requirements, it would be replaced by equivalent or better provision, or in some cases alternative provision.

On this basis, the Council has prepared a Leisure Strategy which addresses the provision of new or improved sport, recreational open space and leisure facilities in Central Bedfordshire. This sets the overarching principles by which the Council will seek to improve existing facilities or create new ones in association with new housing development.

Local evidence base

The Leisure Strategy adopts a holistic approach to the provision of sport, leisure and recreation facilities across the Council's area. The aim of the Strategy is to assess current facilities and services, estimate future demand and thereby create a strategy which will assist the authority to deliver and facilitate good quality, sustainable, demand-led facilities and services.

Chapter 2 of the Leisure Strategy details the Recreation and Open Space Strategy for the Council. It is based on the assessment of current facilities and future requirements, and establishes a set of local standards for the nine open space typologies. The approach is based on identifying and reporting the views of residents and key stakeholders in relation to open space in Central Bedfordshire. It outlines the current provision of each type of open space; sets local standards for the provision of open space; and outlines the priorities for the future delivery of each type of open space to meet current and future need, taking into account the impact of the proposed population

growth. The standards set the baseline requirement for the provision of on-site open space facilities, or off-site contributions for the larger, more strategic typologies.

What the evidence base shows

The Leisure Strategy has identified existing and future deficiencies in facility provision to meet the needs of Central Bedfordshire residents and seeks to address these by securing the provision of new facilities or contributions from development to provide new, or improve existing facilities in areas of need.

In addition to protecting existing open space assets, the Leisure Strategy also identifies what needs to be delivered by new developments in order to meet open space needs. These requirements are set out in the table below:

| Type of Open Space | Local Standard per 1000 pop.(ha.) | Accessibility | Site Content / Quality |
|----------------------------|-----------------------------------|--|--|
| Strategic Sites | | | |
| Countryside Recreation | 3.19 | 20 minute drive time | Size: average 45 hectares, appropriately located for the local catchment, predominantly natural landscape, may have DDA access audit, toilets, café or visitors centre, play equipment, parking etc. |
| Urban Parks | 0.39 | 15 minute walk time for Major and Minor Settlements and; 20 minute drive time for Large and Small Villages | Size: min. 5 hectares, appropriately located for the local catchment, offering a range of activities and events, landscaped with ornamental planting which reflects the character / history of the local area/town, toilets, refreshments, seating, play facilities, lighting etc. |
| Informal Recreation | | | |
| Informal Recreation Areas | 2.6 | 10 minute walk time for major settlements or; 10 minute drive time for small villages | Size: approx. 1 hectare, appropriately located for the local catchment, formal recreation area offering a variety of facilities for different age groups such as formal sports pitches/courts/changing facilities, play provision, DDA compliant access, parking etc. |
| Local Recreation | | | |

| Type of Open Space | Local Standard per 1000 pop.(ha.) | Accessibility | Site Content / Quality |
|---|-----------------------------------|----------------|--|
| Large Formal Recreation Areas | 1.20 | 10 minute walk | Size: relevant to location/size of site, appropriately located for the local catchment, predominantly natural space, links with rights of way network, DDA compliant access, parking etc. |
| Small Amenity Spaces | 0.55 | 5 minute walk | Size: min. 0.2 hectares of functional recreation space, appropriately located for the local catchment, seating, signage, safe paths, no formal facilities |
| Facilities for Children and Young People | | | |
| Facilities for Children | 0.11 | 10 minute walk | Size: relevant to location/size of site, local catchment facilities, formal play facilities for 3-14+yrs, seating, signage, fencing where appropriate, etc. |
| Facilities for Young People | 0.05 | 10 minute walk | Size: relevant to location/size of site and local catchment facilities, located to allow surveillance but not disturb residents, accessible by bicycle with storage, formal age-appropriate play/ recreation facilities, signage, DDA etc. |
| Allotments | | | |
| Allotments | 0.37 | 10 minute walk | Size: approx. 0.25 hectares (i.e. 10 standard sized plots) appropriately located for local catchment, accessible via roads/ paths, DDA access, parking, one shed per plot, mains water, toilet and washing facilities etc. |
| Cemeteries / Burial Grounds | | | |
| Cemeteries | N/A | N/A | Parish specific |

How this information is used

The Leisure Strategy was adopted in March 2014 as Technical Guidance and is a material consideration in determining planning applications.

Further information about the Recreation and Open Space Strategy can be found here

- [Overview of the Leisure Strategy](#)
- [Recreation and Open Space Strategy Part 1](#)
- [Recreation and Open Space Strategy Part 2](#)
- [Appendices to the Recreation and Open Space Strategy](#)
- [Leisure Strategy sites map](#)



Outdoor Access

Policy Overview

Paragraph 73 of the National Planning Policy Framework recognises that access to high quality open space and opportunities for recreation make an important contribution to the health and well-being of communities. Planning policies should be based on robust and up-to-date assessments of the needs for open space and recreation and opportunities for new provision.

In addition, paragraph 75 says that planning policies should protect and enhance public rights of way and local authorities should seek opportunities to provide better facilities for users, for example by adding links to the rights of way network.

Local Evidence Base

The Outdoor Access Improvement Plan (OAIP) provides the policies and actions to deliver countryside access and community involvement for the period up to 2031. The Plan recognises that there may not be enough resources to deliver all elements at once and so we will seek to prioritise projects and work creatively to seek other ways of funding in order to deliver on our aims.

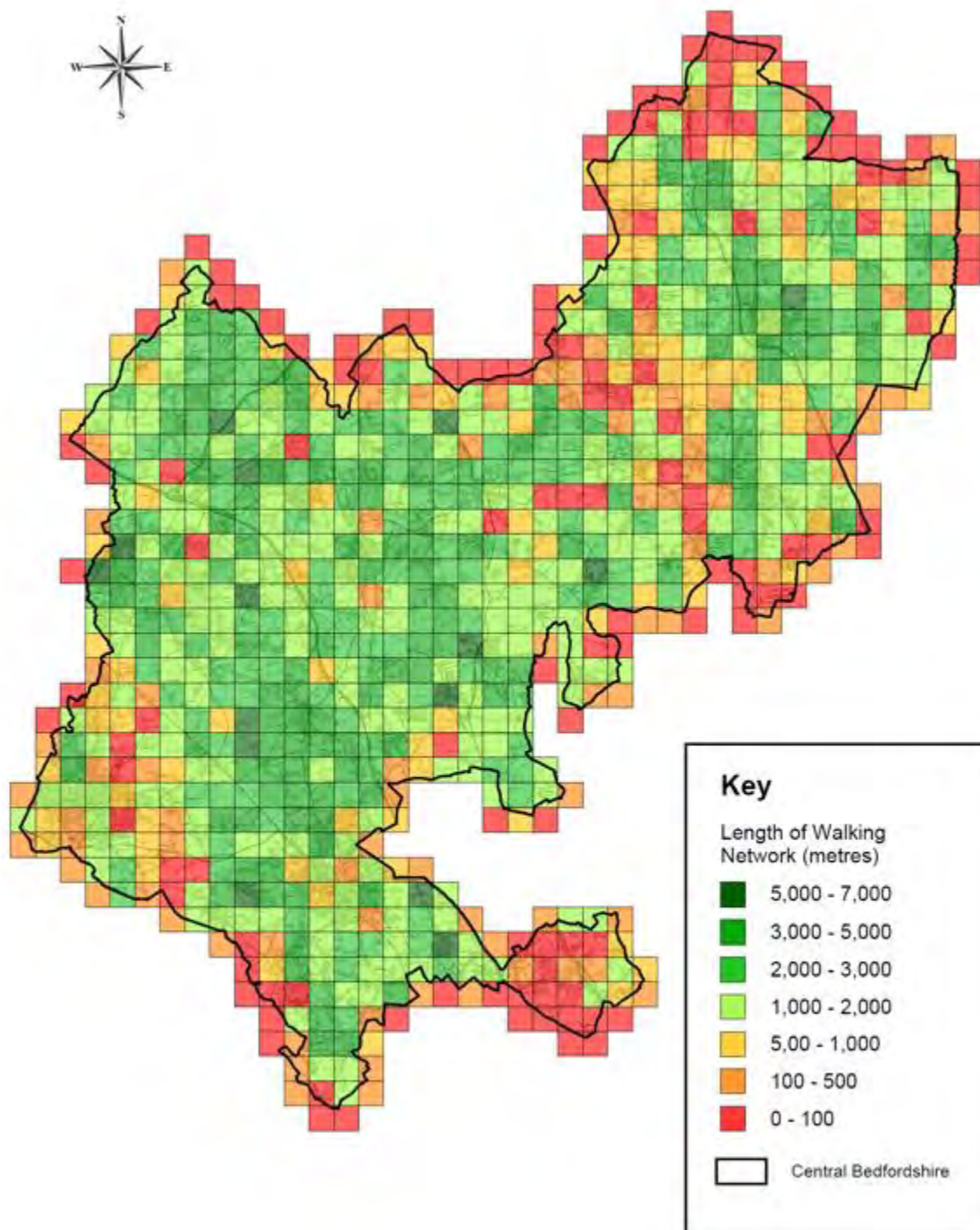
What the evidence base shows

An associated Action Plan that brings specific projects and a suite of overarching aims for the lifetime of the OAIP, these being;

- A well maintained path network
- A better defined and recorded network
- A well connected network
- A more accessible network
- Well managed countryside spaces
- Commons, village greens and access areas will be legally defined with people understanding their rights
- More people volunteering
- Increased local Council involvement in countryside sites and rights of way management and development
- The Council will contribute to supporting the rural economy
- More people have quality information and are aware of countryside access close to them
- Support and provide environmental education opportunities
- Countryside spaces and Rights of Way will facilitate play, health and physical activities
- The quantity and quality of public rights of way and greenspaces meet the needs of current and future communities

Network Available to Walkers

The map below shows that the network available to walkers is generally good with significant lengths of interconnected Rights of Way available around a number of key settlements.



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Figure 13 - Amount of Rights of Way

How this information is used

The OAIP, alongside the Leisure Strategy and Green Infrastructure Plans, is used to plan, deliver and manage countryside access and greenspace in Central Bedfordshire. The OAIP will also facilitate our residents and visitors to Central Bedfordshire explore and understand Central Bedfordshire's countryside as well as get involved in the stewardship of outdoor access.

More information

- [2013-2031 Outdoor Access Improvement Plan](#)



Landscape scale environmental initiatives

Across Central Bedfordshire (and extending into neighbouring areas), there are a number of strategic scale projects to protect, enhance and create environmental benefits and assets. They include the protected landscape of the Chilterns Area of Outstanding Natural Beauty, the habitat networks of the Greensand Ridge Nature Improvement Area, and the environmentally led regeneration projects of the Forest of Marston Vale and the Bedford to Milton Keynes Waterway Park.



Chilterns AONB

The Chilterns Area of Outstanding Natural Beauty (AONB) covers 324 square miles of countryside, stretching from the River Thames in southern Oxfordshire up through Buckinghamshire and Bedfordshire to Hitchin in Hertfordshire. It is one of 38 AONBs in England and Wales. Its designation as an AONB in 1965 recognised that the Chiltern Hills contain some of the finest landscapes in the country which are worthy of protection at the highest level. Central Bedfordshire contains part of the north-eastern end of the AONB.

Policy overview

The National Planning Policy Framework paragraph 115 states that “great weight should be given to conserving the landscape and scenic beauty of the AONB, which with National Parks, have the highest status of protection in relation to landscape and scenic beauty.”

Local information

The Chiltern Hills Area of Outstanding Natural Beauty was designated in 1965 to protect and conserve scenic beauty and to encourage the understanding and enjoyment of the area’s special qualities. The remit was widened with the formation of the Conservation Board to encompass the support for the rural economy, including tourism and recreation. The AONB in Central Bedfordshire extends over 5,800 ha, with the elevated landforms of the chalk escarpments contrasting with the chalk valleys south of Luton and Dunstable and the clay vales to the north and west.

The Board produces a rolling Management Plan and monitors its implementation. Conservation of the landscape is a key priority, with Policies covering local distinctiveness, planning and development, habitat management, and the pressures arising through climate change.

Central Bedfordshire Council has Board Membership and is a signatory to The Management Plan in recognition of its duty to conserve and enhance the AONB.

