CLIENT PROJECT REPORT CPR2366

Oxfordshire Minerals and Waste Local Plan: Part 1 - Core Strategy incorporating Proposed Main Modifications

Sustainability Appraisal Report Update

Appendix A: Scoping Report Update

February 2017

Contents

1. Introduction

This Scoping Report is an updated version of the Scoping Report that was consulted on in December 2013. It incorporates the representations received from Statutory Environmental Bodies in January 2014 and has also been updated to provide more recent baseline information as well as to take account of representations received to the February 2014 consultation.

For the purposes of this SA Report, the Scoping Report no longer needs to be a freestanding document and it has therefore been reconfigured to remove those elements that are covered in the main SA Report (e.g. the framework of SA Objectives).

2. Stage A1: Identify and review other relevant policies, plans, programmes and sustainable development objectives.

The SEA Directive requires a review of plans and programmes which are relevant to the Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy (henceforth referred to as the 'Core Strategy'):

'an outline of the contents, main objectives of the plan or programmes and relationship with other relevant plans and programmes' (Annex 1(a))

The review has selectively considered guidance at international, national regional, county and local level policies. It has not attempted to provide a detailed review but rather has focussed on strategic environmental, social or economic policies and objectives relevant to the appraisal of the Core Strategy and particular specific environmental protection objectives established at international and national levels. This satisfies the SEA directive which requires that reference must be made to environmental objectives.

The exercise has helped to shape the objectives against which plan policies can be appraised, as well as identifying particular issues which need to be addressed in the Core Strategy.

A full list of plans and programmes which were initially considered is at Appendix 1. Many of these plans exist in a hierarchy; from international and European plans, to national policies and regional guidance. This review has sought to avoid duplication by only reviewing the most up to date or relevant plan and to distil the environmental objectives that are most relevant to the Core Strategy. The analysis of relevant plans is at Appendix 2. The key messages from the analysis are in Table 2-1.

The policy framework is dynamic, and new plans may emerge during the Local Plan preparation process. Those that are relevant will be added to the list at Appendix 2 and any relevant message added to Table 2-1 and published as part of the SA.

Table 2-1: Key Messages emerging from Stage A1

- The need to ensure that average distances travelled and traffic congestion are not exacerbated by minerals and waste HGVs, and that these vehicles do not worsen air quality in identified AQMAs, or reduce quality of life for local residents.

- Avoid damage to, and where possible proactively contribute towards the protection and enhancement of international, national and locally designated conservation sites, including SACs, SSSIs, NNRs, Local Wildlife Sites as well as BAP Priority Species and Habitats and nationally and locally important geological features.

- The need to proactively plan for post mineral restoration and for after use of temporary waste sites, to protect, maintain, enhance or restore biodiversity.

- The need to protect the functional floodplain from mineral working and to take into account the hydrological implications of proposed mineral and waste developments,

including assessing flood risk, effects of abstraction or de-watering, potential pollution, groundwater changes before identifying sites for minerals and waste development.

- The need to protect and conserve all aspects of the historic environment and particularly internationally and nationally important historic features.

- The need to ensure a steady supply of mineral materials for local markets, to meet the demand generated by planned and existing development identified in each of the District and City Councils' plans, and to contribute to markets identified outside the county.

- The need to maintain a land bank of permitted reserves for aggregate minerals in line with national policy.

- Waste management policies should support sustainable waste management measures to encourage a reduction in the amount of waste arisings going to landfill in Oxfordshire.

- Soils should be used in a sustainable manner and should take account of best and most versatile agricultural land.

- The production and use of secondary and recycled aggregates reduces the amount of land won aggregates that need to be extracted.

- Restoration of mineral workings should not increase the risk of bird strike.

- The need to provide waste management facilities to allow the county to be net self-sufficient in the treatment and/or disposal of its waste arisings and to contribute towards meeting the need for facilities to manage residual waste from London and elsewhere over the plan period.

- Minerals and waste policies should enable minerals extraction and secure the recovery of waste without endangering human health or residential amenity in local communities

3. Stage A2: Collection of baseline information

This section explains the processes undertaken to collect baseline information. The provision of an evidence-base is required by the Strategic Environmental Assessment Directive. The Environmental Report required under the SEA Directive should include:

'the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme'.

The baseline information for Oxfordshire has been provided in a topic based format, and aims to give a broad overview of the county. The following topics have been covered, to meet the requirements of the SEA Directive: population, human health, biodiversity, the built and historic environment, landscape, water quality and resources, climate change and energy, transport, waste, minerals, land use, soils and resources, air quality and the economy. Although the Local Plan has a narrow focus, the effects of mineral extraction and waste management have a potentially wide spatial influence on the county and the population and can result in a wide range of both direct and indirect effects. Therefore, consideration of a broad spectrum of topics is appropriate.

Baseline information may consist of both quantitative and qualitative information. To get the best value from baseline information, it needs to be kept up to date rather than being merely a snapshot of the situation at a particular time.

Population[1]

Oxfordshire is predominantly a rural county; it is the most rural county in the South East of England and West Oxfordshire is one of the region's least densely populated districts. Approximately 50% of Oxfordshire's population live in towns and villages of less than 10,000 people. The population of Oxfordshire is currently approximately 666,000[2].

Oxfordshire has seen a strong rate of population growth in recent years. Between 2001 and 2011, the population of the county increased by 8%. The rate of change varied across the five districts in Oxfordshire with growth rate above the national average in Oxford and West Oxfordshire. During the same period, the number of residents aged over 65 years increased by 18% and aged over 85 by 1%. The growth in the number of people aged over 65 years has occurred across the county except in Oxford where numbers declined slightly (800 fewer).

Over the past 10 years, natural change (births, deaths) of the population in Oxfordshire has been increasing steadily, whereas net migration and other changes have fluctuated (see Figure 3-1). Significant in migration occurred in 2002/03 and 2004/05, the latter driven largely by migrants from the countries that joined the European Union in 2004 (accession countries).
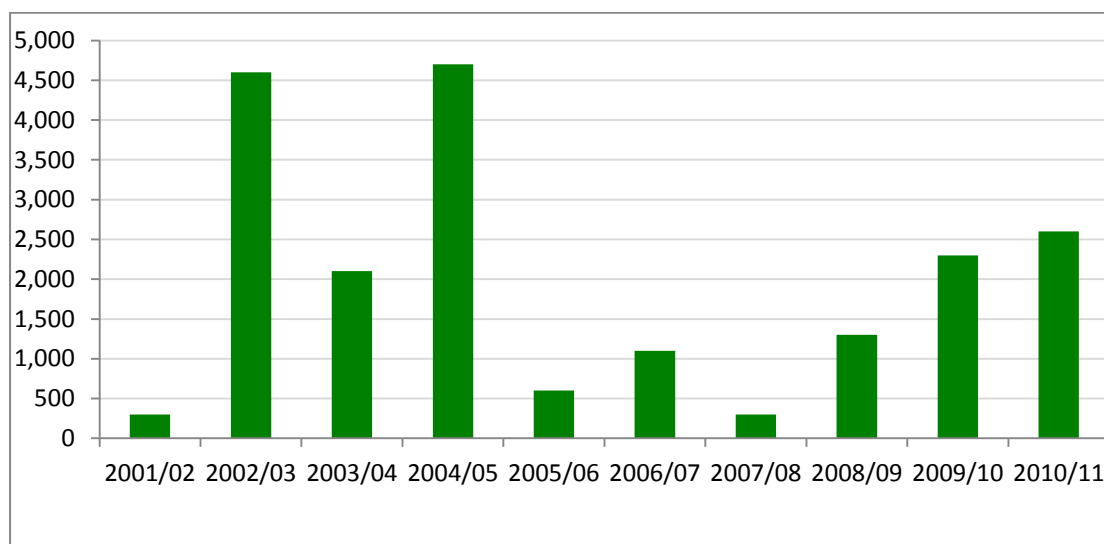
Figure 3-1: Net migration into and out of Oxfordshire between 2001 and 2011

Source: Office for National Statistics, population estimates, components of change

The population in Oxfordshire is expected to continue to grow by a further 12% over the period to 2026, to approximately 748,000[3]. This will occur more so in urban areas, particularly within the Science Vale area (including Didcot, Wantage and Grove), Oxford, Bicester, and Witney as well as Banbury, Upper Heyford and Carterton[4]. The population in rural areas is also expected to grow due to increasing life expectancy of the population[5]. This increasing population increases demands on housing and the existing infrastructure. An increase in demand for building materials to develop new housing will impact on mineral

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[1] Source ONS & Oxfordshire Small Area Forecasts

[2] Source Connecting Oxfordshire: Local Transport Plan 4 (LTP4): Strategic Environmental Assessment July 2015

[3] Source Oxfordshire Minerals and Waste Local Plan Part 1- Core Strategy Proposed Submission Document March 2015

[4] Oxfordshire County Council (2012): Oxfordshire Minerals and Waste Core Strategy Sustainability Appraisal Report 2012.

[5] Oxfordshire County Council (2014b): Joint Strategic Needs Assessment Annual Report 2014

extraction and a larger population will require more waste facilities and more efficient waste management.
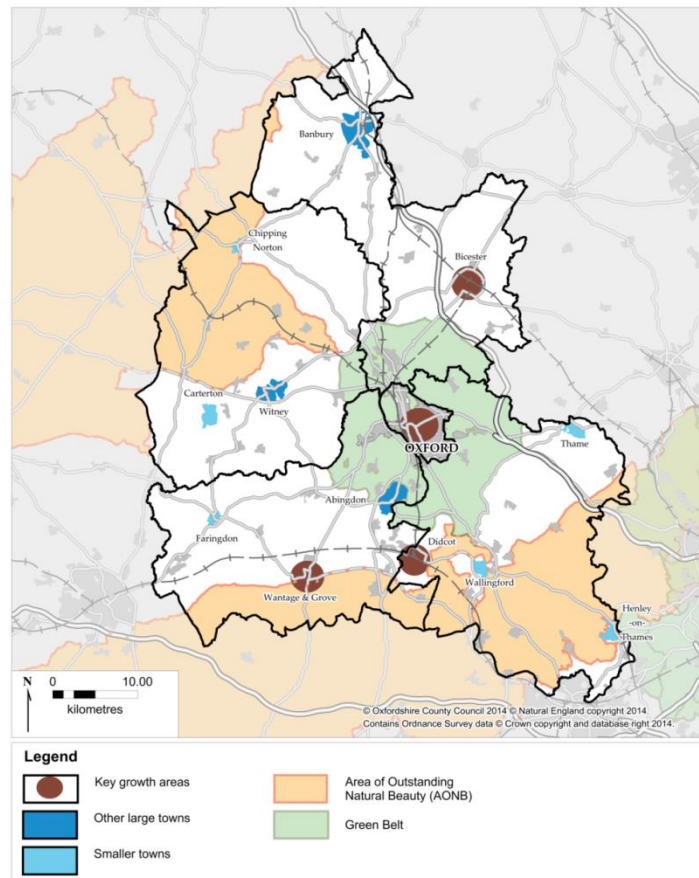
Figure 3-2: Oxfordshire growth areas, other large towns and smaller towns

Human Health[6]

Life expectancy within the county is above the national average, although there are variations between Districts. Figure 3-3 shows the average life expectancy of men and women in each of the districts, compared to the figure for England.
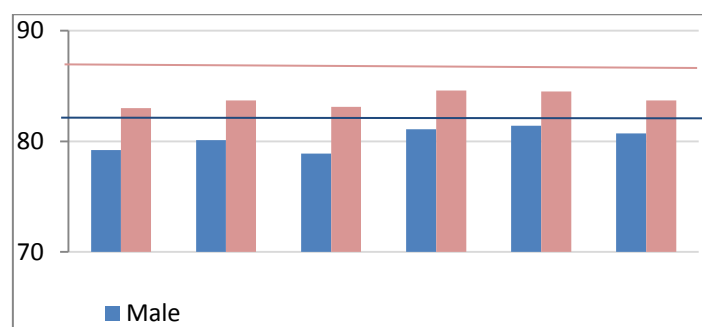
Figure 3-3: Life expectancy at birth in Oxfordshire 2010-2012

Source: Oxfordshire Health Profile, Association of Public Health Observatories

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[6] Indices of Deprivation summary: ONS

Levels of obesity and physical activity are better in Oxfordshire than the England average, with just over 20% of adults classified as obese in 2012, and about 15% of 10-11 year olds. However, the Oxfordshire Partnership notes that obesity levels are rising across localities and age groups.