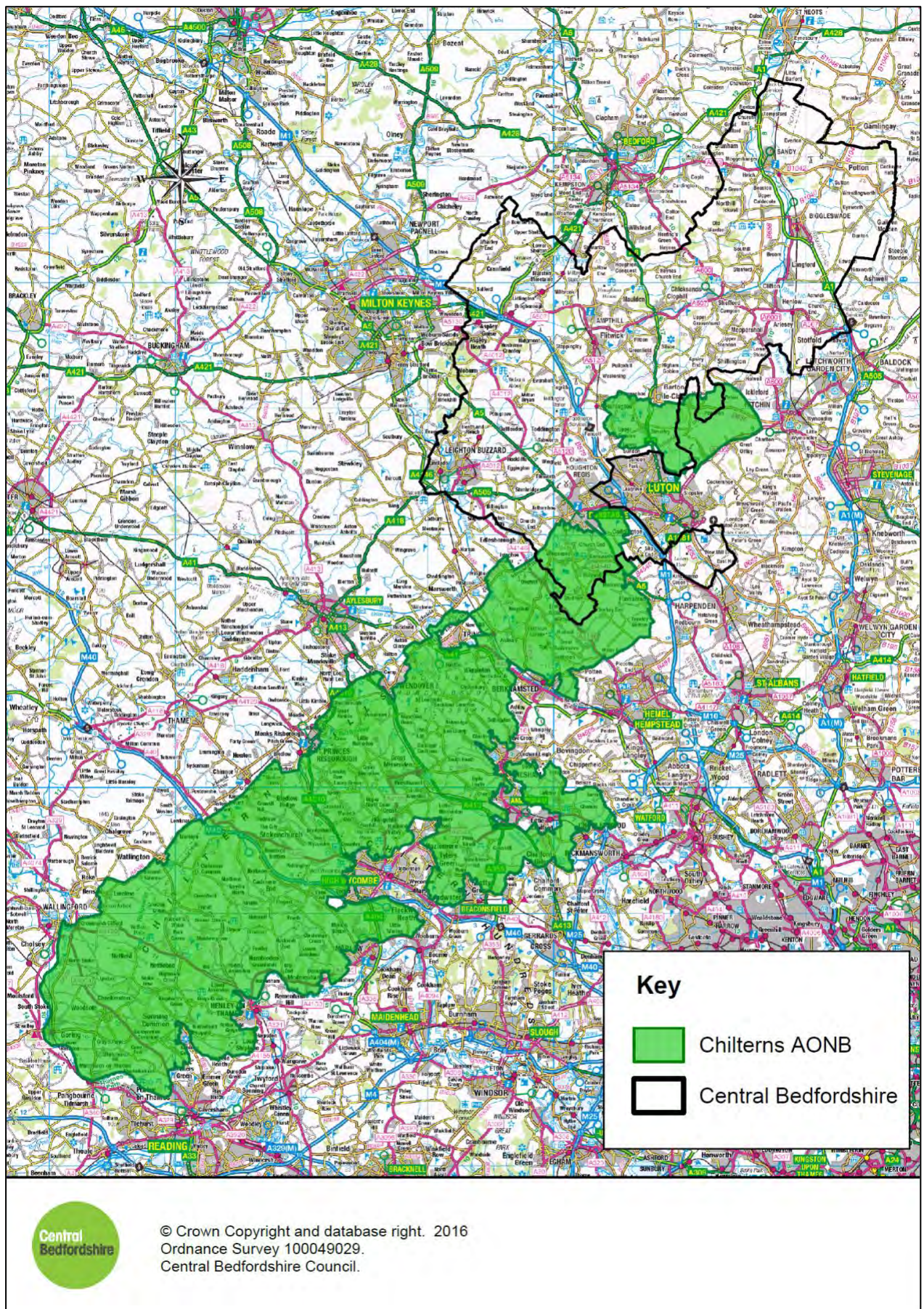


Figure 14 - The Chilterns AONB

More information

- [Chilterns AONB Website](#)
- [Chilterns AONB Management Plan](#)
- [Chilterns State of the Environment Report](#)



Greensand Ridge NIA

The Greensand Ridge is a distinctive 'island' of significantly wooded sands and sandstone that rises prominently above the surrounding clay vales. With a toehold in both Buckinghamshire and Cambridgeshire, and stretching over 45km, the vast majority of the 273km² of this attractive landscape is in Central Bedfordshire. It has been recognised as a locally designated Nature Improvement Area (NIA) by Central Bedfordshire Council and the Bedfordshire Local Nature Partnership.

Policy overview

The National Planning Policy Framework (paragraph 157) states that Local Plans should contain a clear strategy for enhancing the natural, built and historic environment, and supporting Nature Improvement Areas where they have been identified. It also provides the opportunity for specifying the type of development that may be appropriate in Nature Improvement Areas.

Over recent decades 60% of the species found in the UK have declined. Even those which were once common are vanishing (State of Nature Report, 2013). A step-change is required to halt this loss and reverse the prospects for nature in the UK. In June 2011 the Government published The Natural Environment White Paper: *The Natural Choice – Securing the Value of Nature*.

This was informed by England's Biodiversity Strategy (Biodiversity 2020: *A strategy for England's wildlife and ecosystem services*, August 2011) and the Lawton Report: *Making Space for Nature*.

All three documents focus on the need to create bigger, better and more joined up spaces for wildlife whilst reconnecting people with nature. They also contain plans to achieve this; reversing the loss of biodiversity and creating the step-change which is needed.

One of these plans, announced in The Natural Environment White Paper, is the creation of Nature Improvement Areas (NIAs). These are large (10,000-50,000 hectares/100-500km²) discrete areas, which are set up where the opportunities and benefits for biodiversity are greatest and operated by local partnerships with a shared vision for the natural environment.

Local information

The varied geology of the Greensand Ridge has created a distinctive mosaic of habitats and land uses. However, this character has been eroded over time by changes in agricultural and forestry practices and the impact of people. Although core biodiversity hotspots still exist, they have become increasingly smaller and more isolated. Small isolated populations are more vulnerable to local extinction than larger, well-connected ones.

If sites are larger or connected to other sites in the vicinity, species extinctions are less likely to occur. The Greensand Ridge has rich wildlife sites with many opportunities to expand, buffer and connect them across the landscape.

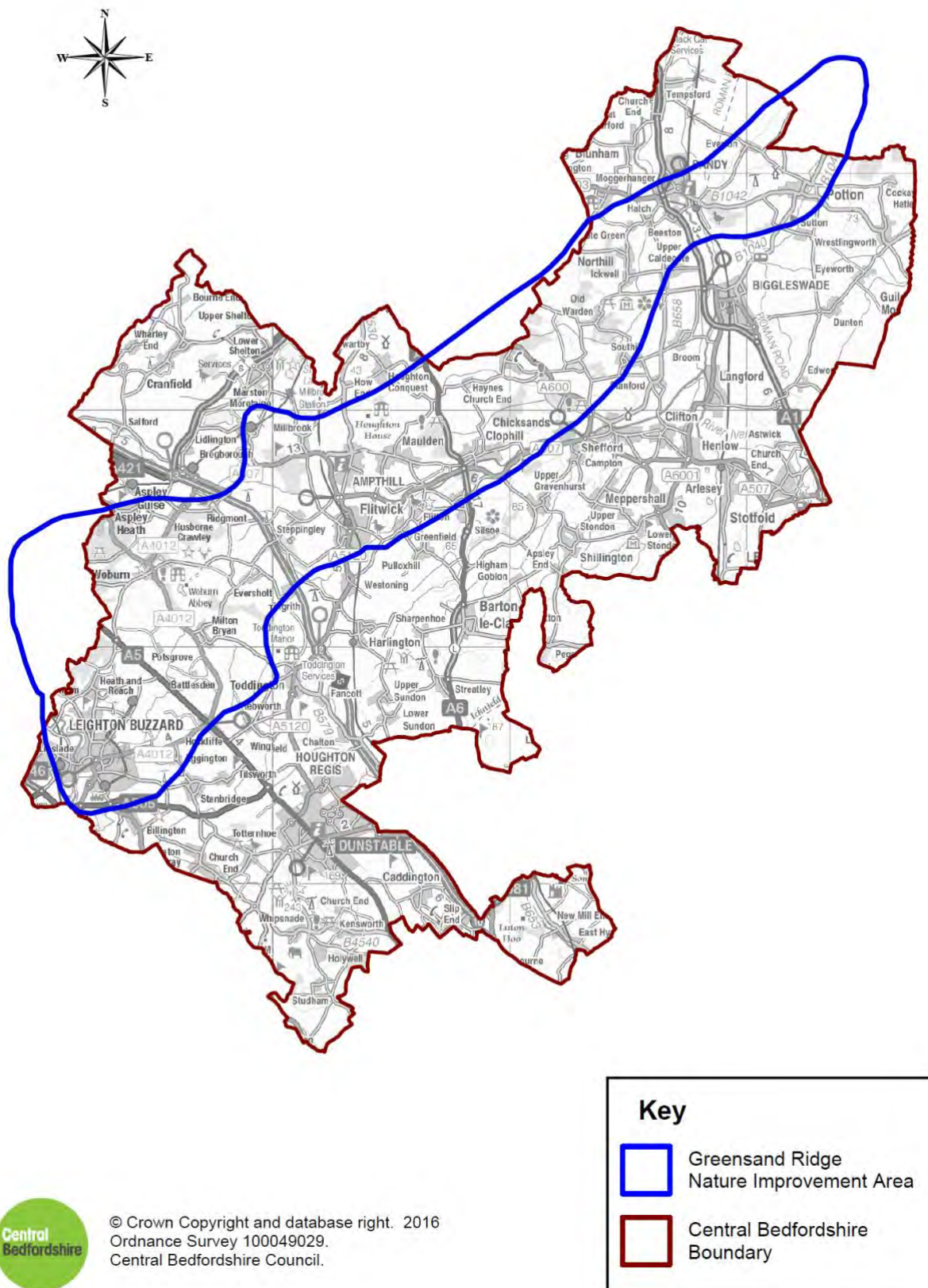


Figure 15 - The Greensand Ridge Nature Improvement Area

Objectives for the Nature Improvement Area

The following objectives have to been set for the Greensand Ridge NIA:

- Strengthening the ecological networks of the Ridge in line with Biodiversity Action Plans for the key habitats through improving, enhancing and buffering existing sites and working with land owners and managers to 'join the dots' in the wider countryside;
- Bring invasive and non-native species populations under control where these pose a threat to important species or habitats;
- Achieve 'good' ecological status for the rivers and streams within the NIA, working with the Environment Agency and others through Catchment Partnerships;
- Enhance public awareness of the NIA, its biodiversity and the wider benefits it brings;
- Providing opportunities for people to access and experience the best the Ridge has to offer in terms of its wildlife, habitats and landscape, in a sympathetic and sustainable way;
- Ensure that growth and development in and around the Ridge makes a real and lasting contribution, supporting, valuing and benefiting the natural environment and achieving a net gain in biodiversity by 2020.



Forest of Marston Vale

The Forest of Marston Vale was designated as one of England's twelve Community Forests in 1991. Creating the Forest of Marston Vale is about using trees and woodlands to repair a damaged landscape, addressing the effects of the brick making industry, which had flourished for over a hundred years between Bedford and Milton Keynes.

Policy overview

The Forests for the Community programme, which consists of 12 Community Forests in England of which the Forest of Marston Vale is one, was established by the then Countryside Commission and the Forestry Commission in partnership with a wide range of local partners.

Each Community Forest has a non-statutory plan, approved by Government, which describes the proposals for developing each forest over the next 30 years and which guide subsequent implementation.

Paragraph 92 of the NPPF states that 'Community Forests offer valuable opportunities for improving the environment around towns, by upgrading the landscape and providing for recreation and wildlife. An approved Community Forest plan may be a material consideration in preparing development plans and in deciding planning applications.'

Local information

The Forest of Marston Vale was designated in the 1990s to aid regeneration of a landscape degraded by brick-working and landfill but also identified for major growth. The key target is to increase woodland cover from 3% to 30% by 2031 but the vision for the forest includes a mix of landscapes including wetland and pasture supporting creating a landscape of opportunity for recreation as well as appropriate development.

The Forest of Marston Vale Trust is responsible for creating the forest in partnership with the community. Woodland cover has increased significantly in the core of the Vale with woodland cover at around 10%, with major new woodlands at Brogborough, Cranfield and Houghton Conquest.

The Forest of Marston Vale area is important for informal recreation, having an extensive network of rights of way which link the Vale to the adjacent clay ridge and greensand escarpment. The former brickwork lakes are a major feature of the Vale, forming attractive expanses of open water or a rich mosaic of fen and open water depending on the site.



Figure 16 – The Marston Vale Community Forest area

More information

- [Forest of Marston Vale Trust Website](#)



The Bedford and Milton Keynes Waterway Park is a strategic project to link the main UK waterway network with the Fens waterways of East Anglia. As a new waterway, it can provide benefits for the 21st century. It will provide an attractive location for business, a setting for housing, a space for recreation and healthy living, on and off the water. It will be an ecologically rich corridor, not necessarily with the 'hard edges' associated with traditional waterways. It will provide a tourism destination, like the Falkirk Wheel, and, importantly, as a new Waterway, its development has been, and will be shaped by communities.

Central Bedfordshire Council is part of a Consortium of eight organisations that have agreed to work together to help deliver the Bedford and Milton Keynes Waterway Park.

To support developers a guidance note entitled '*A Brief Guide to Space, Design and Other Technical Issues in providing for the Bedford Milton Keynes Waterway*' has been produced. This demonstrates how the design of the Waterway Park to the standards and requirements should be incorporated into the development proposals.

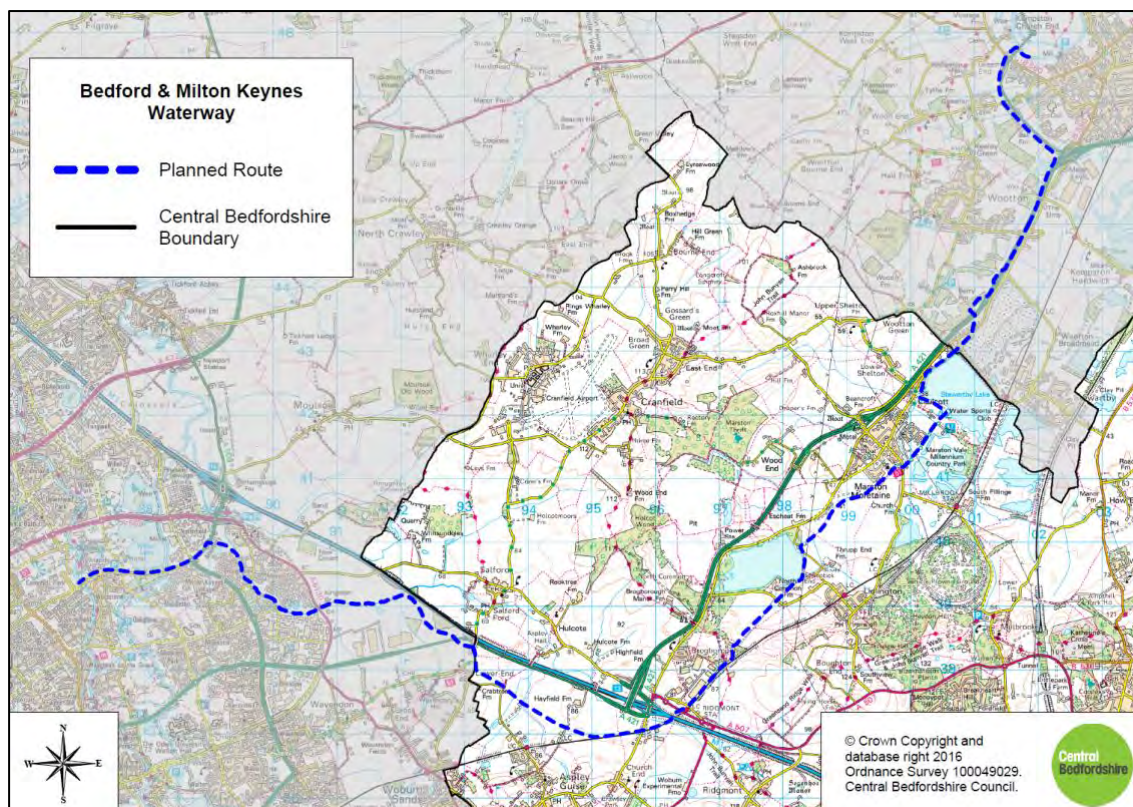


Figure 17 - Route of the Bedford and Milton Keynes Waterway Park

More information:

- [Bedford and Milton Keynes Waterway Park Consortium Website](#)
- [A Brief Guide to Space, Design and Other Technical Issues in Providing for the Bedford and Milton Keynes Waterway Park](#)

Central
Bedfordshire

great
prospects



Climate change and sustainability

Environmental Framework



Climate change

Section 19 (1A) of the Planning and Compulsory Purchase Act 2004 places a statutory requirement on local planning authorities to have policies that ensure that the development and use of land in the local planning authority's area contributes to the mitigation of, and adaptation to, climate change.

Section 10 of the NPPF states local authorities to should *“adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations”*.

This has to be done in line with the provisions and objectives of the Climate Change Act (2008).

The Climate Change Act 2008 sets out a legally binding target for the UK to reduce carbon emissions by 80% by 2050 from 1996 baseline levels.

The above requirements are fulfilled by the UK Climate Change Risk Assessment and the National Adaptation Programme Report respectively.

To inform and support the Council in fulfilling its duties, a suite of studies, guidance, plans and strategies to gather evidence and to inform the Council's policies on climate change adaptation and mitigation have been compiled.

The Central Bedfordshire Council Climate Change Strategy

Policy context

Like all other Local Authorities, the Council recognises that it has a key role to play in reducing the greenhouse gas emissions that are causing climate change – both as community leaders and through the services we provide.

The Council is also a considerable consumer of energy and a direct source of carbon dioxide (CO₂) emissions through our activities and buildings. As the climate changes, Central Bedfordshire will not be immune to the impacts that a changing climate will have and will need to act now to adapt and manage risks to service delivery, the public, local communities, local infrastructure, businesses and the natural environment.

In May 2010 the Council adopted its first Climate Change Strategy. This document details how Central Bedfordshire Council is going to address the issues raised by climate change, clarifies our ambition and the drivers for action.

More information

- [Central Bedfordshire Council Climate Change Strategy](#)

Local Climate Change Risk Assessment

Changing weather patterns are and will have serious impacts on the local environment and residents. It impacts on how and what services are needed and when. It is also recognised that there are geographic areas as well as residents in our communities, which are more vulnerable to the impacts of extreme and unpredictable weather.

Policy context

The NPPF places the requirement on local planning authorities to adopt proactive strategies to adapt to climate change in line with the objectives of the Climate Change Act (2008). What this involves and what areas are vulnerable are further clarified through the national Climate Change Risk Assessment.

Local Evidence Base

In 2012, the Council commissioned LDA Design to conduct the Central Bedfordshire Local Climate Change Risk Assessment (LCCRA). The aim of the LCCRA was to define and understand risks and opportunities specific to Central Bedfordshire from climate change.

The LCCRA provides an evidence base which connects an understanding of existing vulnerabilities to extreme weather with climate change projections and a spatial understanding of the impacts and consequences for development, service delivery and the community. The latest National Climate Change Risk Assessment (2017) post dates the LCCRA, but the updated national assessment corresponds with the priority actions identified in the Local Climate Change Risk Assessment, set out below.

What the evidence base shows

The LCCRA uses a Local Climate Impacts Profile (LCLIP) methodology to identify the current weather related impacts for the Central Bedfordshire area. It looked at impacts and frequency of weather events to help develop understanding of what consequences events have had on residents and on the local authority and the likely impact if frequency or severity increases.

The LCCRA used national and local evidence to identify and prioritise risks, these include:

- Water resources
- Overheating
- Flooding
- Subsidence
- Risks to the natural environment, including loss of habitat

The local dimension of risks within each of the five categories were assessed including potential consequences and financial implications and was carried out in line with the methodology defined in the national Climate Change Risk Assessment (CCRA) as far as practicable.

A key issue that was highlighted is that Central Bedfordshire is, and will be, affected by serious water stress and a high risk of drought resulting in water shortages, particularly in light of the future being growth planned for in the area.

To compensate for increasing water demand and to lower the risk of water shortages the study recommended setting a higher water efficiency standard in all new development as planning policy requirement.

| | | Wet | Mid | Dry |
|---------|-------|------|------|------|
| Anglian | 2020s | 156 | -32 | -237 |
| | 2050s | -114 | -417 | -715 |
| | 2080s | -321 | -528 | -740 |

Figure 18 - The impacts of climate change alone on water supply surplus/deficit (Ml/d) in each UKCP09 scenarios in Anglian river basin region

How this information is used

The LCCRA provides a robust local level evidence base that will be used to help shape future policy and better manage risk. This includes:

- Allocation of development sites; protection and enhancement of the natural environment; and policy supporting delivery of climate resilient new development;
- The Council's Climate Change Adaptation Plan: managing risk to authority services and directing investment through corporate strategy;
- The Local Resilience Forum: contributing new evidence to emergency planning through the Bedfordshire and Luton Community risk Register.

The study is used as evidence for need of application of the higher water efficiency standard and inclusion of climate change adaptation measures to manage climate change risks, such as overheating of buildings and Urban Heat Island Effect affecting Central Bedfordshire. The information will be used to assess development's ability to adapt to changing climate and inform planning decisions.

More information

- [Central Bedfordshire Local Climate Change Risk Assessment \(Adaptation Evidence Base\)](#)



Ecosystem services

The Millennium Ecosystem Assessment describes ecosystem services as services provided by the natural environment that benefit people and are grouped into four categories:

- Provisioning services: we obtain products from ecosystems such as food, fibre and medicines.
- Regulating services: we benefit from the results of ecosystem processes such as water purification, air quality maintenance and climate regulation.
- Cultural services: we gain non-material benefits from our interaction with the natural environment such as education and wellbeing.
- Supporting services: functions that are necessary for the production of other ecosystem services from which we benefit, such as soil formation and nutrient cycling.

What the Local Evidence Base says

The Council worked with Cranfield University to explore regulating ecosystem services, with a particular focus on soil carbon storage and sequestration, soil erosion and water quality.

The effect of a range of land use changes, such as urban development, agricultural management and habitat creation and enhancement were mapped to explain and identify spatial effects of land use change on these regulating ecosystem services.

Soil carbon

Different land uses are associated with different soil carbon densities:

| Land use | Soil carbon storage (t/ha) |
|----------|----------------------------|
| Urban | 67 |
| Arable | 149 |
| Pasture | 171 |
| Woodland | 187 |

Soil texture also has a direct influence on soil carbon storage; soils with a high clay content have higher levels of soil organic carbon than those with a high sand content. Soils that are seasonally wet peat to loam (e.g. the peat lands north of Biggleswade) showed exceptionally high carbon content. Above ground stored carbon in vegetation makes a relatively small contribution to carbon storage. Woodlands are most effective at carbon storage.

Urban developments in any part of the county inevitably result in losses of soil organic carbon (SOC). Some areas showed significantly higher losses than others, depending on the land use and the soil type. Arable areas were estimated to lose 20-90 t/ha, whilst woodlands lose 50-110t/ha for all soil types except peat which loses significantly more at 110-160t/ha.

Implementation of the Biodiversity Action Plan habitat enhancement would result in a net gain in soil carbon. The greatest gains are predicted on arable areas north-east of Milton Bryan and close to the A5 junction with Sheep Lane. Other areas which could potentially give high soil carbon gains when forested include the area between Cranfield and Marston Moretaine, Cockayne Hatley, and south of Linslade.