Minerals and waste development often gives rise to concerns about pollution and harm to people and the environment. Issues such as noise, dust and air quality are all concerns with regard to mineral development, whilst odour, vermin, birds, litter and light pollution are possible health concerns related to waste management.

Deprivation

Deprivation indices are derived from seven domains, which are income deprivation, employment deprivation, health deprivation and disability, education skills and training deprivation, barriers to housing and services, living environment deprivation and crime.

Deprivation in Oxfordshire is lower than average, with the County being ranked the 11th least deprived of the 152 upper tier local authorities in England (similar to 12th in 2010)[7]. South Oxfordshire, Vale of White Horse and West Oxfordshire districts rank in the 10% least deprived local authorities in England. However, there are fifteen small areas within the county which rank in the 20% most deprived nationally (compared to eighteen in 2010), including two within the 10% most deprived nationally (one more than in 2010). These small areas are located within Oxford City (parts of Rose Hill and Iffley, Northfield Brook, Barton and Sandhills, and Blackbird Leys), Banbury (parts of Grimsbury and Castle, and Ruscote) and Abingdon (part of Abingdon Caldecott). About 12.4% (14,700) children live in poverty[8] whilst life expectancy is 6.2 years lower for men in the most deprived areas of Oxfordshire than in the least deprived areas, whereas for women, the gap is 2.8 years.

Biodiversity & Geodiversity

Biodiversity

<u>International and National Conservation Designations</u>

The UK's commitment to the conservation of biodiversity is delivered through the UK Biodiversity Action Plan (UK BAP), made up of a series of plans to target action for particular vulnerable habitats and species. 67 of the UK BAP priority species and examples of 16 of the priority habitats identified in the UK BAP as being of international or national importance for biodiversity can be found in Oxfordshire. These habitats cover 6,974 hectares in the county and the majority are associated with designated sites. The Biodiversity Action Plan for Oxfordshire[9] currently contains Action Plans for 20 habitats and 21 species, including for lowland calcareous grassland, acid lowland meadow and reedbeds, which are the habitats most likely to be created through mineral restoration.

Although there are no Special Protection Areas or Ramsar sites in Oxfordshire there are seven Special Areas of Conservation under the EC Directive 92/43/EEC, the 'Habitats Directive' (see Table 3-1 below). These areas have been designated because of their quality of natural habitat and the species those habitats support.

Table 3-1<u>: Special Areas of Conservation in Oxfordshire</u>

SAC name	SAC Area (ha)	Component SSSIs

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[7] Oxfordshire Insight, Index of Multiple Deprivation Dashboard, Oxfordshire County Council (http://insight.oxfordshire.gov.uk/cms/index-multiple-deprivation-dashboard)

[8] Oxfordshire Health Profile, Association of Public Health Observatories (2014)

[9] Further details can be found on the ONCF website http://www.oncf.org.uk/biodiversity/biod_oxonbap.htm

Oxford Meadows	265.89	Cassington Meadows
		Pixey & Yarnton Meads
		Port Meadow with Wolvercote Common and Green
		Wolvercote Meadows
Little Wittenham	68.76	Little Wittenham
Hartslock Wood	34.24	Hartslock
Hackpen Hill	35.83	Hackpen, Warren and Gramp's Hill Downs
Cothill Fen	43.55	Cothill Fen
Ashton Rowant	127.75	Knightsbridge Lane
Chilterns Beechwoods	1276.48	Ashridge Commons and Woods (Bucks/Herts)
		Ellesborough and Kimble Warrens (Bucks)
		Tring Woodlands (Herts)
		Windsor Hill (Bucks)
		Bradenham Woods, Park Wood and the Coppice (Bucks)
		Bisham Woods (Berks)
		Hollowhill and Pullingshill Woods (Bucks)
		Naphill Common (Bucks)

Source: Oxfordshire Local Transport Plan 4 (LTP4) Strategic Environmental Assessment (SEA) Scoping Report 2014

Sites of Special Scientific Interest (SSSIs) represent some of the county's very best wildlife and geological sites. They include some of our most spectacular and beautiful habitats. There are 111 SSSIs in Oxfordshire covering an area of 4,497ha[10]. The condition of the SSSIs gives just one indication of how activities are impacting on the biodiversity of the county and of how well biodiversity is being protected in our county. Table 3-2 shows the condition of Oxfordshire's SSSIs[11].

Table 3-2: Condition of SSSIs in Oxfordshire

	Sites
Total number	111
Total area (ha)	4,497.15

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[10] Natural England (2015)

[11] Source: Natural England, data supplied by Thames Valley Environment Records Centre, compiled by Oxfordshire Data Observatory Jan 2008.

	% meeting area of favourable or unfavourable recovering	Favourable	Unfavourable - Recovering	Unfavourable - No change	Unfavourable - Declining	Partially destroyed	Destroyed
Area (ha)	4,375.25	2,010.29	2,364.96	3.74	82.32	-	8.60
Percentage	97.88%	44.97%	52.91%	0.08%	1.84%	0.00%	0.19%

Condition Summary

Legend:
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Destroyed
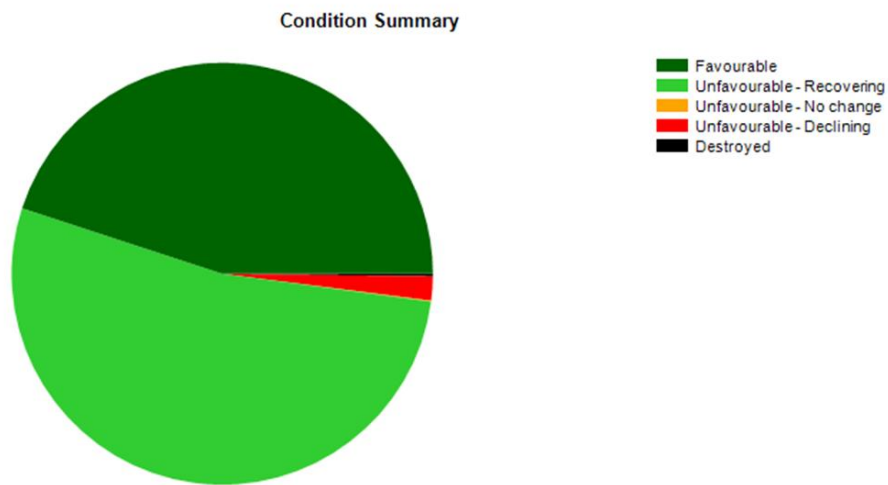
Source: Natural England (2015)[12]

There are four National Nature Reserves (NNR) in Oxfordshire:

- Aston Rowant;
- Cothill;
- Chimney Meadow; and
- Wychwood.

NNRs are established to protect the most important areas of wildlife habitat and geological formations in Britain, and as places for scientific research.

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[12]

https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?countyCode=34&ReportTitle=OXFORDSHIRE

Figure 3-4: International and National Nature Conservation Designations in Oxfordshire

Source: Oxfordshire County Council LTP4 SEA, 2014

The farmland bird population in Oxfordshire has remained similar to the 2003 baseline data and relatively stable, apart from the increase in 2007/2008. This may be explained by an increase in areas surveyed. There was a slight increase in the bird index in 2012 compared to the previous year and some of the farmland bird specialists such as grey partridge, lapwing and yellowhammer have experienced a decline since 2011, but turtle doves and linnets have increased. However, generalist farmland birds such as kestrel, greenfinch and wood pigeon have increased.
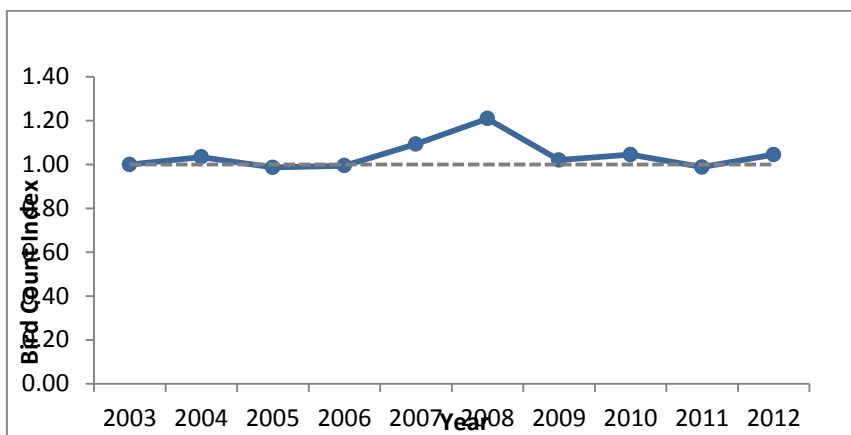
Figure 3-5: Oxfordshire Farmland Bird Index 2003-2012

Source: Thames Valley Environmental Records Centre, BTO

The bird index uses a baseline from 2003 which is represented by the dashed line.

Local Nature Conservation Designations

There are 343 Local Wildlife Sites in Oxfordshire, with a further 106 proposed sites. There are 14 Local Nature Reserves in Oxfordshire[13]. Local Nature Reserves are places with wildlife or geological features that are of special interest locally. They offer people special opportunities to study or learn about nature or simply to enjoy it.

Local Wildlife Sites are non-statutory sites of significant value for the conservation of wildlife. They represent local character and distinctiveness and have an important role to play in meeting local and national targets for biodiversity conservation. There are also sites of district importance which are designated by the City and District Councils. These include:

- Sites of Local Importance for Nature Conservation (SLINCs) within Oxford City;
- Windrush in Witney project area in West Oxfordshire;
- Various small sites owned and / or managed by parish councils[14].

The map at Figure 3-6: Local Nature Conservation Designations in Oxfordshire shows Oxfordshire's locally designated nature conservation sites. This includes Local Nature Reserves (statutory sites), Local Wildlife Sites, ancient woodland, Sites of Local Importance for Nature Conservation (SLINCs) and Conservation Target Areas (target areas for conservation action in the county identified by the Oxfordshire Wildlife and Landscape Study (OWLS)).