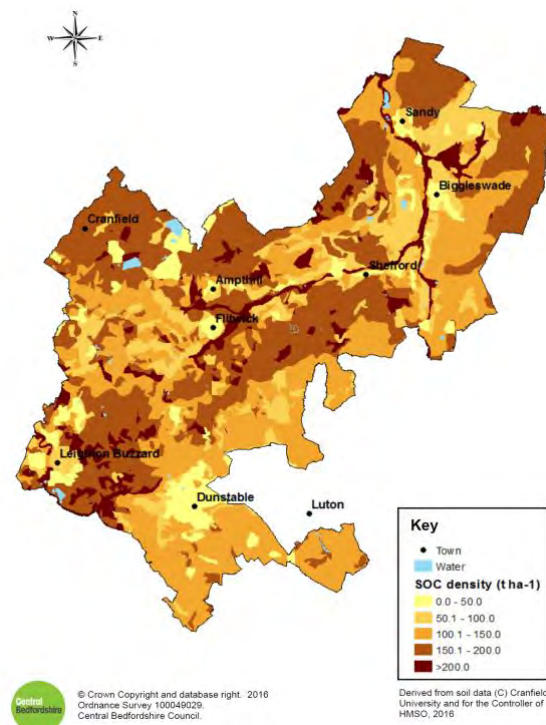


Figure 19 - Current soil carbon storage in Central Bedfordshire

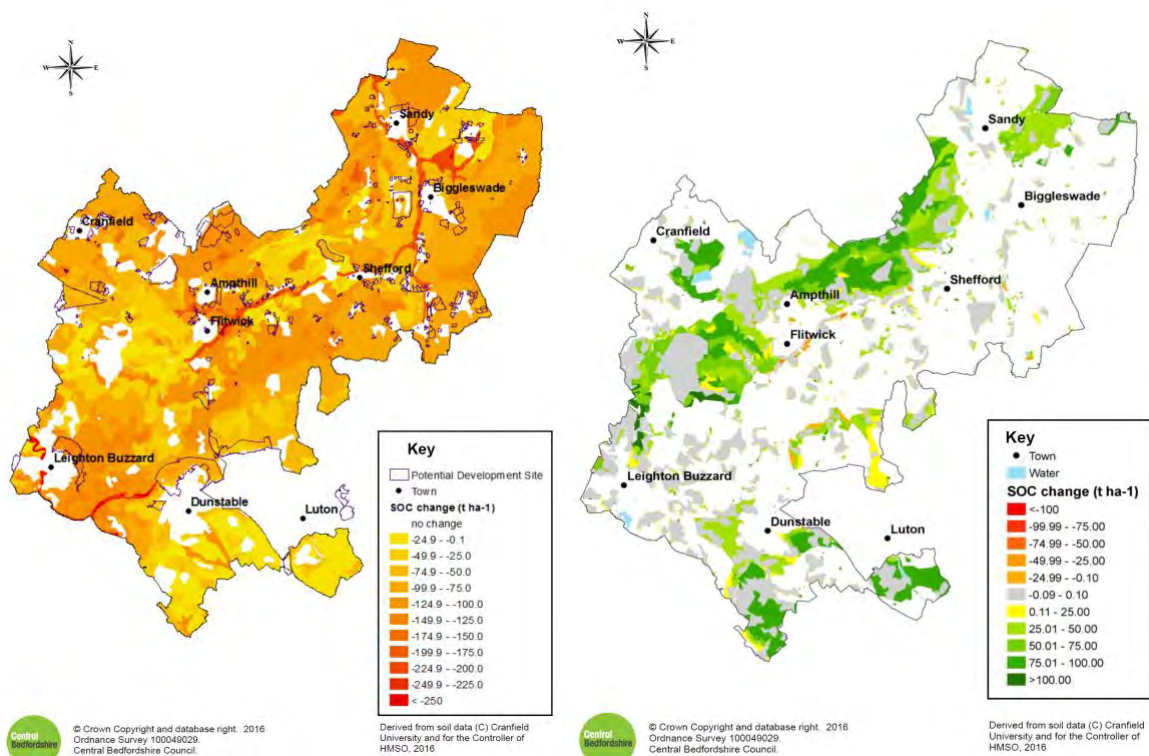


Figure 20 - How development would affect soil carbon storage

Figure 21 - How implementing the Biodiversity Action Plan would affect soil carbon storage

Soil erosion

Water runoff rates are strongly linked to soil erosion. Land use changes affect soil erosion by altering runoff patterns. Urban developments on steep slopes with high permeability have the most negative effects on soil erosion, whereas covering these areas with woodland or permanent grassland is preferable in terms of reducing soil erosion. Changes to woodland have the most noticeable positive effect of the various land use change scenarios.

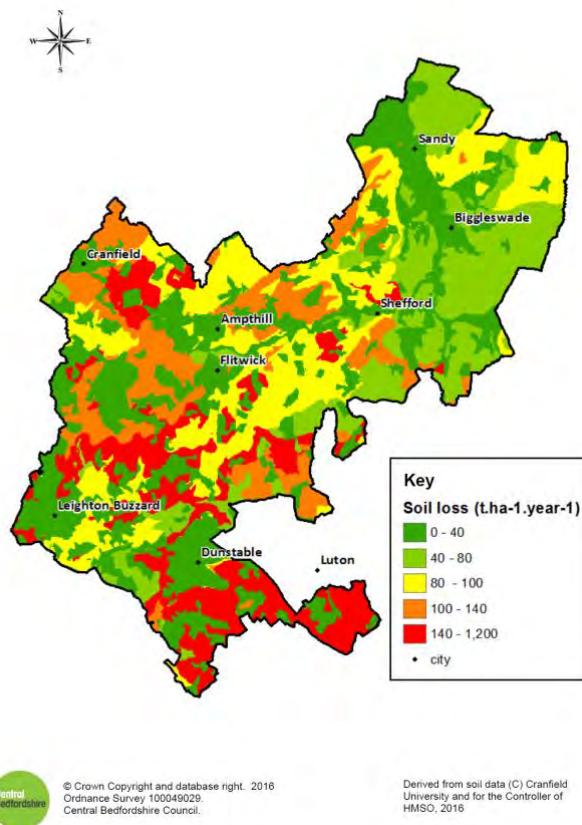


Figure 22 - Current patterns of soil erosion

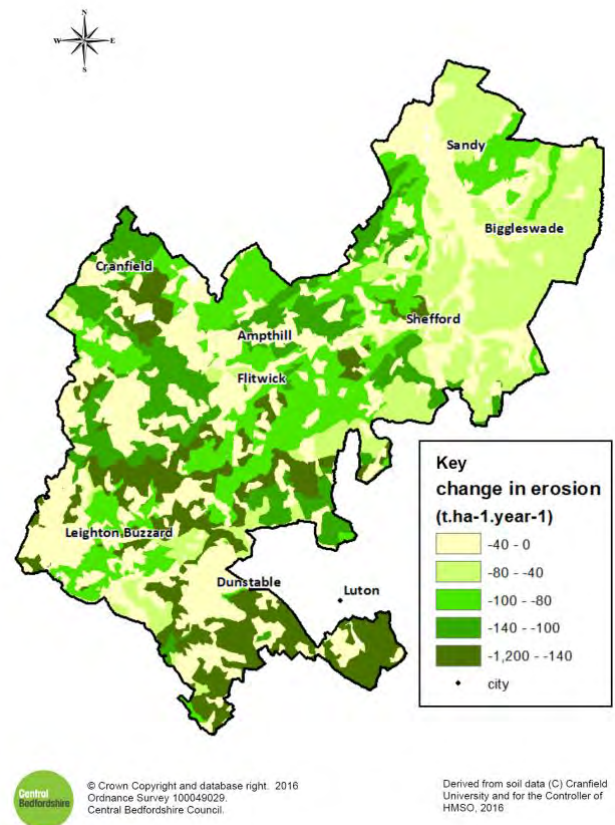


Figure 23 - How land use change to woodland would affect soil erosion

Water quality

Diffuse pollution through overland flow and leaching was assessed. Urban development generally increased water pollution risk, and is best prioritised on arable land, whereas woodlands are the least suitable for development in that this leads to increased risk of harm to water quality. Changing arable land to pasture or pasture land to semi-natural vegetation and woodland decreased pollution risk.

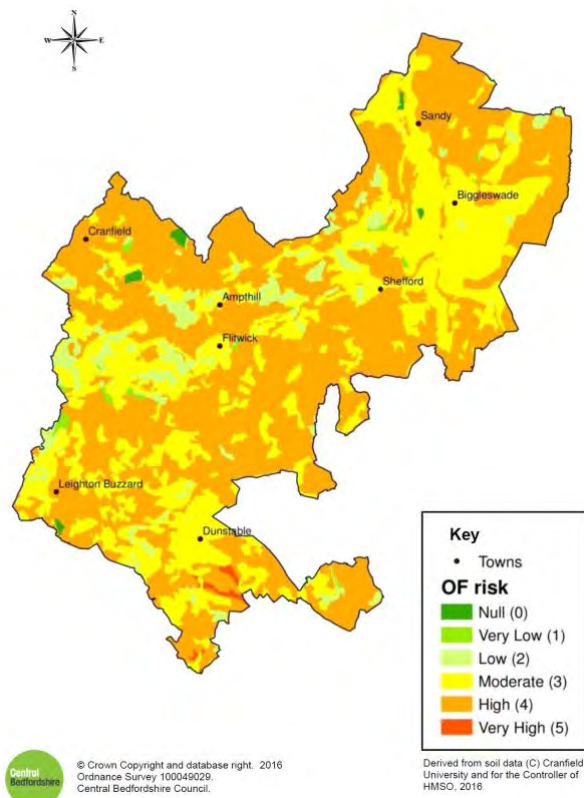


Figure 24 - Current risk to water quality from overland flow

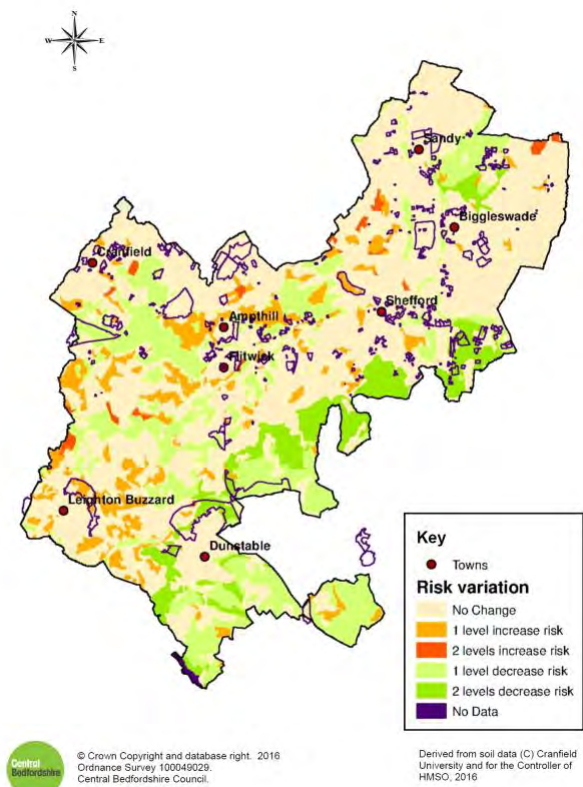


Figure 25 - Effect of land use change to urban on water quality risk from overland flow

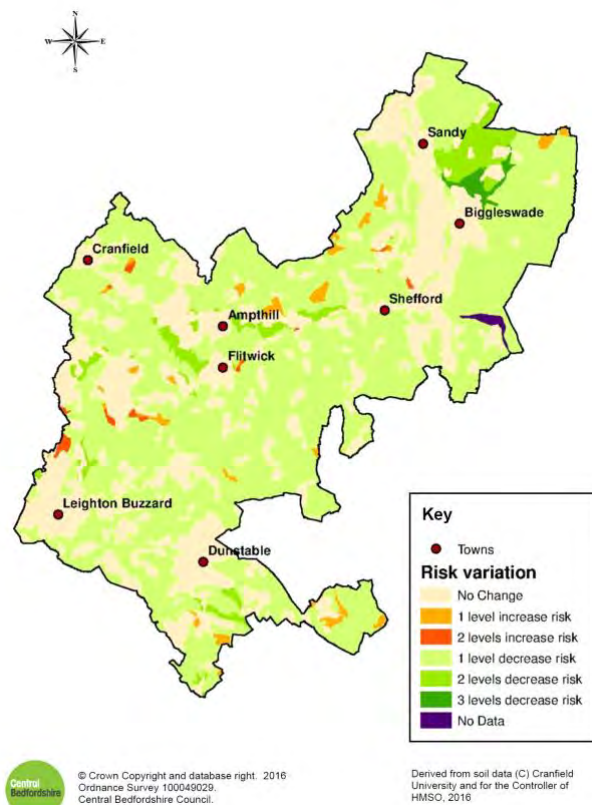


Figure 26 - Effect of land use change to pasture on water quality risk from overland flow