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[13] Natural England (2015).
http://www.lnr.naturalengland.org.uk/Special/lnr/lnr_results.asp?N=&C=33&Submit=Search

[14] OCC (2013). Topic Paper: Protecting, Conserving and Enhancing Biodiversity and Geodiversity in Planning for Minerals and Waste

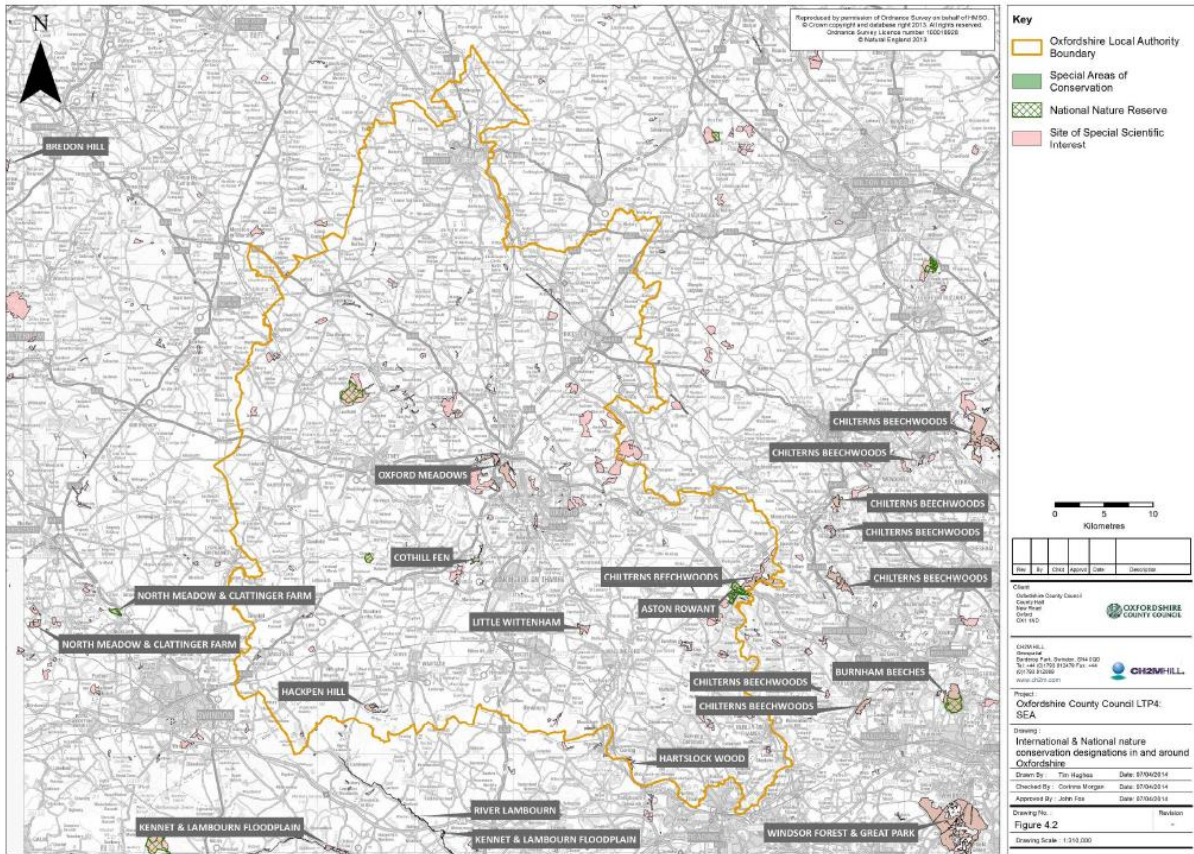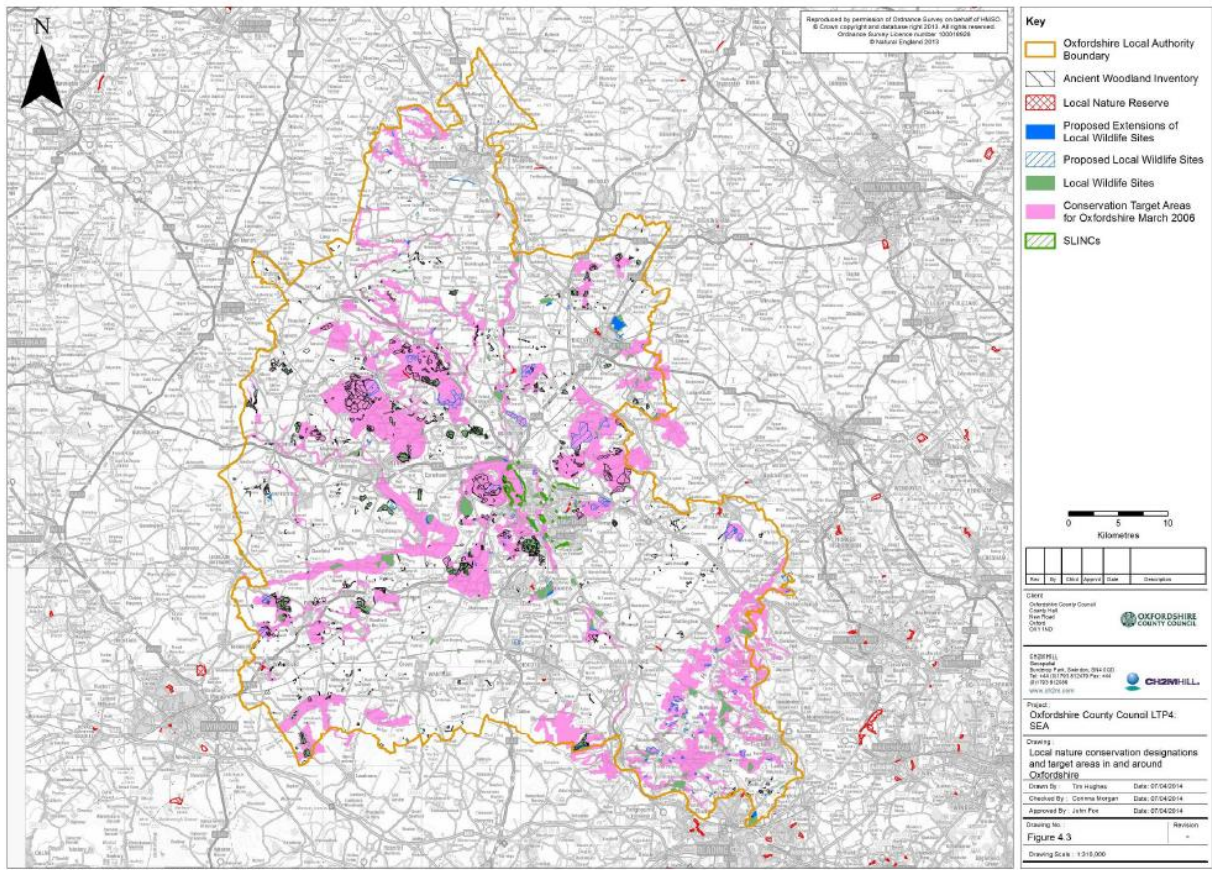*Figure 3-6: Local Nature Conservation Designations in Oxfordshire*

Source: Oxfordshire County Council LTP4 SEA, 2014

Thirty six Conservation Target Areas have been identified in Oxfordshire (shown in Figure 3-7). The aim of these areas is to ensure that existing habitats are protected and maintained in good condition and at the same time expansion of areas of biodiversity value and linkage between these areas is encouraged, to provide more viable and sustainable biodiversity management units. The 36 CTAs in Oxfordshire contain 95% of the SSSI land in Oxfordshire and 74% of the Local Wildlife Sites. They cover 17% of the land area of Oxfordshire but contain 85% of the mapped UK BAP priority habitat and 83% of all records of UK BAP priority species[15].

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[15] https://www.oxfordshire.gov.uk/cms/content/oxfordshires-biodiversity-action-plan
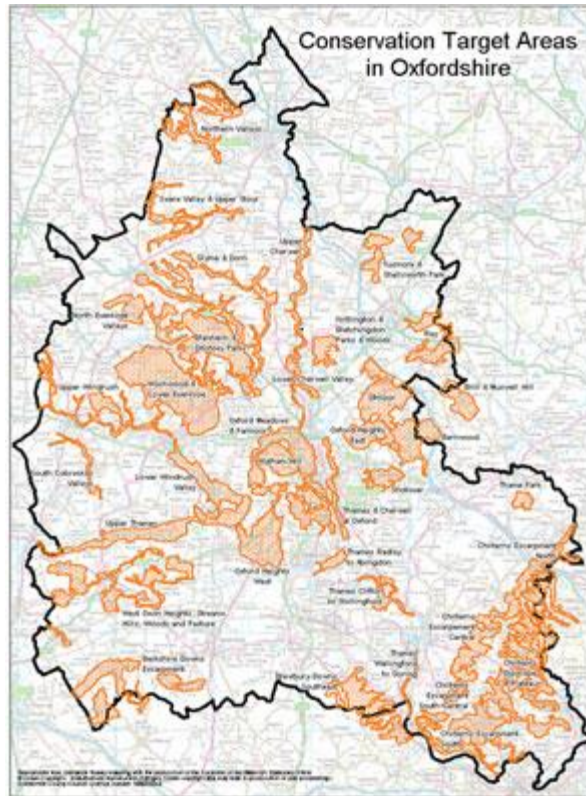
Figure 3-7: Conservation Target Areas in Oxfordshire

Source: Oxfordshire's Biodiversity Action Plan

About 9% of the county is covered by woodland and ancient woodland accounts for 38% of the woodland cover[16].

Relation to the Minerals and Waste Local Plan Part 1- Core Strategy

Table 3-3 below shows the SSSIs and SACs within or very close to the Strategic Resource Areas in the Minerals and Waste Local Plan (Core Strategy). These sites could be affected by minerals and waste activities within Oxfordshire and would therefore require mitigation measures to be put in place in order to ensure their protection.

Table 3-3: International and national biodiversity designations within the SRAs

Strategic Resource Area	International and national biodiversity designations within the SRAs
SRA1: Burford - South of A40	Adjacent to Westwell Gorse SSSI
SRA2: East/South East of Faringdon	Shellingford Crossroads Quarry SSSI
SRA3: North West of Bicester	Ardley Cutting and Quarry SSSI Ardley Trackways SSSI
SRA4: Thames Valley - Caversham to Shiplake	N/A
SRA5: Thames & Lower Thames Valley - Kennington to Cholsey	Approx 0.5km from Little Wittenham SAC Approx 0.5 km from Little Wittenham SSSI

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[16] Oxfordshire Minerals and Waste Local Plan Part 1 Core Strategy 2015

SRA6: Thames, Lower Windrush & Evenlode Valley- Standlake to Yarnton	Ducklington Mead (SSSI) Langley's Lane Meadow (SSSI) Stanton Harcourt (SSSI) 0.5k west of Oxford Meadows SAC Adjacent to Wytham Woods SSSI Approx 150m from Wytham Ditches and Flushes (SSSI)
SRA7: Corallian Ridge - Oxford to Faringdon	Wicklesham and Coxwell Pits (SSSI) Shellingford Crossroads Quarry (SSSI) Buckland Warren (SSSI) Lamb and Flag Quarry (SSSI) Frilford Heath Ponds and Fens (SSSI) Cumnor (SSSI) Appleton Lower Common (SSSI) Adjacent to Cothill Fen SAC Adjacent to Cothill NNR Adjacent to Cothill Fen SSSI Adjacent to Barrow Farm Fen SSSI
SRA8: Duns Tew area	Horeshay Quarries (SSSI) Middle Barton Fen (SSSI)

Minerals extraction presents opportunities for restoration to create wildlife habitats, increase biodiversity and improve recreational opportunities. Work has been done by OCC officers and biodiversity partners to identify which potential mineral working areas in Oxfordshire could offer opportunities for habitat creation, as part of the RSPB's Nature After Minerals initiative.

Mineral working can be a highly disruptive activity and could lead to loss of land from agricultural production, potential damage to wildlife habitats and archaeological features as well as lead to disturbances associated with quarrying operations including noise, traffic and dust. However, it also presents opportunities for restoration to create wildlife habitats, increase biodiversity and improve recreational opportunities. Work has been done by OCC officers and biodiversity partners to identify which potential mineral working areas in Oxfordshire could offer opportunities for habitat creation, as part of the RSPB's Nature After Minerals initiative.

Geodiversity

There are 31 geological Sites of Special Scientific Interest and 45 Local Geology Sites (formerly known as Regionally Important Geological Sites – RIGS) across Oxfordshire. They are designated by the Oxfordshire Geology Trust. The geology of Oxfordshire comprises a series of rocks of Jurassic and Cretaceous age that are gently tilted to the south-east, so that the oldest rocks occur in the north-west and the youngest in the south-east (shown in Figure 3-8).

Geological features can become exposed during the process of mineral extraction. When this occurs, sites should undergo restoration where possible, leaving important geological faces exposed and enabling access to the local community and groups to view them[17].

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[17] https://www.oxfordshire.gov.uk/cms/content/geodiversity
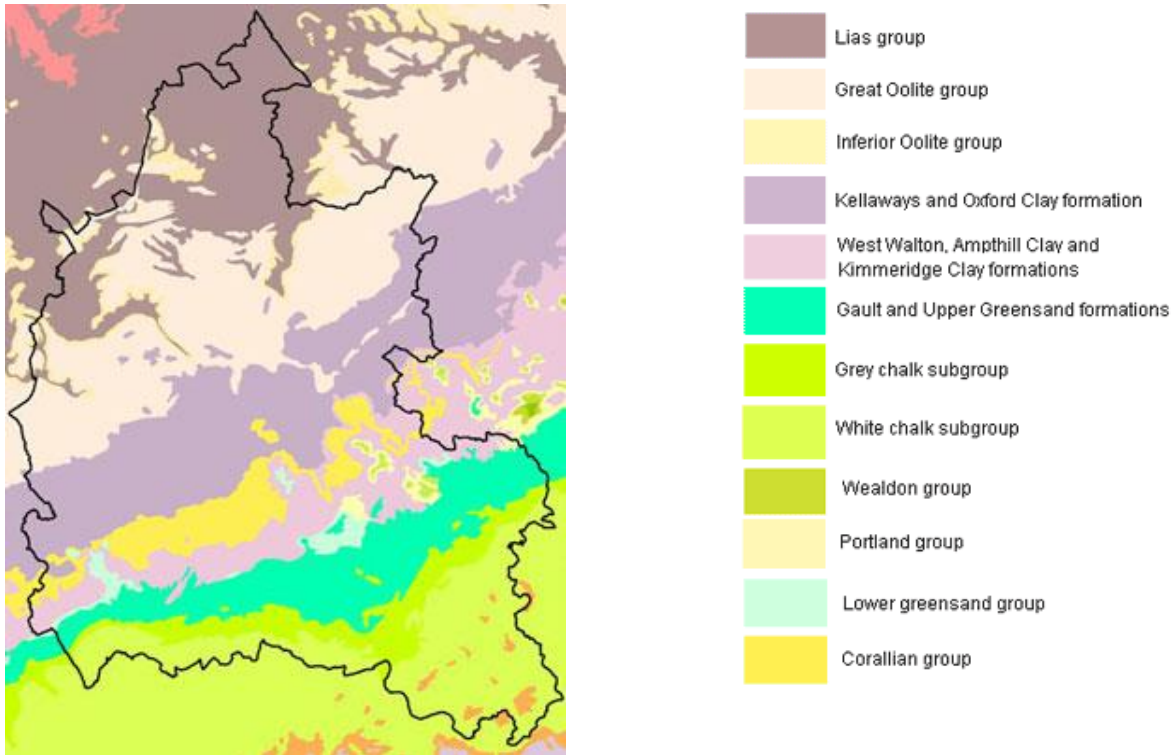
Figure 3-8: Map of Oxfordshire's geology[18]

The Built and Historic Environment

Oxfordshire contains many buildings, areas, designed gardens and designed landscapes which together make up a valuable part of the county's heritage. Registered battlefields (there are two in Oxfordshire: Battle of Cropredy Bridge 1644 and Battle of Chalgrove 1643, both to the north of Banbury) and locally important features also need to be taken into account. There are nearly 13,000 listed buildings and structures in Oxfordshire and over 200 conservation areas. Blenheim Palace and Park is designated as a world heritage site, which reflects its outstanding international importance. In Oxford there are buildings spanning every major period of British architectural history dating back to the 11th century.

Table 3-4: Designated historic sites in Oxfordshire[19]

	World Heritage Sites	Conservation Areas	Listed Buildings	Battle-fields	Scheduled Monuments	Parks & Gardens
Cherwell		54	>2250	1	38	6
Oxford		16	>1200		7	11
SODC		71	>3250	1	49	11
VOWHDC		52	>2170		67	8
WODC	1	49	>3180		137	16

Table 3-4 identifies 242 conservation areas in the county. Many of these are villages which lie in close proximity to existing or potential areas of mineral working. They include

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[18] https://www.oxfordshire.gov.uk/cms/content/geodiversity

[19] Oxfordshire County Council Archaeologist

Eynsham, Ducklington, Hatford and Shellingford and Stanton Harcourt in existing working areas and Dorchester, Bampton, Benson, Nuneham Courtenay and Sutton in potential new working areas.

Oxfordshire has a rich archaeological resource with approximately 350 Scheduled Ancient Monuments. There are many scheduled and non-scheduled archaeological sites along the Thames Valley. Some areas of the county have experienced mineral working in the past which has had significant effects on archaeological sites. Areas where the cumulative impact of development has particularly been felt has been in the Lower Windrush Valley, the Lower Evenlode Valley, the Radley area and Dorchester.

Oxfordshire County Council is responsible for maintaining the Historic Environment Record (HER) which holds information on more than 24,000 monuments, more than 3400 events (such as excavations and geophysical work) and more than 5,800 'finds' or archaeological objects. The HER contains information from Palaeolithic find spots to roman villas, historic parks and World War II defensive sites.

Historic England's[20] 'Heritage at Risk' programme provides information on historic sites within England that are currently at risk of being lost through neglect, decay or inappropriate development. As of 2016, there were 46 heritage features at risk in Oxfordshire[21].

There are 55 registered Parks and Gardens in Oxfordshire, including Sutton Courtenay Manor House, Nuneham Courtenay and Kelmscott Manor. There are two registered battlefields in the county at Chalgrove and Cropredy Bridge.

A joint Historic Landscape Characterisation (HLC) project between Historic England and Oxfordshire County Council has been started. The project is ongoing and West Oxfordshire has not yet been undertaken. Given that the project is still incomplete it has not been possible to fully utilise it or draw any full conclusions. The results to date do not suggest however that any parts of the landscape within the Strategic Resource Areas being considered here predate enclosure. It is intended that once completed HLC will be an important tool when assessing the impact of planning applications for mineral extraction[22].

Potentially important archaeological constraints have been identified in the Lower Windrush Valley, south of Hardwick, and at a number of locations within the Thames and Lower Thame Valleys (Oxford to Cholsey) Strategic Resource Area. The Council will work with Historic England to ensure that important archaeology is given appropriate protection, in particular when sites for mineral working are identified in the Site Allocations Document.

Figure 3-9 below shows the distribution of cultural heritage designations in Oxfordshire, including Listed Buildings, Historic Battlefields, Conservation Areas, Registered Parks and Gardens, Scheduled Ancient Monuments and also the Blenheim Palace World Heritage Site.

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[20] As of April 2015, English Heritage has now split into two organisations: 'English Heritage', an independent charity and 'Historic England' which will continue the statutory role carried out previously by English Heritage.

[21] https://historicengland.org.uk/advice/heritage-at-risk/search-register/results/?advsearch=1&county=Oxfordshire&searchtype=harsearch#

[22] OCC Minerals and Waste Plan Updated Archaeology Topic Paper (2015)
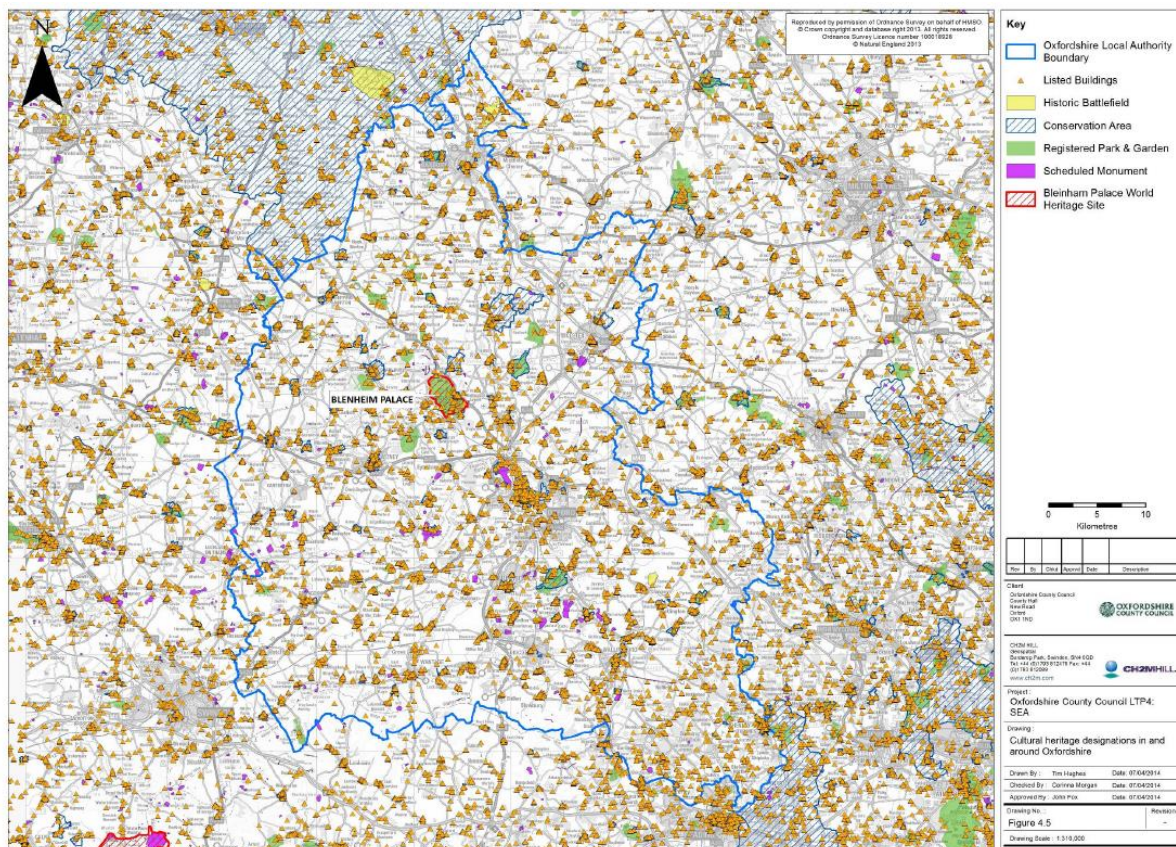
Figure 3-9: Cultural Heritage Designations in Oxfordshire

Source: Oxfordshire County Council LTP4 SEA, 2014

The associations between the heritage assets and the Strategic Resource Areas as shown in Table 3-5.