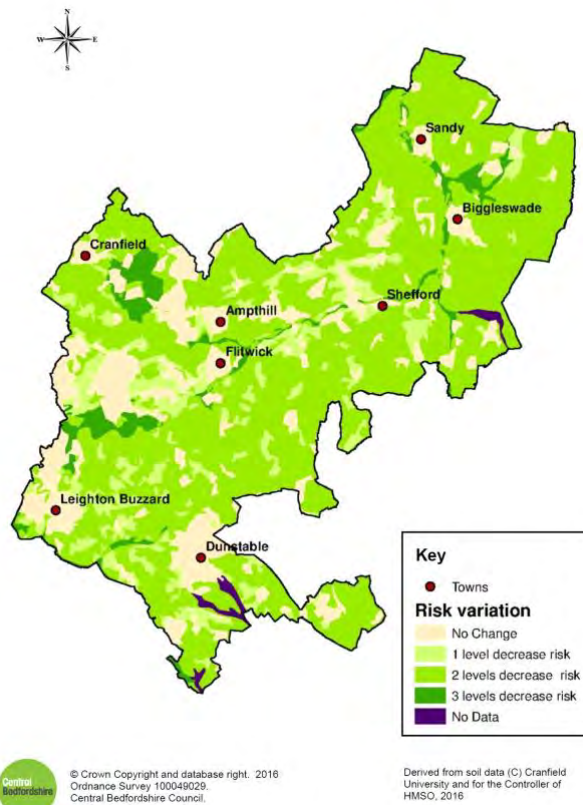


Figure 27 - Effect of land use change to woodland on water quality risk from overland flow

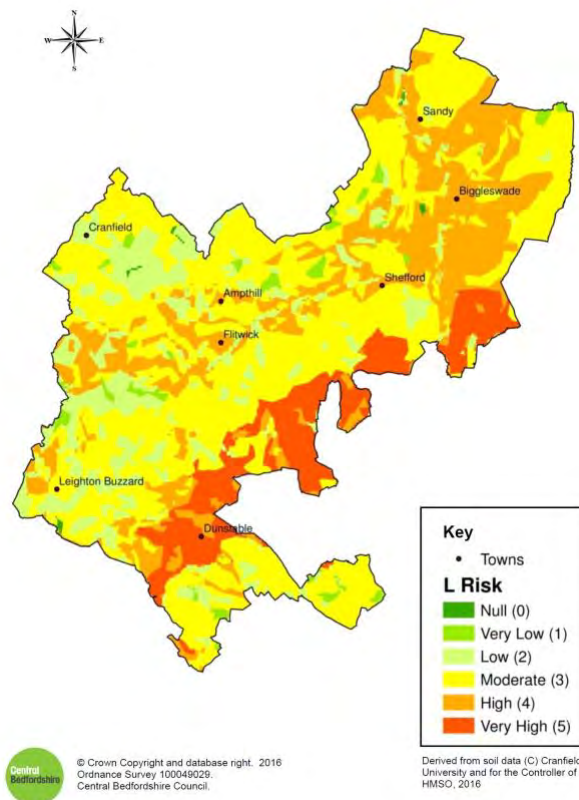


Figure 28 - Current risk to water quality from leaching

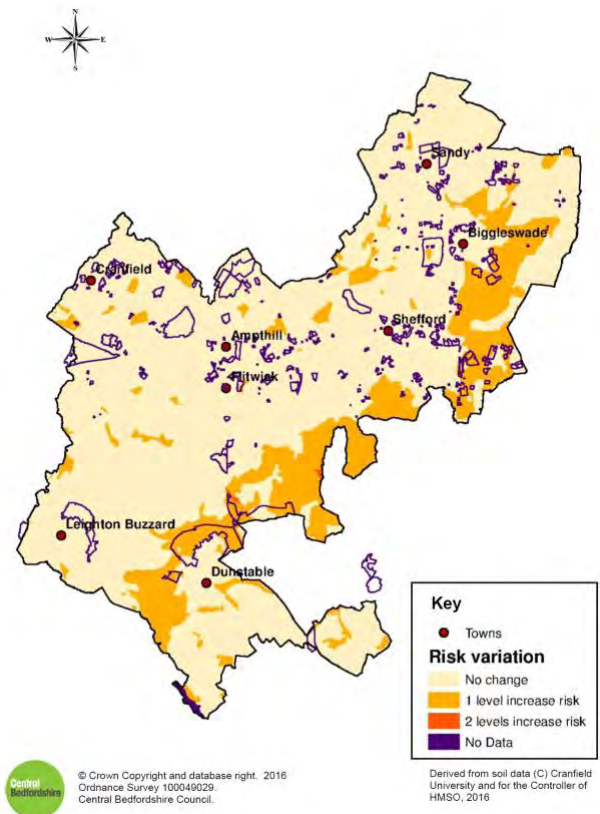


Figure 29 - Effect of land use change to urban on water quality risk from leaching

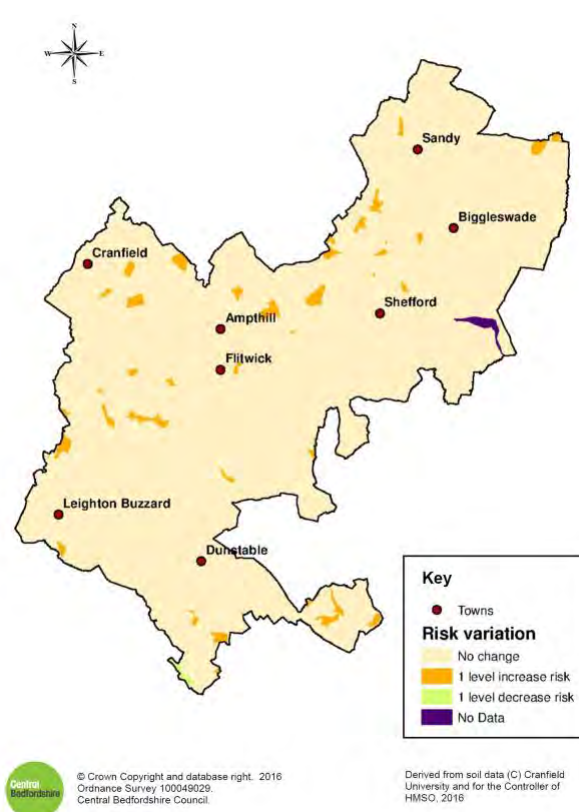


Figure 30 - Effect of land use change to pasture on water quality risk from leaching



Figure 31 - Effect of land use change to woodland on water quality risk from leaching

How this information is used

The project represents one of the first attempts to bring together soil and land use information for a unitary authority area, with the aim of describing the effects of land use and management options on soil carbon, runoff and soil erosion. As such it serves as a useful spatial evidence base to identify the effect of proposed land use land management changes on some key regulating ecosystem services.

More information

- [Ecosystem Services Report](#)
- [Ecosystem Services Report Appendices](#)



Flood risk

Policy Overview

Paragraph 94 of the NPPF requires Local Planning Authorities to adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk and water supply and demand considerations. Mechanisms for avoiding inappropriate development in areas of risk of flooding are set out, in terms of applying the 'Sequential Test' (a sequential, risk based approach to the location of development), a strategic flood risk assessment to support the Local Plan, and the 'Exception Test' where the application of the Sequential Test is not possible.

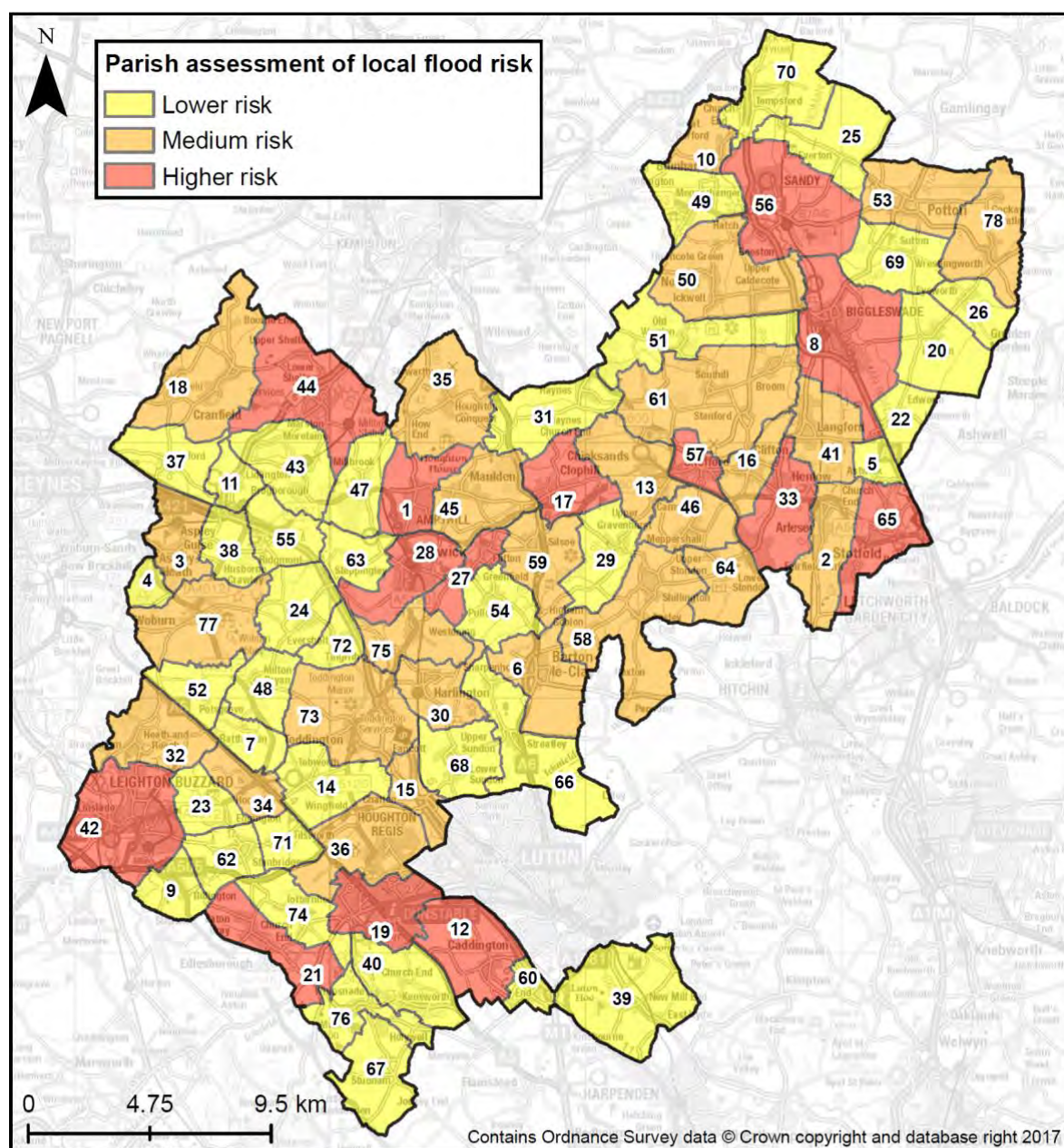
What the evidence base shows

The Council became a Lead Local Flood Authority in 2010 and as such was required to produce a Local Flood Risk Management Strategy (adopted by the Council in 2014, updated 2017). The Strategy provides a framework for how the Council will manage local flood risk and draws links with spatial planning so that future development does not increase flood risk to people and property. It discusses how different types of flooding can affect Central Bedfordshire, including how risk may change in the future as a result of climate change. It identifies areas 'at risk' of flooding from watercourses, surface water and groundwater, taking into account national and local mapping, historic flood records and significant drainage assets. The strategy is subject to an annual review and updated accordingly.