Table 3-5: Relationship between Heritage Assets and Strategic Resource Areas

Strategic Resource Area	Heritage Asset relationships	Comment
SRA1: Burford - South of A40	3 Listed Buildings	
SRA2: East/South East of Faringdon	1 Scheduled Ancient Monument (SAM) 8 Listed Buildings (including two Grade II*)	
SRA3: North West of Bicester	3 SAMs 24 Listed Buildings (including two Grade II*) Middleton Park - Registered Park and Gardens	
SRA4: Thames Valley - Caversham to Shiplake	None	
SRA5: Thames & Lower Thames Valley - Kennington to Cholsey	10 SAMs 35 Listed Buildings (including one Grade I and two Grade II*)	
SRA6: Thames, Lower Windrush & Evenlode Valley - Standlake to Yarnton	4 SAMs 44 Listed Buildings (including one Grade I)	<1km to south of Blenheim Palace WHS
SRA7: Corallian Ridge - Oxford to	5 SAMs	

Faringdon	131 Listed Buildings (including eleven Grade II*) 2 Registered Parks and Gardens (Buckland House and Pusey House)	
SRA8: Duns Tew area	31 Listed Buildings Rousham House - Registered Park and Gardens	

Landscape

Oxfordshire is an attractive county with a variety of different landscapes and habitats. These include the Chiltern Beechwoods, the limestone grasslands of the Cotswolds and the lowland meadows of the Thames Valley. The County covers 260,800 hectares with 78% of the land under agricultural management.
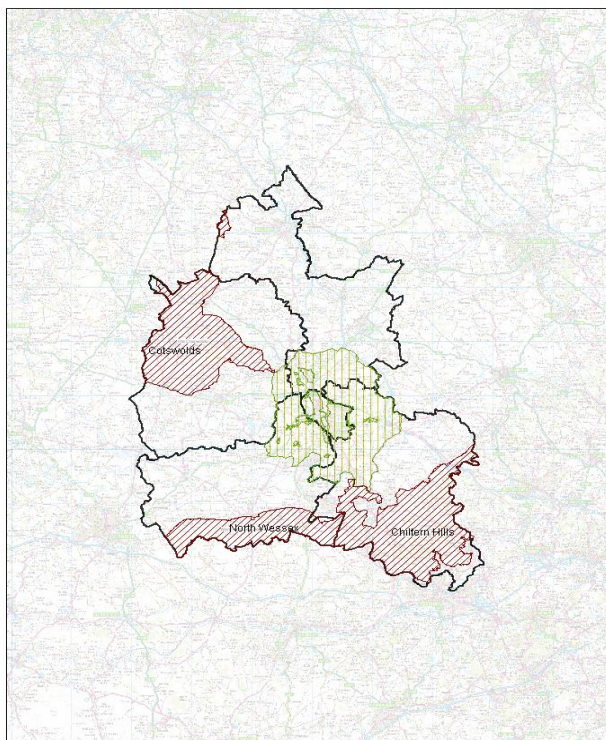
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Figure 3-10: Areas of Outstanding Natural Beauty (AONB) and Green Belt)

Just under 75% of the Oxfordshire landscape has a landscape designation[23]. There are no National Parks in Oxfordshire or its vicinity, but there are three designated Areas of Outstanding Natural Beauty (AONB); parts of the Chilterns, the Cotswolds and the North Wessex Downs AONBs together cover 24% of Oxfordshire. Areas of High Landscape Value (local designation to protect locally important landscapes) make up 14% of Oxfordshire's landscape.

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[23] Oxfordshire Local Transport Plan 4 (LTP4) Strategic Environmental Assessment (SEA) Scoping Report 2014

The following relationships exist between the AONBs and the Strategic Resource Areas in the Minerals and Waste Local Plan (Core Strategy). Mineral extraction in the SRAs identified could potentially result in effects on the associated AONBs and their settings:

- Cotswolds AONB: Part of the north-east border of the AONB is adjacent to SRA1 ('Burford South of A40'), close to Carterton and west of Witney;

- North Wessex Downs AONB: Strategic Resource Area 5 (Thames & Lower Thames Valley- Kennington to Cholsey) lies adjacent to the AONB.

- Chilterns AONB: Strategic Resource Area 5 (Thames & Lower Thames Valley Kennington to Cholsey) lies adjacent to the AONB.

Parts of the Cotswolds, North Wessex Downs and Chilterns AONBs are situated close to towns where growth is expected and additional waste will be produced. This may lead to new waste facilities being required which could impact on the AONBs.

Recreational activities in Oxfordshire reflect the importance of its landscape character, including walking and cycling on several long distance paths such as the Ridgeway, the Thames Path National Trail, the Oxfordshire Way, or on the dense network of local footpaths and bridleways. Much of the central part of the county around Oxford is designated as Green Belt.

Landscape character areas are distinct types of landscape that are relatively homogenous in character. They are generic in nature in that they may occur in different parts of the country, but they share broadly similar combinations of geology, landform, drainage patterns, vegetation and historical land use and settlement patterns[24]. It can be seen from Figure 3-11 that there is a wide variety of landscape character areas in Oxfordshire.

Figure 3-11: Landscape Character Types in Oxfordshire[25]

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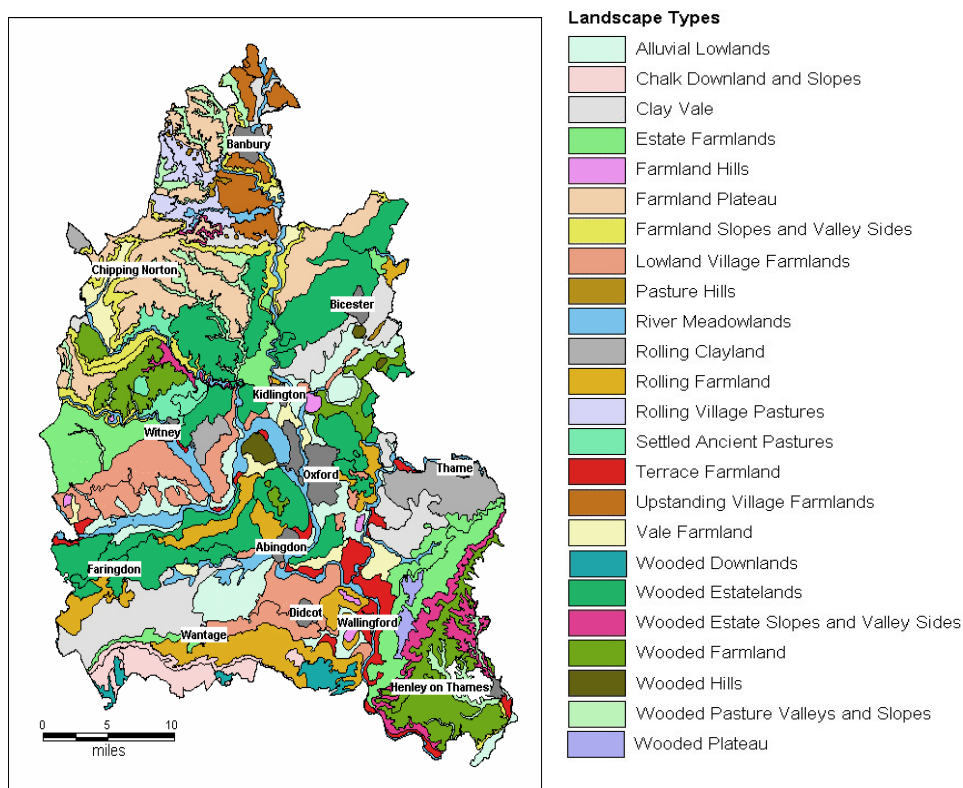
[24] http://www.waterpark.org/documents/pages/landscape_character_assessment/8b99d_004.pdf, accessed 21 August 2008

[25] Source: Oxfordshire Wildlife and Landscape Study 2004

Water Quality and Resources

Demand for water and the quality of water resources have become important local, national and international issues. Oxfordshire lies largely within the Thames Water region, which is one of the driest in the country. Water is abstracted from the River Thames, from groundwater aquifers and there are reservoirs at Farmoor and Grimsbury, Banbury in Oxfordshire. According to the Thames and Anglian River Basin Management Plans (2015), there are 95 river water bodies and four lake water bodies which are located within Oxfordshire or intersect the County boundary.

The River Thames is the second longest river in Great Britain and it provides the backbone of one of the most intensively used water resource systems in the world. This system is sustained by a significant amount of reuse, taking advantage of the use and subsequent return of highly treated wastewater and the natural purification capacity of the river. Water resources of the river, together with associated groundwater, support significant abstractions for public water supply and to a lesser extent for industry and agriculture.

The River Thames is one of the most important environmental features of the county providing a diverse range of habitats, including a vital corridor for the migration of wildlife. These habitats all have their own particular flow and level requirements that need to be protected. The Thames is also highly valued for its navigational and recreational uses, which have their own flow and level requirements. Tributaries of the Thames which flow through Oxfordshire include the Rivers Cherwell, Ock, Thame, Evenlode, Windrush and Ray.

Biological water quality is determined by measurements of the macro-invertebrate communities of rivers and canals. Macro-invertebrates can be affected by pollutants that occur infrequently or in low concentrations which may be missed by chemical sampling. In 2009, 23% of water bodies in the Thames River Basin were classified as having a 'good' or better ecological status or potential and 29% were classified as having a 'good' or better biological status[26].

Chemical water quality describes quality in terms of chemical measurements which detect the most common types of pollution. Grades are defined by standards for biochemical oxygen demand, ammonia and dissolved oxygen. A total of 116 water pollution incidents were reported in Oxfordshire in 2006. Rivers in Oxfordshire have a low to moderate risk of general diffuse pollution but the risk from nitrates is high. The chemical general quality assessment (GQA) has shown an improvement in quality (ammonia and dissolved oxygen levels) in Oxfordshire's rivers; with 194km (56%) achieving grade A in 2007, compared to 22km (6%) in 1990.

The Environment Agency (EA) defines a major water pollution incident as one that has persistent and extensive effects on water quality, can cause major damage to the ecosystem, closure of a potable abstraction, may have major impact on amenity value, major damage to agriculture and/or commerce and may have serious impact upon man[27]. There have been no such recorded incidents in Oxfordshire recorded on the EA's database.

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[26] Oxfordshire Local Transport Plan 4 (LTP4) Strategic Environmental Assessment (SEA) Scoping Report 2014

[27]http://www.environmentagency.gov.uk/yourenv/eff/1190084/pollution/296030/296054/297197/?version=1&lang =_e, accessed 22nd August 2008.
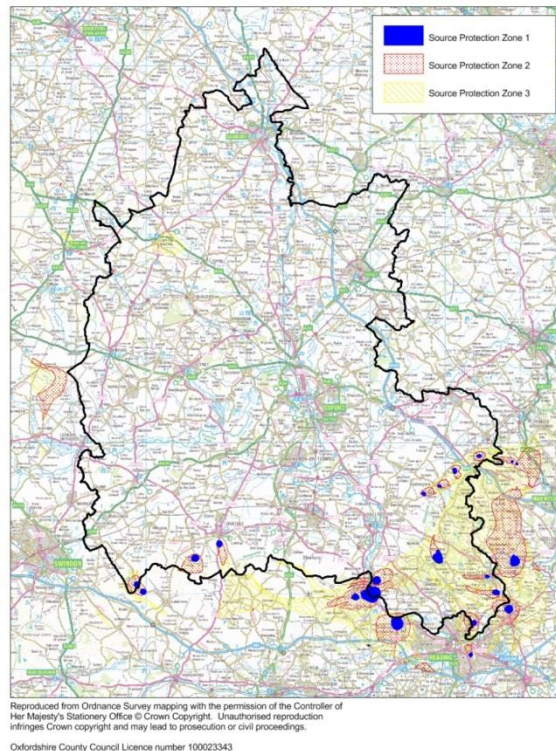
Figure 3-12: Source Protection Zones in Oxfordshire

Groundwater provides a third of drinking water in England and Wales, and it also maintains the flow in many of our rivers. In some areas of Southern England, groundwater supplies up to 80% of the drinking water that we get through our taps. It is crucial that these sources are protected to ensure drinking water remains safe to drink. Minerals and waste activities need to be monitored and regulated to ensure that they do not have a detrimental impact upon Source Protection Zones (SPZs). SPZs show the risk of contamination from any activities that might cause pollution in an area, the closer the activity, the greater the risk.

Figure 3-12 shows the location of the three main zones (inner, outer and total catchment) across Oxfordshire. With the exception of the SPZ around Chipping Norton the SPZs all are found in the south of the county. The EA uses the zones in conjunction with its Groundwater Protection Policy to set up pollution prevention measures in areas which are at a higher risk, and to monitor the activities of potential polluters nearby.

The shape and size of a zone depends on the condition of the ground, how the groundwater is removed, and other environmental factors. When the EA defines a zone they find out how the groundwater behaves in that area, what constructions there are to get the water out into the public water supply, and the process for doing this. From this it develops a model of the groundwater environment on which to define the zones.

Public water supply demand is forecast to significantly increase due to expected population growth in the region. Thames Water currently supplies over 9 million people with water and this is forecast to increase by between 2.0 and 2.9 million people by 2040[28].

Issues relating to the abstraction of water for this purpose are dealt with by the Environment Agency who issue licences for water abstraction and produce Catchment Abstraction Management Schemes (CAMS) to set out the strategy for achieving the sustainable management of river and groundwater resources for the future. The Environment Agency

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[28] Thames Water: Water Resources Management Plan 2015-2040, 2014

has prepared a CAMS for the River Thames and for the River Cherwell. According to the CAMS prepared by the Environment Agency, the majority of the water catchment areas within Oxfordshire have been classified as 'no water available', 'over-licensed' or 'over-abstracted'.

Sewage works in the county are being upgraded to improve effluent treatment and to provide for the sustainable disposal of sewage sludge. Whilst spreading sludge on land is reducing: this is often due to the reluctance of the food supply chain to accept products grown on land treated with sludge, it is likely that amount of sludge treated by means of thermal destruction will increase from 36 to 56%[29].

Minerals and waste development has the potential to affect water quality and pollute groundwater resources. Surface water run-off from hard standing areas, for example, can pollute groundwater resources. So too can the discharge of waste water from waste management operations such as composting or recycling plants if not properly controlled. Leachate from non-hazardous landfill needs to be particularly carefully controlled.

Careful consideration also needs to be given to the impact of sand and gravel extraction on groundwater resources. In the river valleys the water table is often higher and working normally gives rise to a need for dewatering. Mineral extraction can cause disruption to ground and surface water flows in these circumstances, as can the formation of artificial lakes or the partial filling of void using inert waste as part of restoration. Dewatering may also impact on local groundwater abstractions and may have an adverse effect on vegetation and nearby watercourses by lowering the water table in the vicinity of workings.

In Oxfordshire there has already been much extraction of sand and gravel from the river valleys, in particular the Thames and Lower Windrush Valleys. Further mineral working is expected to take place in the river valleys and the cumulative impact of extraction and restoration on groundwater needs careful consideration in these areas in addition to the specific impact of an individual working. Proposals close to an area of existing working will need to take account of cumulative impact by considering:

- the nature of the geological deposits in the area;

- the characteristics of the aquifer;

- water balance calculations for operational and restoration phases of working; and

- volumetric flows or levels of local watercourses or other groundwater dependent receptors for operational and restoration phases of working[30].

Restoration of mineral workings can provide opportunities to enhance the water environment, including through the creation of priority wetland habitat, re-naturalisation of river channels, re-connecting rivers with their floodplains, providing flood storage, retaining sediment and regulating water quality. All proposals for mineral development should demonstrate how the operation and restoration of a site will, where appropriate, protect water resources from pollution and contribute towards the aim of the River Thames River Basin Management Plan to achieve good ecological status in all waters by 2015.

Flood Risk

The Environment Agency has prepared the Thames Region catchment flood management plan, which has information on the recommended approaches and actions needed to deliver the selected flood risk management option in each of the 43 sub-areas that have been identified, including in Oxfordshire.

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[29] Thames Water Sludge Strategy 2011

[30] Oxfordshire Minerals and Waste Local Plan Part 1 Core Strategy 2015

Oxfordshire has 12% of its land area within the floodplain. Approximately 24,000 hectares is within flood zone 3 (1 in 100 year) and a further 6,000 hectares in flood zone 2 (1 in 100 year). The largest areas of floodplain are predominantly in the centre of Oxfordshire around Witney (from the River Windrush), Oxford (from the River Thames and River Cherwell) and Abingdon (River Ock and River Thames). Other areas include the Langford Brook and River Ray south of Bicester.

The Environment Agency's Oxfordshire State of the Environment Report (October 2009) indicates:

- that there are approximately 21,000 properties at risk from flooding from rivers in Oxfordshire, representing around 6% of all properties in the county;

- the majority of the properties at risk are residential;

- Of the 21,000 at risk, just over 40% (around 8,500) are at significant risk.

Figure 3-13 below shows the extent of flood zone 3 in Oxfordshire. Flood zone 3a is defined as 'High probability of fluvial flooding. Probability of fluvial flooding is 1% (1 in 100 years) or greater. Flood zone 3b is defined as 'functional floodplain with a high probability of fluvial flooding. Probability of fluvial flooding is 1 in 20 years'[31].
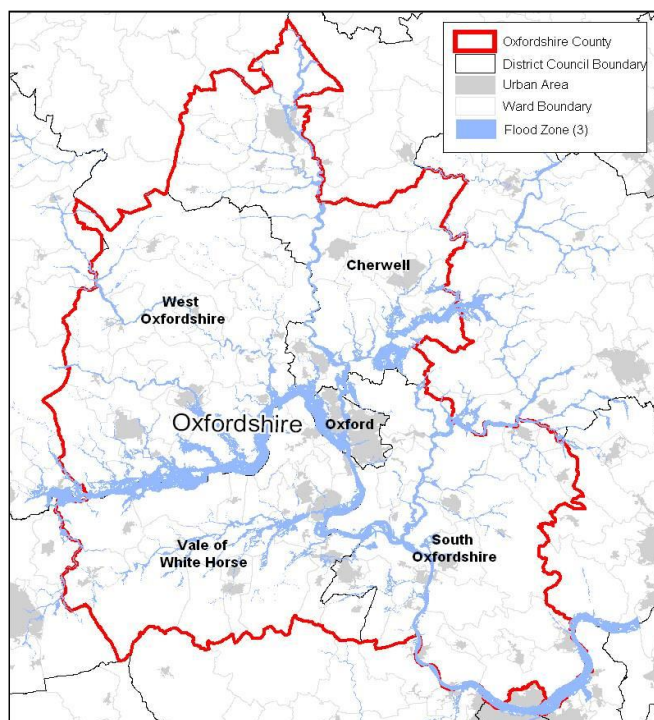
Figure 3-13: The Extent of Flood Zone 3 in Oxfordshire

Source: Environment Agency http://www.environment-agency.gov.uk/subjects/flood/1217883/?version=1&lang=_e

Since 2000, Oxfordshire has experienced a number of major flood incidents[32], which have resulted in significant damage to property and flooding of some key transport links. The Council has been pro-active in responding to flood risk, addressing key issues identified

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[31]Technical Guidance to the NPPF March 2012

[32] Oxfordshire County Council Local Flood Risk Management Strategy (2014)
https://www.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/environmentandplanning/flooding/OxfordshireFloodRiskManagementStrategy.pdf

during recent flood events and the potential impact of new development by putting in place an action plan (2015-2020) that is reviewed annually.

Minerals and waste development is vulnerable to flooding, most commonly from fluvial sources; but damage or inconvenience can also arise from surface water run-off and groundwater. Minerals and waste development can increase flood risk to other property if not adequately mitigated, but may also have a positive benefit by adding to flood water storage capacity through well considered restoration of mineral workings (see also policy M10). Consideration of the risk caused by flooding must be taken into account at all stages of the planning process. The level of flood risk associated with minerals and waste development is shown in Table 3-6.

Table 3-6: Minerals and Waste Flood Vulnerability Classification

Development Type	Vulnerability Classification	Flood Zone Compatibility
Mineral or waste development requiring hazardous substances consent	Highly Vulnerable	Flood Zone 1 and 2
Landfill sites*	More Vulnerable	Flood Zone 1 and 2
Waste management facilities handling hazardous waste	More Vulnerable	Flood Zone 1 and 2
Minerals working and processing (except for sand and gravel working)	Less Vulnerable	Flood Zones 1, 2 and 3a
Sand and Gravel Workings	Water Compatible	Flood Zone 1, 2, 3a, 3b
Sand and Gravel processing sites (including grading and washing plant)	Less Vulnerable	Flood Zone 1, 2, and 3a
Sewage Treatment Plants	Less Vulnerable	Flood Zones 1, 2 and 3a
Waste recycling, composting and transfer uses (including recycling to produce recycled aggregate)	Less Vulnerable	Flood Zones 1, 2 and 3a
Secondary aggregate re-cycling (considered as minerals processing)	Less Vulnerable	Flood Zones 1, 2 and 3a
Waste treatment processes (including anaerobic digestion, mechanical biological treatment, incineration, gasification and pyrolysis).	Less Vulnerable	Flood Zones 1, 2, and 3a
Concrete block manufacture (considered as minerals processing)	Less Vulnerable	Flood Zones 1, 2 and 3a
Concrete batching plant (considered as minerals processing)	Less Vulnerable	Flood Zones 1, 2 and 3a

This table is developed from Tables 2 and 3 in National Planning Practice Guidance, Flood Risk and Coastal Change, Flood Zone and Flood Risk Tables, March 2014.

Waste management categories are based on guidance in National Planning Practice Guidance, Waste, October 2014.

* Inert waste imported for the restoration of sand and gravel workings not included where imported as part of a recovery operation (an increase in flood storage capacity is likely in these circumstances)

Source: Oxfordshire County Council 2015

Development in areas other than Flood Zone 1 (the lowest flood risk zone) must be sequentially tested to establish whether it could take place in an area of lower flood risk. In some cases a further test (the exceptions test) must be undertaken to establish whether development may take place in areas vulnerable to flooding.

Sand and gravel working is 'water compatible development' – a category of development that is at the lowest vulnerability to flooding. Sand and gravel working is the only form of mineral extraction that can take place in the functional flood plain (Flood Zone 3b), provided a sequential test is undertaken. Other mineral working and all processing activities have a higher flood risk vulnerability classification. Processing activity associated with sand and gravel working may involve plant and machinery or the formation of stockpiles, all of which can displace flood water, reduce flood water storage and interfere with water flows at times of flood. Such development can take place in areas that are at some risk of flooding but not in the functional flood plain. As mineral working may span more than one flood zone a sequential approach to layout is needed. For sand and gravel working and processing this means that any development likely to displace flood water (including stockpiles) should be located on land that is outside the functional floodplain[33].

Waste development, depending on the nature of the operation, is not appropriate in the functional flood plain. This includes landfill operations - which may raise ground levels and pollute or disrupt groundwater flows. Where waste development is allowed in areas at lower risk of flooding the sequential test and, for landfill sites, the exceptions test must first be satisfied. The potential for pollution to groundwater should also be taken into account. Inert waste may need to be imported to a site to achieve the satisfactory restoration of a sand and gravel working situated in the flood plain and this can take place in certain circumstances and where there is overall improvement to flood storage capacity[34].

The Strategic Flood Risk Assessment (SFRA) in 2011[35] assessed the extent to which future minerals and waste development in Oxfordshire may be at risk of flooding or increase flood risk to other property. This also took into account the future impact of climate change. The SFRA did not identify a flood risk from potential waste development, but identified that many of the possible locations for sand and gravel working are in areas that are vulnerable to flooding. A sequential test of potential areas was undertaken and established that land to meet Oxfordshire's aggregate requirement cannot reasonably be met without extracting sand and gravel from sites that lie in the functional floodplain. This could have an impact on flooding in the area and mineral activities could also be adversely affected by flooding.

Climate Change

Records from the Radcliffe Observatory show that temperatures in Oxford in the post-1986 decade are the warmest on record by a considerable margin. This may be indicative of climate change, which could have significant impacts on Oxfordshire's environment, economy, transport, housing and health. Climate change in Oxfordshire is likely to result in warmer, drier summers, with average temperatures predicted to increase by 1.0 °C to 1.5 °C by 2020 and rainfall predicted to decrease by around 18% by 2050, but milder, wetter winters with an increased risk of heavy rainfall events and flooding.