The Local Flood Risk Management Strategy identifies the following objectives:

- **Partnership Working:** Establish and maintain effective partnerships within our own organisation, with other Risk Management Authorities, with our neighbouring Lead Local Flood Authorities and with our local communities.
- **Flood Risk and Development:** Ensure that development looks to reduce the causes and impacts of flooding and that all development uses SuDS as normal practice, and where appropriate safeguard land which is needed for current and future flood management.
- **Local Flood Risk:** Develop a greater understanding of local flood risk by identifying where assets may influence the impact of local flood risk, how local flood risk may change in the future and improve local knowledge and recording of flooding incidents.
- **Delivery:** Establish processes to enable identification of priorities, sources of funding and schemes so that we meet our objectives.
- **Resource:** To take a collaborative approach, working more effectively as an authority and with our partners, to reduce flood risk and where appropriate seeking opportunities for packaging work. We will aim to use all available resources and funds in an integrated way to support our priority of achieving efficiency savings.
- **Local Communities:** Limit the effect of flooding on people's normal way of life by taking action with our partners to minimise the impact of local flood risk on our communities and environment, engaging with and empowering affected communities

and ensuring that we provide clear and useful information to enhance our local communities' preparedness and resilience to local flood risk.



| ID | Parish Name | ID | Parish Name | ID | Parish Name | ID | Parish Name | ID | Parish Name |
|----|----------------------|----|----------------------|----|-------------------|----|--------------|----|----------------------------------|
| 1 | Amphill | 17 | Clophill | 33 | Henlow | 43 | Moggerhanger | 65 | Stotfold |
| 2 | Arlesey | 18 | Cranfield | 34 | Hockliffe | 50 | Northill | 66 | Streatley |
| 3 | Aspley Guize | 19 | Dunstable | 35 | Houghton Conquest | 51 | Old Warden | 67 | Studham |
| 4 | Aspley Heath | 20 | Dunton | 36 | Houghton Regis | 52 | Potsgrove | 68 | Sundon |
| 5 | Astwick | 21 | Easton Bray | 37 | Hulcote & Salford | 53 | Potton | 69 | Sutton |
| 6 | Barton-le-Clay | 22 | Edworth | 38 | Husborne Crawley | 54 | Pulloxhill | 70 | Tempsford |
| 7 | Battlesden | 23 | Eggington | 39 | Hyde | 55 | Ridgmont | 71 | Tilsworth |
| 8 | Biggleswade | 24 | Eversholt | 40 | Kensworth | 56 | Sandy | 72 | Tingrith |
| 9 | Billington | 25 | Everton | 41 | Langford | 57 | Shefford | 73 | Toddington |
| 10 | Blunham | 26 | Eyeworth | 42 | Leighton Buzzard | 58 | Shillington | 74 | Totternhoe |
| 11 | Brogborough | 27 | Flitton & Greenfield | 43 | Lidlington | 59 | Silsoe | 75 | Westoning |
| 12 | Caddington | 28 | Flitwick | 44 | Marston Moretaine | 60 | Slip End | 76 | Whipsnade |
| 13 | Campton & Chicksands | 29 | Gravenhurst | 45 | Maulden | 61 | Southill | 77 | Woburn |
| 14 | Chalgrave | 30 | Harlington | 46 | Meppershall | 62 | Stanbridge | 78 | Wrestlingworth & Cockayne Hatley |
| 15 | Chalton | 31 | Haynes | 47 | Millbrook | 63 | Steppingley | | |
| 16 | Clifton | 32 | Heath & Reach | 48 | Milton Bryan | 64 | Stondon | | |

Figure 32 - Parish Assessment of Local Flood Risk (updated mapping 2017)

How this information is used

The strategy includes policies to manage flood risk from all sources that can be adopted in the local plan. These will promote the strategic allocation of land and of buildings within the development boundary to reduce flood risk, promote sustainable drainage and improve water quality.

Local Drainage Byelaws for Central Bedfordshire

The Land Drainage Byelaws were made by the Council under Section 66 of the Land Drainage Act 1991 (as amended by the Flood and Water Management Act) and confirmed by the Department for Environment, Food and Rural Affairs (DEFRA) and came into operation on 7 July 2017. The byelaws set standards for compliance when undertaking works on or close to a watercourse for the purpose of preventing flooding, or remedying or mitigating any damage caused by flooding.

The byelaws apply to any watercourse within Central Bedfordshire that:

- a) Is not designated as a 'main river' by the Environment Agency, and/or
- b) Is outside of the Bedford Group of Internal Drainage Boards' area (IDB).

The EA and IDB have their own similar drainage byelaws and regulatory powers for their respective areas and watercourses under their jurisdiction.

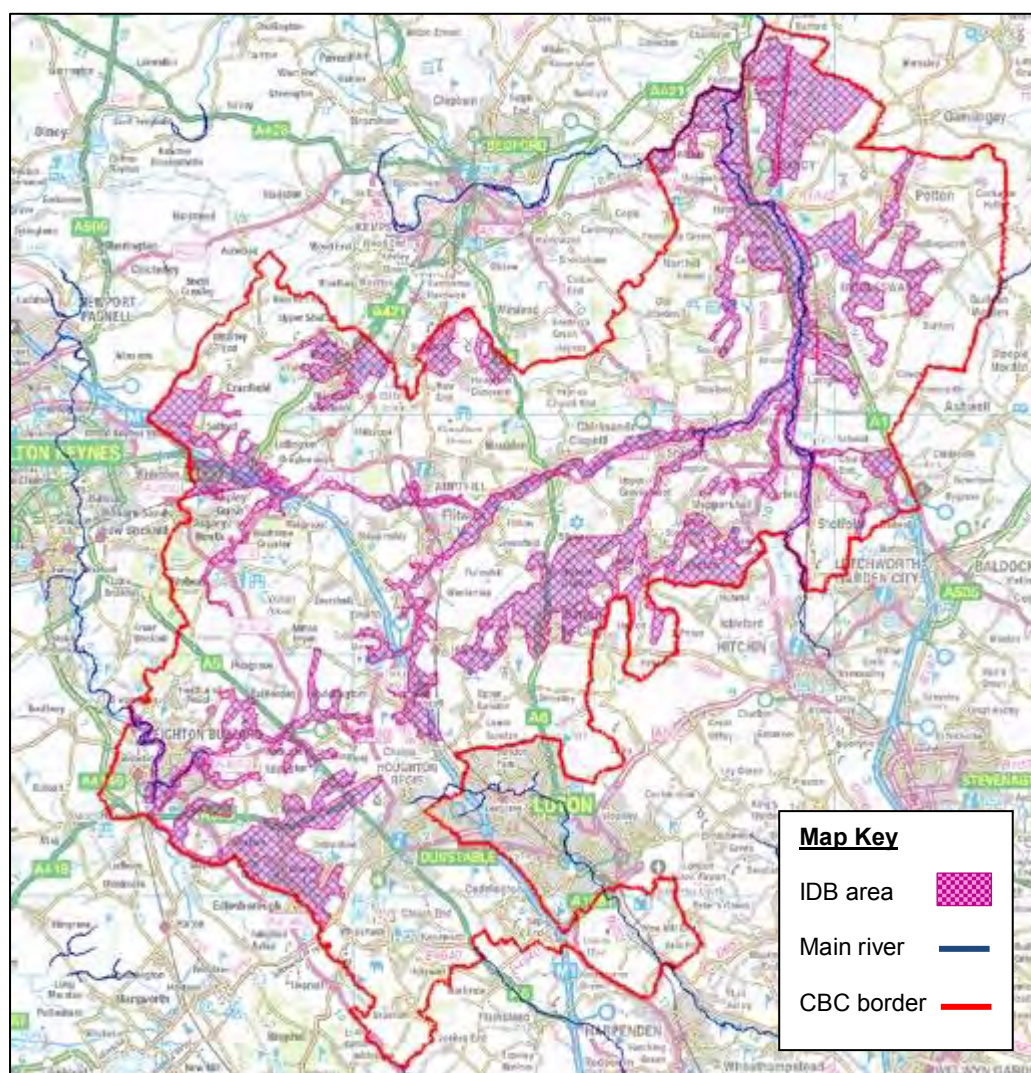


Figure 33 – IDB areas within Central Bedfordshire boundaries

All new development proposals submitted to the Council as the Local Planning Authority must comply with the approved drainage byelaws. Where a proposal concerns land adjacent to or containing a watercourse, information should be provided with the application to demonstrate the byelaws have been met. This is in addition to requirements for a Flood Risk Assessment and surface water drainage arrangements under the National Planning Policy Framework (NPPF).

The byelaws are based on the 'Model Land Drainage Byelaws for Local Authorities' produced by DEFRA and are broadly similar to the byelaws that have been used for many years by the Bedford Group of IDBs. The main controls that the byelaws provide are:

- An undeveloped 9m buffer strip to be maintained each side of an ordinary watercourse.
- Consents required for permanent works within the 9m strip, including under and over the watercourse.
- Restrictions on works that may directly or indirectly increase the flow or volume of water in an ordinary watercourse.

Should a breach of a byelaw be discovered or suspected, the Council as the Lead Local Flood Authority may conduct an investigation and if there is evidence of a breach then enforcement action may be taken.

More information

- [Local Flood Risk Management Strategy](#)
- [Central Bedfordshire Council's local drainage byelaws](#)



Sustainable Drainage

National Policy

Paragraph 103 of the NPPF promotes the delivery of Sustainable Drainage (SuDS) for the management of surface water in all new developments.

The 2014 [Written Ministerial Statement](#) makes clear that the Government's expectation is that sustainable drainage will be provided in new developments wherever this is appropriate and that these must comply with the [National Technical Standards](#) for the design, maintenance and operation of a surface water drainage system. It sets out that in considering planning applications Local Planning Authorities should: consult the relevant Lead Local Flood Authority on the management of surface water; satisfy themselves that the proposed minimum standards of operation are appropriate; and ensure through the use of planning conditions or planning obligations that there are clear arrangements in place for ongoing maintenance over the lifetime of the development.

Following this, the Town and Country Planning (Development Management Procedure) (England) Order 2015 was amended making Central Bedfordshire Council in its capacity as Lead Local Flood Authority a statutory consultee on surface water management drainage issues for all new major developments.

By working with natural processes through the use of SuDS, flood risk management can provide environment benefits that could help to meet the requirements of the Water Framework Directive by reducing pollution and improve water quality and obligations of the Habitats Directive and Birds Directive.

Local Policy

The Council has developed SuDS Guidance, adopted as a Supplementary Planning Document (SPD). This SPD looks at Central Bedfordshire's patterns of geology, topography, water resources, rainfall patterns, water features, flood risk patterns and landscape character. It includes a series of local requirements for SuDS, to ensure that they not only reduce the risk of surface water flooding, but deliver a range of wider environmental and amenity benefits.

In addition to this, in order to be made valid, any application submitted for a major development, as defined in the Town and Country Planning (Development Management Procedure) (England) Order 2015 must include an appropriately detailed Surface Water Drainage Strategy under the Council's latest Local Validation List.

What the evidence base shows

The SPD identifies ten local requirements to ensure that SuDS are designed to deliver maximum benefits, and improve the character of the surrounding environment. Planning applications will be expected to show how they meet these requirements. These requirements are:

1. Plan in SuDS from the start
2. Replicate natural drainage
3. Water re-use first

4. Enhance biodiversity
5. Focus on multi-functional uses
6. Minimise carbon and waste in SuDS
7. Design for easy access and maintenance
8. Linked design through every scale
9. Place making through SuDS design
10. Surface conveyance over pipes

The Guidance reviews the unique landscape, topography and geology characteristics that impact on the way SuDS are designed. It identifies four zones across Central Bedfordshire, based on drainage and environmental characteristics. For each of these areas, characteristic features and SuDS standards are identified.

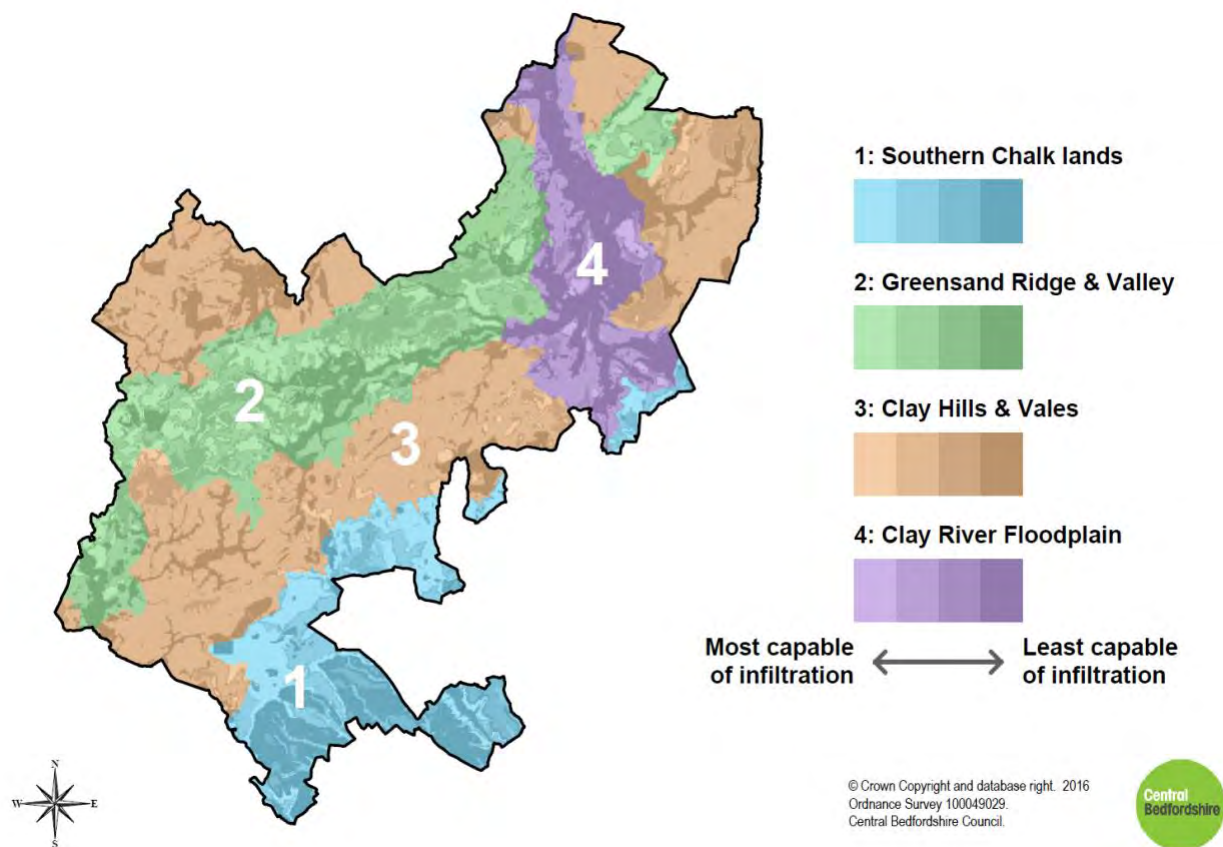


Figure 33 -SuDS zones in Central Bedfordshire

How this information is used

The Sustainable Drainage Guidance is adopted as a SPD, and is therefore a material consideration in planning decisions. In order for planning applications to be valid, they must include an appropriately detailed Surface Water Drainage Strategy.