The main indicator of a changing climate is a change in the type and frequency of weather events, such as heavy downpours and heat waves. Whether or not events in the past are a

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[33] Oxfordshire Minerals and Waste Local Plan Part 1- Core Strategy (2015)

[34] Oxfordshire Minerals and Waste Local Plan Part 1- Core Strategy (2015)

[35] Oxfordshire Preliminary Flood Risk Assessment 2011

http://www.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/environmentandplanning/flooding/pfra/PFRApreliminaryreport.pdf

result of climate change, it is clear that if the climate changes as predicted, Oxfordshire will see many more incidents like these. Oxfordshire is particularly vulnerable to flooding along several of its river valleys, including the Thames Valley and the Evenlode. Extensive flooding affected parts of Oxfordshire, including Oxford, Abingdon and Witney in July 2007 and again in December 2012.

Increasing summer temperatures and decreasing summer rainfall will have a direct impact on the county's water resources, the use of which is already at or near to capacity. Droughts are likely to be more frequent, and at the same time, demand for water is likely to be greater (the UK Climate Impacts Programme estimates that climate change may lead to a 1.5% increase in per capita consumption of water over the next 25 years).

There are a number of existing and emerging international and national targets to reduce emissions of greenhouse gases, including the Kyoto Protocol and domestic targets in the Climate Change Bill.

Households in Oxfordshire emitted between 1.7 and 2.3 tonnes of carbon dioxide (CO_2) per person during 2011. Emissions were above the UK and SE averages for all districts except Oxford City. Total per capita emissions (from all sources) also varied with district, from 7.8 tonnes CO_2 per person in Cherwell to 5.8 tonnes per person in Oxford City.

Domestic sources accounted for 31% of the county's total CO_2 emissions in 2011. A further 30% of CO_2 was emitted from road transport. Road traffic is forecast to increase in the coming years, and will have implications for county emissions of CO_2. A key issue is therefore to reduce greenhouse gas emissions to reduce the extent and severity of future changes to our climate.

More than two thirds of the world's carbon dioxide emissions come from the way energy is produced and used. Total final energy demand per capita in Oxfordshire (2011) varied from 19,570 kWh in Oxford to 34,860 kWh in Cherwell District. Total final energy demand across the South East was 23,170 kWh per capita. The transport sector accounted for 39% of energy demand and the industrial & commercial sector for 32% domestic energy consumption per capita (for all sources) varied from 6,270 kWh in Oxford to 8,280kWh in South Oxfordshire. The national average for this indicator was 7,360 kWh.

Initiatives are being taken to reduce Oxfordshire's carbon footprint, though the use of energy efficiency measures in new homes, community initiatives to equip all houses in some villages with low energy light bulbs, and setting renewable energy targets through the use of biomass and wind energy for the county. Landfilling biodegradable waste products is also a significant source of methane gas (a more powerful greenhouse gas than carbon dioxide). Waste recycling and recovery facilities contribute to reducing emissions by diverting waste from landfill. Minerals and waste facilities that are well located, designed and operated can minimise the generation of greenhouse gases and be resilient to the impacts of climate change.

Air Quality

Local authorities are required to identify any areas where pollutant levels are likely to exceed National Air Quality Strategy objectives and where necessary, will declare a local Air Quality Management Area (AQMA). Nine Air Quality Management Areas have been designated in Oxfordshire including an area covering key roads in and leading into the centre of Oxford City, central Henley on Thames, Horsefair in Chipping Norton, and the main streets in the centre of Abingdon, Witney, Watlington, Wallingford and areas in Botley, Oxford and Banbury. All of these areas have been declared AQMAs on the basis of the levels of nitrogen dioxide (NO²) which have exceeded the annual mean objective of 40ug/m³. These levels have primarily arisen due to road traffic emissions (details available at:

http://aqma.defra.gov.uk/1aqma/aqma_detail.php?aqma_id=558).

Local air quality is monitored across the county by the District Councils. Details can be found on the district council websites.

With the exception of the nine areas of poor air quality, air quality in Oxfordshire is good. Owing to expected climate changes, the frequency of weather conditions leading to poor air quality during the winter in Oxfordshire is likely to decrease; however, weather conditions associated with episodes of poor air quality in summer are likely to become more frequent.

Mineral extraction activities can result in temporary impacts on local air quality in the surrounding areas.

Transport

The County Council is responsible for maintaining over 4,500 kilometres of roads and footways in Oxfordshire, an asset worth billions of pounds. There have been some significant additions to the physical, economic and social infrastructure between 1961 and 2001: examples include the building of the M40, the dualling of the A34, the building of numerous by-passes and peripheral roads, the expansion of Oxford's park and ride service.

In the ten years from 2001 to 2010, the total number of cars owned by Oxfordshire households increased from 285,500 to 360,000, an increase of 25%. Fewer than one in five households (17.5%) do not own or have access to a car or van compared with 28% nationally, and down slightly from 18.1% in 2001, whilst 41% of households own two or more cars and/or vans. Car ownership and car usage are high outside Oxford (87% of households own a car) compared to in Oxford (67% of households own a car)[36] (OCC, 2015). The district with the highest ratio of cars per household is South Oxfordshire with 1.58 and the lowest is Oxford (0.93). This highlights the issue of car dependency for households in rural areas.
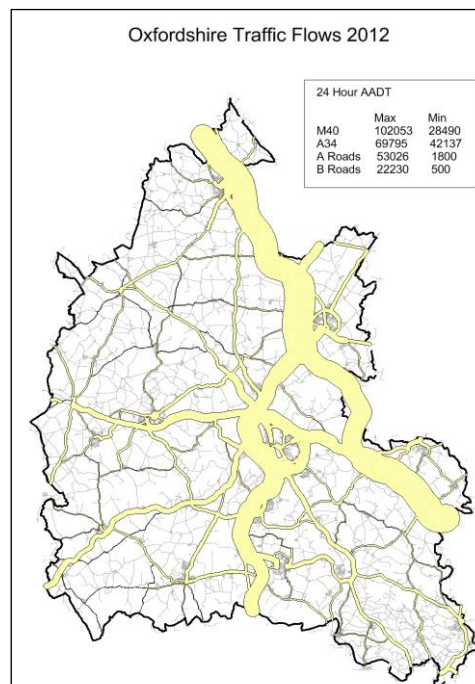

Figure 3-14: Annual Average Daily Vehicle Traffic (AADT) in Oxfordshire 2012

Figure 3-14 gives a good visual impression of traffic flows in Oxfordshire. The width of each road (link) on the classified network (M, A & B roads) is defined by the size of the AADT.

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[36] OCC (2015). Connecting Oxfordshire: Local Transport Plan 2015-2031 Volume 1: Policy Document DRAFT

Oxford lies on the inter-city rail network, on the Reading to Birmingham line. Trains also go cross country from London to Worcester, passing through Oxford. Didcot lies on the inter-city line from London to Bristol and South Wales. East Oxfordshire has good accessibility to the Chiltern line, which passes through Bicester on the Birmingham-London Marylebone line. There is also a single track branch line from Oxford to Bicester. West Oxfordshire has generally poor accessibility to rail travel, apart from the Worcester line which has a few stations in the district. Witney lacks any rail access.

There are a number of rail depots in the county. Three of them currently handle aggregate: Oxford Road, Kidlington; Appleford Sidings, Sutton Courtenay; and Hennef Way, Banbury. Hinksey Sidings, Oxford, which provided rail ballast for the rail network with all movements in and out being by rail, is not currently in use. There is permission for a further aggregate rail depot at Shipton-on-Cherwell.

To support Oxfordshire's economic growth, there is a need to improve transport links and services within the county and regionally. The County Council is seeking to improve its management of the A34 where it approaches Oxford from the north and from the south as well as make improvements to the key routes: the A40 and the A420. Projects are ongoing to improve connectivity between Oxford and towns and cities further east, such as Milton Keynes and Cambridge.

Accessibility is central to the safeguarding of sustainable communities within the county, in particular people's ability to reach services by available, affordable and accessible public and community transport. The proportion of travel by public transport to the central area of Oxford is high, at 33% of the total; travel by public transport to the rest of Oxford is much lower, at about 11%.

In 2012, there were 1,611 road traffic casualties on Oxfordshire's roads. Since 2005, there has generally been a decrease in the number of people killed and seriously injured on the roads and footways in Oxfordshire. There were 25% fewer casualties during 2013 compared with the average 2005-2009 figures, which is in line with the national trend[37]. No data is available about whether any of these accidents were related to minerals and waste development.

Transportation of both minerals and waste is an issue for Oxfordshire, given its rural character. The most common means of transportation of aggregate and of bulk movement of waste is by Heavy Goods Vehicle (HGV), which has implications for road safety, air pollution, noise and road congestion. Figure 3-15 shows the network of roads that the County Council considers suitable for use by heavy goods vehicles (the Oxfordshire Lorry Route Map). The Route Map identifies a series of weight limits and environmentally sensitive areas to the west of Oxford which combine to restrict the available routes for HGVs to cross the River Thames from the minerals extraction areas in northern Oxfordshire to markets in southern Oxfordshire. This has the effect of increasing the transport distances necessary to serve these markets from certain areas of the county.

Movements of aggregate material from Oxfordshire quarries already generates a large number of HGV movements, concentrated in specific areas of the county such as in the Lower Windrush Valley, around Stanton Harcourt, Standlake, Cassington and in the Sutton Courtenay area. The cumulative impact on these localities is potentially significant and damaging both to the highway network and to residential amenity. Any significant increase in working in these areas is likely to contribute to congestion which is already experienced by drivers on the A40, linking Witney and Oxford, and on the A34.

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[37] OCC (2016). Connecting Oxfordshire: Local Transport Plan 2015-2031 Volume 1: Policy & Overall Strategy
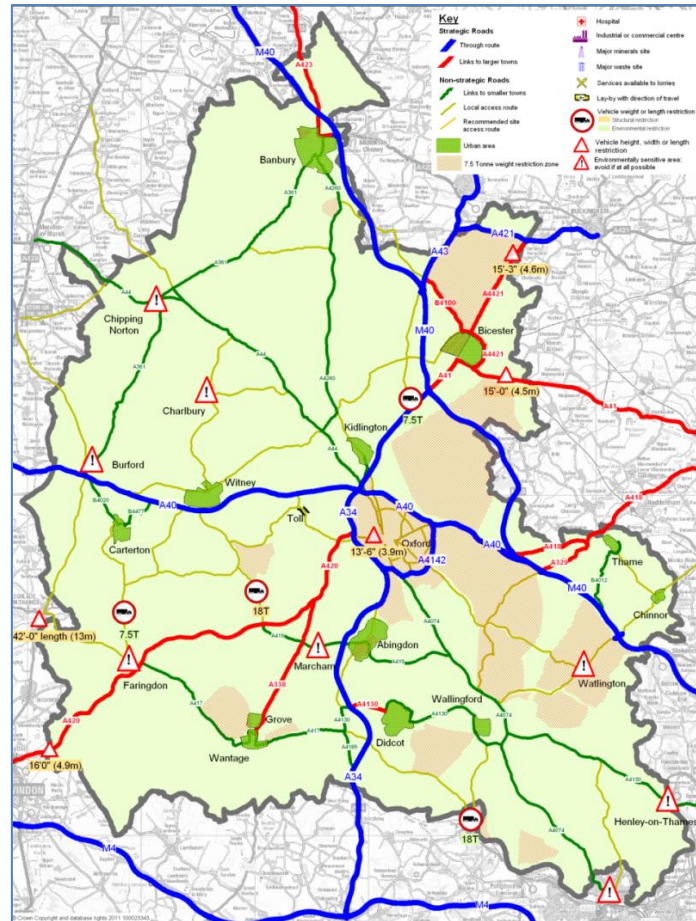
Figure 3-15: Oxfordshire Lorry Route Map

Source: Oxfordshire Lorry Routes (Feb 2012) Oxfordshire County Council

The Oxfordshire Local Transport Plan 2015-2031 intends to manage and reduce the level of HGVs on the county's roads by increasing the proportion of freight journeys made by rail. This is likely to impact on the transport of minerals and waste in Oxfordshire.