More information

- Central Bedfordshire Sustainable Drainage Guidance (Supplementary Planning Document)
- Non-statutory technical standards for sustainable drainage systems (March 2015)
- The CIRIA SuDS Manual (C753)
- BS8582 Code of practice for surface water management for development sites.

Water Quality

National Policy Overview

The EU Water Framework Directive (WFD) is a piece of European water legislation that is designed to improve and integrate the way water bodies are managed throughout Europe. The WFD was transposed into law in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003. The Directive requires that Environmental Objectives be set for all surface and ground waters in England and Wales to enable them to achieve Good Ecological Status (or Good Ecological Potential for Heavily Modified and Artificial Water Bodies).

The WFD aims to achieve at least 'good' status for all water bodies; the default deadline for achieving this objective is by 2021 although, in some cases, where it is deemed more appropriate, less stringent objectives have been set with extended deadline of 2027 or beyond. The WFD requires the production of Management Plans for each River Basin District.

The Environment Agency (EA) is responsible for the delivery of the WFD objectives. The EA has produced River Basin Management Plans (RBMPs) which describe how the WFD will be achieved.

Local evidence base

River Basin Management plans set out;

- The current state of the water environment;
- Pressures affecting the water environment;
- Environmental objectives for protecting and improving the waters;
- A programme of measures, with actions needed to deliver the objectives.

What the evidence base shows

The majority of Central Bedfordshire's watercourses are not currently meeting a "Good" classification. There can be many reasons why a watercourse may not be classified as good, including where its flow regime is impacted by over-abstraction or physical barriers such as weirs, and where it is impacted by pollutants from urban or rural sources.

- The Cat Ditch and the River Lee all are classed as 'bad overall status'.
- The Broughton Brook is classed as 'poor overall status'.
- The Campton Brook, the Chicksands Brook, the Flit tributary, the Barton Brook, the River Ivel Navigation Channel, the Stondon Brook, River Ivel (Langford to Roxton reach), Millbridge-Common Brooks, the Stone Brook, the Pix Brook, the Rhee, the Ouzel Brook, the River Ouzel and the Elstow Brook are all classed as 'moderate overall status'.
- The Clipstone Brook and tributary, the New Inn Brook, the Hexton Brook, the River Ivel (upstream of Henlow) and the Ickwell Brook are all classed as 'good overall status'.



Figure 34 - Watercourse Quality in Central Bedfordshire

How this information is used

The River Basin Management Plans provide a framework for protecting and enhancing the benefits provided by the water environment. To achieve this, and because water and land resources are closely linked, it also informs decisions on land-use planning.

More information

Central Bedfordshire Council is covered by two River Basin Districts, the Anglian River Basin District, covering the Great Ouse catchment, and the Thames River Basin District, covering the Lea catchment.

- [Anglian River Basin Management Plan](#)
- [Thames River Basin Management Plan](#)



Water efficiency

Water efficiency

National policy overview

Paragraph 94 of the National Planning Policy Framework (NPPF) states that local authorities must adopt proactive strategies to mitigate and adapt to climate change; this includes taking full account of water supply and demand considerations.

The 2015 review of Housing Standards resulted in setting National Technical Standards for water efficiency in residential developments. There are two standards set for water: a minimum water efficiency standard of 125 litres per person per day and a higher standard of 110 litres per person per day. The higher standard can be required by the local authorities through their planning policies where a clear local need can be demonstrated.

Local policy overview

The Local Climate Change Risk Assessment concluded that Central Bedfordshire is, and will be, affected by serious water stress and high risk of drought causing likely water shortages. In order to compensate for the inevitable increase in demand that future growth will bring and therefore lower the risk of water shortages the Council will seek a higher water efficiency standard in all new development as a future planning policy requirement.

Local evidence base

The Council worked with the consultants Artesia to establish the range of technologies that can be installed in new homes and retrofitted in existing homes to help conserve water and achieve the higher water efficiency standard. This study was conducted before the Housing Standards Review when local authorities could set water efficiency standards prescribed by the Code for Sustainable Homes and sought of viable delivery of Code level 5 water standard of 80 litres per person per day.

What the evidence base shows

The study provided information on a range of technologies which can be used in new build and retrofit projects. These technologies included efficient fittings, rainwater harvesting and grey water recycling systems. It showed that 110 litres per person per day can be easily achieved using water efficient fittings only and to achieve this standard there is no need for installation of more expensive water recycling systems.

The study contains a water calculator which can be used by anyone interested in water efficiency and seeking information on how to measure water consumption in new build, extension or refurbishment projects.

How this information is used

This study can be used as technical and financial viability evidence for requiring the higher water efficiency standard within all new developments. The information included within the study provides practical solutions to achieving the higher water efficiency standard and is used to inform planning decisions in assessing the compliance of development with the higher water standard.

More information can be found in the [natural environment area](#) on our website:

- Central Bedfordshire Council Evidence base for water efficiency measures (August 2013)
- Water Efficiency Calculator (August 2013)



Energy and buildings

National Policy Overview

The NPPF in paragraph 95 requires local authorities to set requirements for a building's sustainability in a way that is consistent with the Government's zero carbon buildings policy and to adopt nationally described standards.

The Government's review of Housing Standards recommended the removal of local authorities' ability to set energy efficiency standards that are higher than those prescribed by the Part L of the Building Regulations. The Deregulation Act 2015 has a provision to amend the Planning and Energy Act 2008 and remove local authorities' ability to set planning policy requiring a higher energy efficiency than the Building Regulations. The commencement of the amendment has not yet been announced, but it is expected to be enacted in the near future. The Act's provision for planning policy to require a proportion of the development's energy demand to be delivered from renewable and low carbon sources, or connection to a district heating network, remains unchanged.

The new Part L of the Building Regulation enforces a fabric first approach set by the zero carbon homes policy. The regulations ensure that a building's energy demand is minimised through energy efficient fabric, minimising thermal bridging and increasing airtightness before deployment of the low and zero carbon technologies.

These changes to the Building Regulations mean that new homes are built with more thermal insulation and to improved standards of airtightness. This approach reduces the heating demand of new dwellings but can lead to an increased risk of overheating and a greater need to ensure that good levels of ventilation are provided. The research, drawn on by the Committee on Climate Change's Adaptation Sub-Committee, estimates that up to 20% of homes in England may already be overheating, even in cool summers (Adaptation Sub-Committee, 2014). Overheating affects both new and existing homes (especially smaller properties and single aspect flats) and has negative impacts on the health and well-being of occupants, particularly vulnerable groups such as the elderly. The impacts of overheating will become greater as outdoor temperatures rise due to climate change, and population demographics change with a larger proportion of elderly people.

Overheating of homes leads to increased energy demand for comfort cooling that in turn causes higher carbon dioxide emissions that reinforces climate change. Well insulated homes reduce energy demand for heating through gas (with lower embodied carbon) but potentially use energy from the electricity grid for cooling (with higher carbon embodied energy) for cooling. Grid electricity has much higher carbon emissions than gas per kWh of energy used. Installation of renewable energy technologies that produce electricity can help to offset the additional carbon emissions caused by use of comfort cooling equipment.

Renewable energy technologies installed to deliver improvements over the target emissions rate set by the Building Regulations can provide a 'safety net' for the developer to counter the performance gap between designed and actual emissions of a building.

The Zero Carbon Hub, working with the National House Builders Council (NHBC) Foundation and Building Research Establishment (BRE), has reviewed the performance gap evidence and identified a number of reasons that contribute to this. These are varied, and range from communication issues between designer and construction teams, insufficient skills or quality of workmanship to substitution of specified materials and changes to construction details.

Local evidence base

The Council commissioned Cutland Consulting Limited to undertake a feasibility study of delivering residential development that contributes to carbon emission reduction to mitigate climate change.

The first study was done in May 2013 to provide evidence for a carbon dioxide emissions reduction policy. The baseline for reduction was set at target emission rate specified by the 2010 Approved Document L1A of the Building Regulations.

The second study was undertaken in June 2014 following proposed changes in national policy on zero carbon homes. This work assessed the deliverability of a proposal that 10% of dwelling's energy demand should be met by renewable or low carbon sources. The baseline for this study was determined by the 2013 revision to Approved Document L1A.

In June 2016 the Council commissioned Cutland Consulting Limited to undertake a review and to update the evidence base to support policy on renewable and energy efficiency in the light of legislative changes that have taken place since the evidence study was done. This study concluded that findings of the second study are still current.

How this information is used

This information is used to inform planning decisions on the inclusion of renewable energy within new developments. It provides evidence about the technical feasibility and economic viability of commonly used renewable energy technologies.

More information can be found in the [natural environment area](#) on our website:

- Central Bedfordshire Council Evidence base for feasibility and viability of carbon dioxide emission reduction measures (May 2013)
- Central Bedfordshire Council Evidence base for requiring 10% of energy use from renewable or low carbon sources (June 2014)
- Central Bedfordshire Council Review of existing evidence base and recommendations for future local renewable and energy efficiency policy (June 2016)



Renewable energy generation

Renewable energy generation covers a range of sustainable energy sources which cannot be depleted. National policy promotes and supports the development and deployment of appropriate renewable energy generation in the most suitable places. The Government is committed to generating 15% of energy from renewable sources by 2020 (through the European Renewable Energy Directive).

This in turn supports the commitment made in the Climate change Act (2008) to reduce green house gas emissions by 34%, from 1990 levels, by 2020 and 80% by 2050.

The Central Bedfordshire Residents Survey of 2013 shows a high level of support for renewable energy generation amongst residents in Central Bedfordshire, with photovoltaic solar panels (PV) being the most popular and windfarm developments within Central Bedfordshire being supported the least.

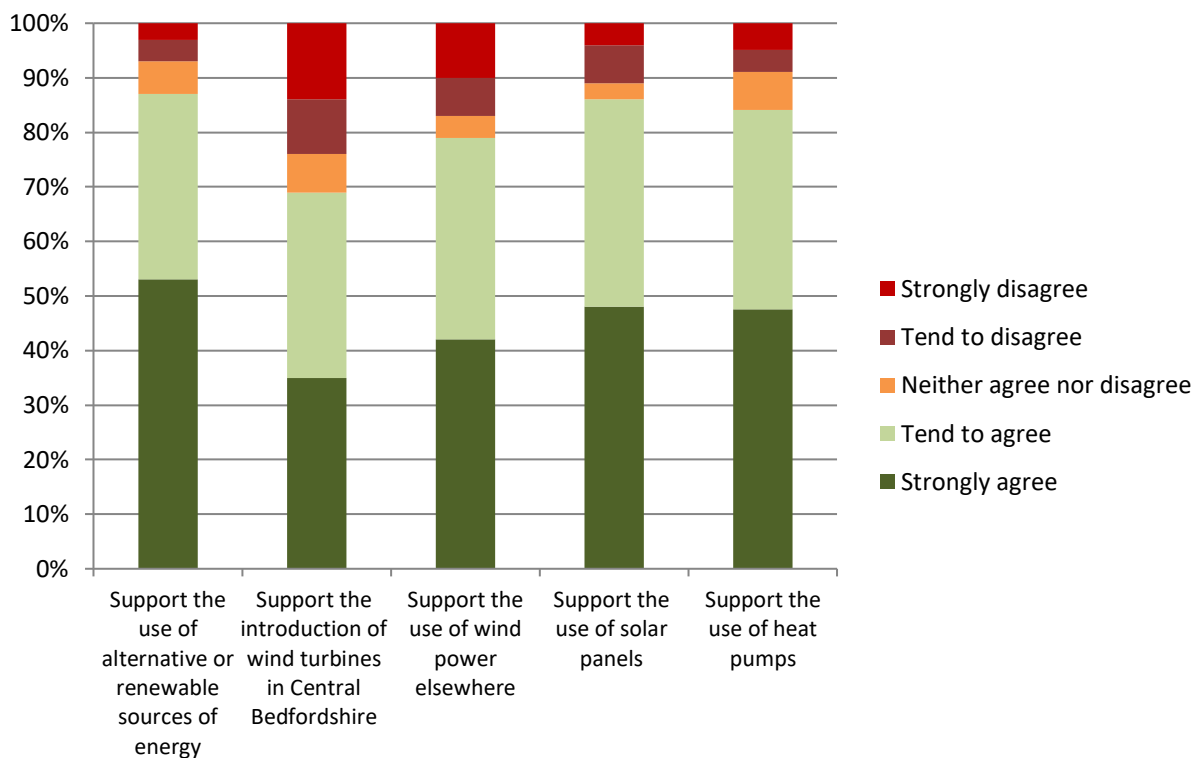


Figure 35 - Public perceptions to renewable energy technologies (2013 Central Bedfordshire Residents Survey)

National Policy Context

The Government's *Renewable Energy Roadmap (2011)* states that a diverse mix of energy generation technologies, including renewable energy technologies, should be encouraged to meet the UK's decarbonisation targets, whilst also protecting consumers against rising energy prices and ensuring that 'the lights stay on'.

Section 10 of the NPPF places a responsibility on local planning authorities to plan positively for renewable energy as all communities should contribute to the increase in the use and supply of renewable energy.

When planning for renewable energy, the Council has followed the approach set out in the National Policy Statement for Renewable Energy Infrastructure and relevant sections of the Overarching National Policy Statement for Energy Infrastructure.

Further guidance on planning policy for renewables is included in the 'Planning practice guidance for Renewable and Low Carbon Energy' (2013) and in guidance issued by the Department for Energy and Climate Change (DECC) on community engagement for Wind Farm Developers (2013).

Since 2015 greater emphasis has been placed on community consultation, especially in relation to windfarm developments. This states that planning permission shouldn't be granted unless the developer can demonstrate that they have properly consulted the local communities affected by the proposed development, and that the communities concerns have been listened to and addressed.

The UK Solar PV Strategy Part 1: *A Roadmap to a Brighter Future* (2013) recognises the role of solar PV technology in contributing to the diversification and decarbonisation of the UK's energy mix and sets principles for the deployment of the technology in the UK. Part 2 (2014) sets the UK Government's ambition to strengthen support for well-sited and well-designed PV installations, particularly on domestic small-scale roof-top projects and mid-size projects on commercial and industrial rooftops. This has been further supported by extending a threshold for roof-top mounted PV as permitted development from 50kW to 1MW from 15th April 2015.

Local Policy

The Council has produced a series of renewable energy planning technical guidance notes in order to provide a steer and to assist developers and communities in bringing forward their development ambitions in the most appropriate and acceptable way.

These focus on ensuring that planning applications for the most appropriate and effective renewable technologies are targeted to the most suitable places in Central Bedfordshire. They aim to help ensure that the area can contribute towards the delivery of national targets for carbon reduction and the deployment of renewables, whilst at the same time protecting and enhancing all of the local features and assets that make Central Bedfordshire such a great place to live and work. To date technical guidance notes have been produced for Wind Farm and Solar Farm developments.

The guidance notes have been adopted by the Council as Technical Guidance for Development Management purposes. These guidance documents do however provide a more detailed understanding of how aspects, such as landscape, should be considered. These aspects have been identified in the national planning document '*Planning practice guidance for Renewable and low carbon energy*' and therefore the Council's technical guidance note should be considered as providing local clarification to some of the issues raised in this practice guidance, which itself would be a material consideration.

Following changes to the national policy in regard to large scale renewables brought by the 2015 Written Ministerial Statement and the Housing White Paper, the Council commissioned review of the technical guidance notes, which will be amended in due course to better reflect changes in the national guidance.

Local evidence base

In March 2014, the Council also commissioned consultants LDA Design to undertake a Renewable Energy Capacity Study for Central Bedfordshire. This considered the scope

for the deployment of a full range of renewable energy generation technologies in Central Bedfordshire when taking into consideration constraints such as grid connection and capacity, radar, the cumulative impact of development and landscape impact. This also looked at a range of scenarios which included the impacts of the expected growth in Central Bedfordshire.

What the evidence base shows

The study provided an indication of potential renewable energy development in Central Bedfordshire:

- Solar farms present a significant opportunity and are likely to be one of the least constrained and least difficult to develop from the large scale technologies;
- Wind energy also appears to have the potential to be developed further;
- Building-integrated renewables could offer significant capacity at the small/micro-scale if effectively encouraged;
- There are opportunities for the Council to get directly involved in renewable energy development on its own land and buildings.

Renewables can offer an attractive return to investors, although admittedly since early 2016 and the change to the incentive systems (such as the feed-in-tariff) this is less certain.

This could enable the Council to develop low carbon generation projects to a scale that is necessary to meet the demand from new development, however there are many uncertainties and potential limitations, including the viability of the support price, and eligibility of renewable generation technologies for subsidies.

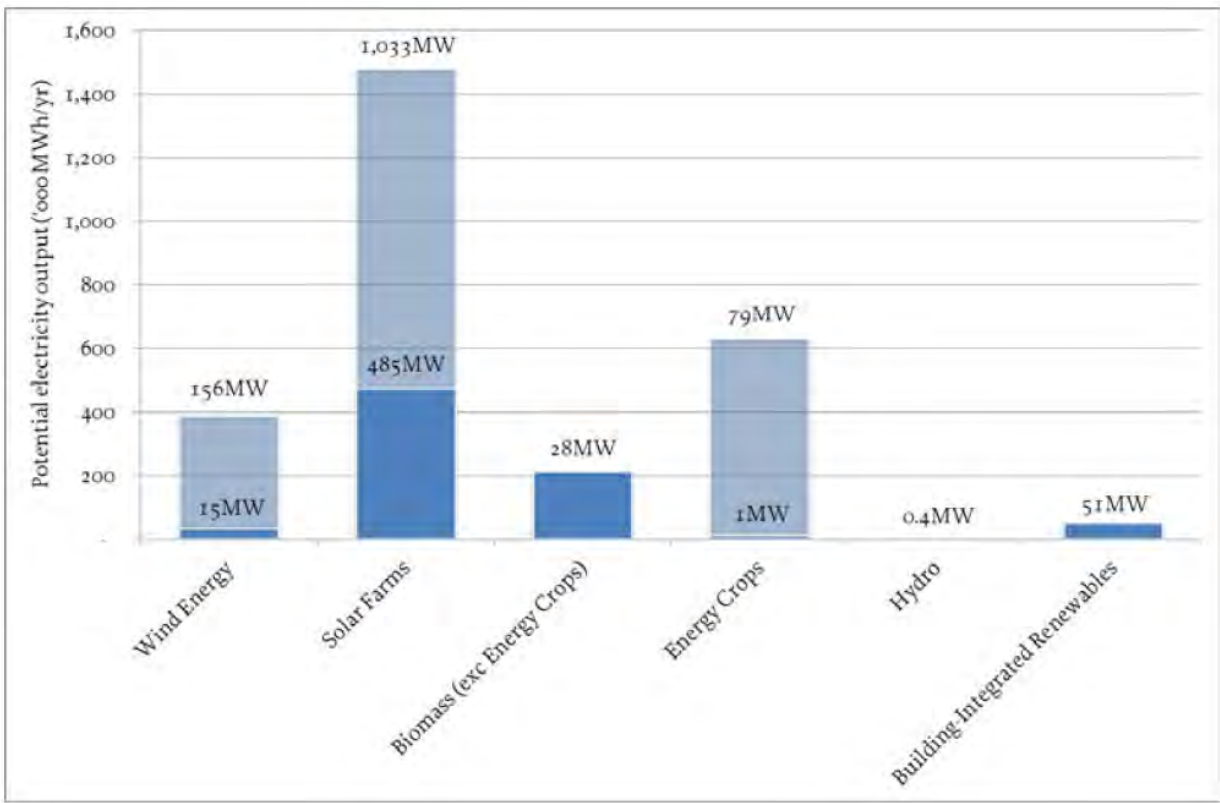


Figure 36 - Total potential capacity for electricity generation in Central Bedfordshire

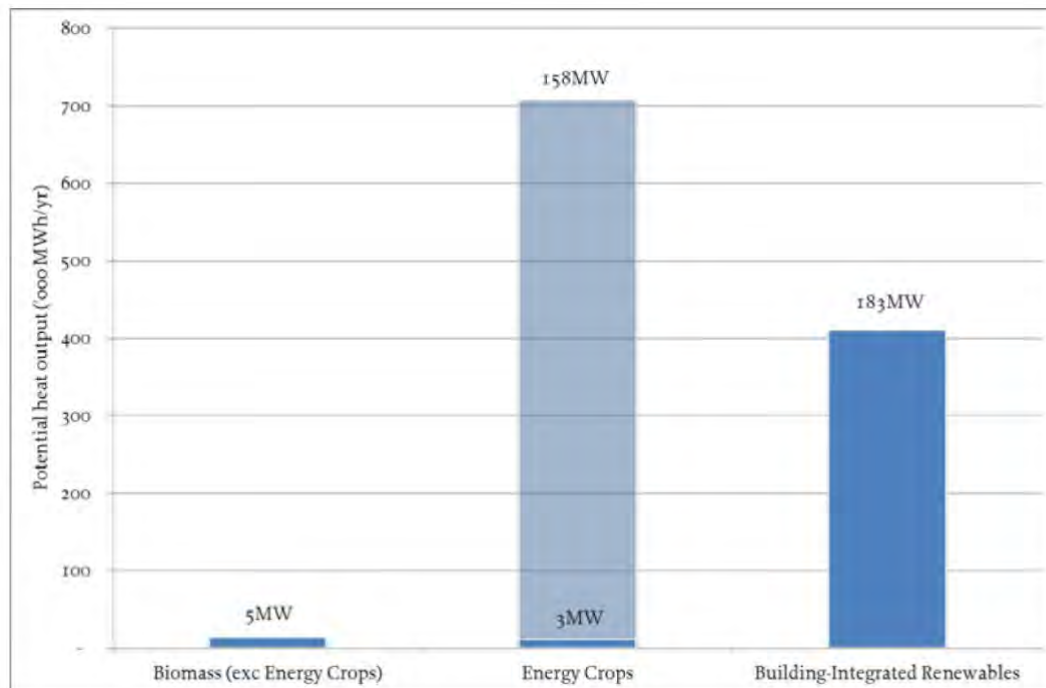


Figure 37 - Total potential capacity for heat generation in Central Bedfordshire

Grid capacity is a key factor for new power generation projects. Limited capacity can be a major constraint on development, along with distance from the nearest point of connection, making development unviable in some locations. UK Power Networks publish a map which provides a snapshot of current capacity, but this is a constantly changing picture and cannot be used to predict future grid capacity.

The business as usual scenario explored in the Renewables Capacity Study (based on current deployment rates) shows that a reasonably good amount of renewable power could come online by 2031, estimated at around 357MW.

In theory, if Central Bedfordshire's proportionate contribution to the legally-binding national target of 80% reduction in carbon emissions by 2050 was to be delivered solely by renewables, this amount would have to be doubled to 713MW. This is roughly equivalent to the lowest estimate of total capacity for renewables in the Central Bedfordshire area.

How this information is used

This information helps demonstrate our progress with regards to the delivery of renewables schemes and highlights future opportunities for renewable energy generation.

More information:

- More detail about what the guidance notes cover and how they fit in to national and local planning policy is covered in the ['Renewable Energy Guidance Note – Introduction'](#)
- [Guidance Note 1 - Wind energy development](#)
- [Guidance note 2 - Solar farm developments](#)

- [Renewables Capacity Study for Central Bedfordshire](#)
- [Renewable Energy Policy Review \(September 2017\)](#)

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