Soils

More than three quarters of the county's land is under agricultural management. Figure 3-16 shows the classification of agricultural land in Oxfordshire. Grades 1, 2 and 3a land are together classed as 'Best and most versatile'. Each of the five district councils are obligated by law to keep a contaminated land register. Very few sites have been put on the registers in the county. However, there are a large number of potentially contaminated sites that require further investigation.

Soil is a multi-functional resource whose function is not only essential for agricultural production but also water and carbon storage, nutrient filtration, aquifer recharge, flood recharge, flood control and as a habitat in its own right for biodiversity.

In West Oxfordshire, approximately 40% of development is on previously developed land, with 60% on greenfield sites, due to the lack of available brownfield sites (West Oxfordshire District Council, 2009). There are no data on potentially developable brownfield land or contaminated land in Oxfordshire collected at a county level[38].

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[38] OCC (2015). Connecting Oxfordshire: Local Transport Plan 2015-2031 Volume 1: Policy Document DRAFT

Much of the main sand and gravel resource to the north of the River Thames in the west of Oxfordshire underlies Grade 1 or Grade 2 agricultural land, as can be seen from Figure 3-16 and Figure 3-17. Some of the sand and gravel deposit in Southern Oxfordshire also occurs below best and most versatile agricultural land.

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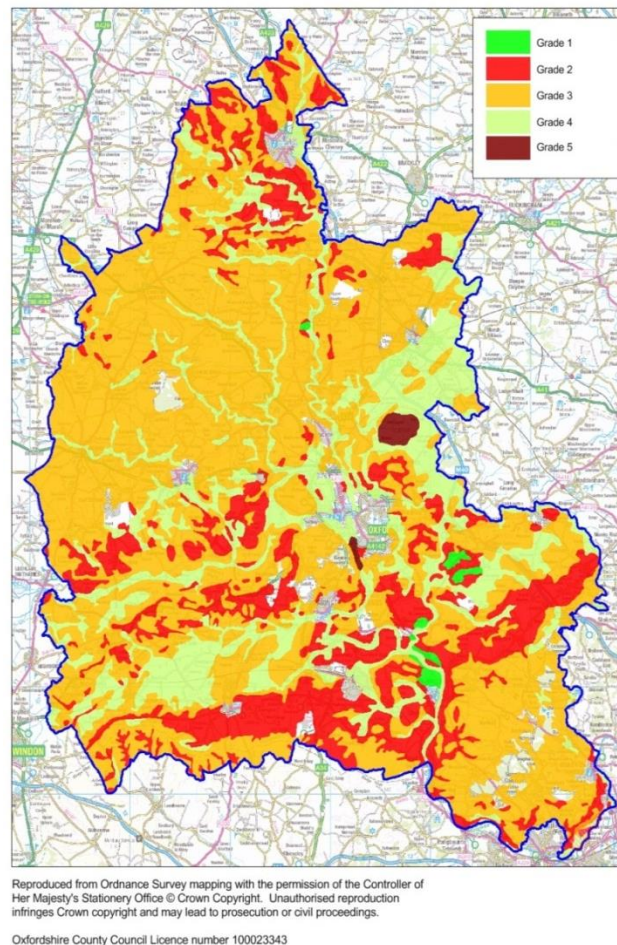
Figure 3-16: Agricultural Land Classification in Oxfordshire

Minerals

Several important aggregate mineral resources are present in Oxfordshire. These minerals can only be worked where they naturally occur and it is therefore important that known resources which are, or may become of economic importance are safeguarded.

Sand and gravel is the most extensive aggregate mineral, occurring along the Thames valley and its tributaries the Windrush, Evenlode and Thame. Soft sand is present in south west Oxfordshire, often in conjunction with limestone. The resources include extensive areas of ironstone which received planning permission for mineral extraction in the 1950s, much of which is subject to environmental (Review of Mineral Permissions (ROMP)) legislation which prevents further working until planning conditions that accord with up to date environmental standards have been agreed with the County Council[39]. In the north and west of the county, ironstone and limestone are present. In the south west of the county, there is a deposit of Fuller's Earth, but this is not worked at present.

Sales of soft sand in Oxfordshire in 2015 were approximately 0.233 million tonnes, while sales of sharp sand and gravel totalled approximately 0.768 million tonnes, and sales of

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[39] Oxfordshire Minerals and Waste Local Plan Part 1- Core Strategy 2015

crushed rock were approximately 0.914 million tonnes[40]. Significant quantities of crushed rock from the Mendips are imported by rail for highway construction.   Production of aggregates from recycled construction and demolition waste has increased in the county but, with the closure of Didcot A power station in 2013, a significant source of secondary aggregate from pulverised fuel ash has been lost. The Ardley Energy from waste facility, opened in 2014, and will provide some secondary aggregate from incinerator bottom ash. The maps below show the location in the county of the sand and gravel resources; the limestone and ironstone resources; and the recycled and secondary aggregates facilities with planning permission.
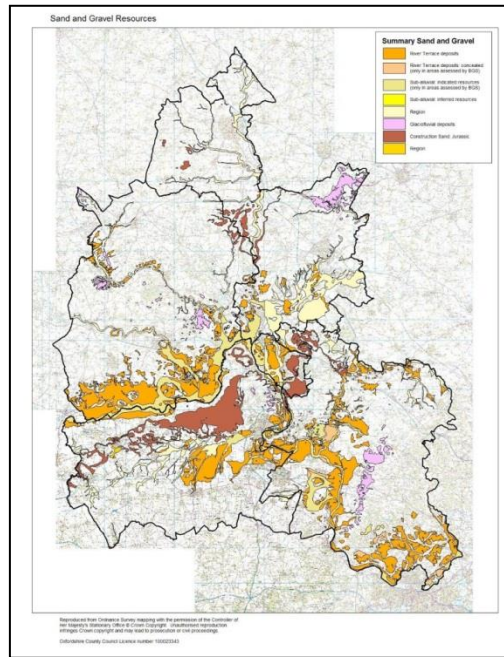
Figure 3-17: Sand and Gravel Resources in Oxfordshire
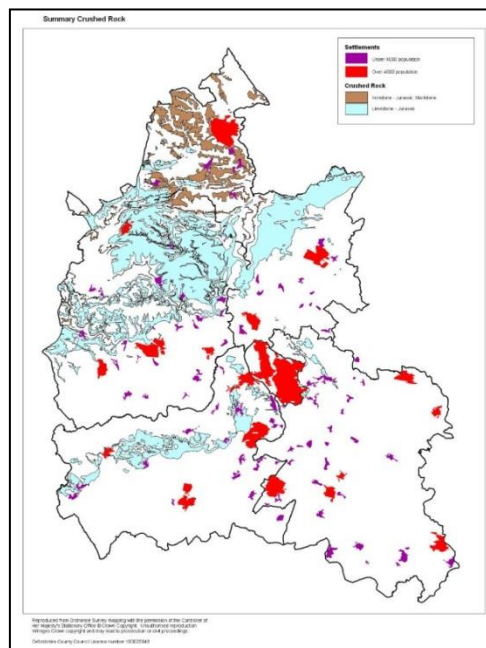
Figure 3-18: Crushed Rock Resources in Oxfordshire

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[40] Oxfordshire County Council 2016
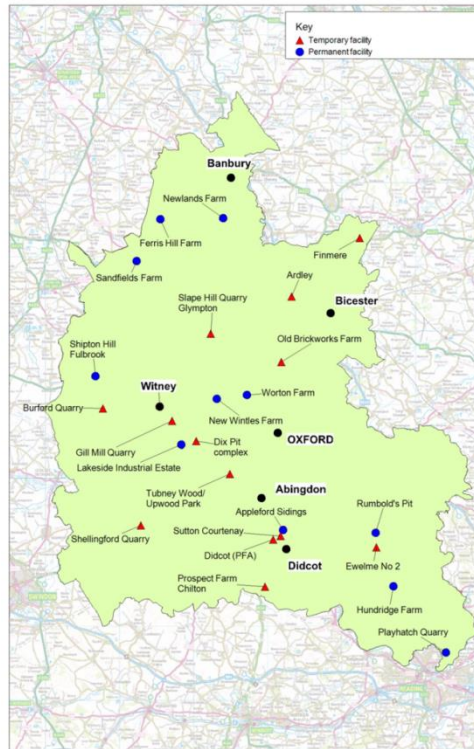
Figure 3-19: Location of recycled and secondary aggregate facilities with planning permission

A new Local Aggregate Assessment (LAA) was prepared in 2014. This uses the 10-year sales average as a baseline and has then examined a range of supply and demand and import/export factors which might justify a departure from these historical averages. Over the ten year period 2004 to 2013, annual production of aggregates (sand and gravel and crushed rock) in Oxfordshire fell from two million tonnes to just over one million tonnes. The LAA concluded that 10 year sales average for sharp sand & gravel and crushed rock should be adjusted upwards because sales were affected by commercial decisions to mothball local quarry production and import material from outside Oxfordshire, exacerbating the effect of recession on local sales..

The Waste Needs Assessment (2015) indicates a total permitted production capacity in Oxfordshire for recycled aggregate from construction and demolition waste of 1,084,500 tonnes per annum. Not all of this capacity is in operation and much of it is in facilities that have planning permission for a temporary period only.

Waste

Just over two thirds of the total waste produced in the county comprises the principal waste streams of municipal solid waste[41] (MSW), commercial and industrial waste (C&I) and construction, demolition and excavation (CDE) waste. Nearly 2 million tonnes of waste from these waste streams are estimated as requiring management in Oxfordshire in 2016. Of this, an estimated 55% was construction, demolition and excavation waste, 29% was commercial and industrial waste and 17% was municipal waste. Table 3-7 shows the approximate production of different waste types in Oxfordshire.

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[41] also referred to as Local Authority Collected Waste

Table 3-7: Baseline waste arising in Oxfordshire requiring provision for management (million tonnes per annum)

MSW	C&I	CDE	Hazardous	Agricultural	Wastewater
0.300*	0.533**	1.033**	0.050*	0.900*	0.023*

* Baseline year 2012

** Baseline year 2014

Source:

MSW (Municipal Solid Waste) – Oxfordshire County Council (OCC)

C&I (Commercial and Industrial Waste) – BPP Consulting for OCC ('as managed' estimate)

CDE (Construction, Demolition and Excavation Waste) – Oxfordshire County Council ('as managed' estimate – there is considerable uncertainty over this figure, see paragraph 5.5b)

Hazardous waste – BPP Consulting for OCC

Agricultural waste – BPP Consulting for OCC (estimate)

Waste Water – Thames Water plc

LLW (Low Level Radioactive Waste)

Current (2016) forecasts for the principal waste streams are set out in Table 3-8. Forecasts for municipal waste assume that from 2012 there is no increase in the amount of waste produced by each person each year. Forecast growth in waste arisings therefore reflects only that which will result from the expected increase in population, taking into account both planned and assessed housing need[42]. Future construction, demolition and excavation waste arisings also assume no growth in line with national planning guidance[43].

Table 3-8: Forecasts of amounts of principal waste streams to be managed – Oxfordshire waste arisings 2012 – 2031 (million tonnes)

	2012	2016	2021	2026	2031
MSW		0.320	0.343	0.360	0.376
C&I		0.54	0.56	0.57	0.58
CDE		1.033	1.033	1.033	1.033
Total		1.893	1.936	1.963	1.989

Source: OCC Waste Needs Assessment (2015)

Agricultural waste makes up almost a third of total waste but most is managed on site (on individual farming units), much of it in ways that are outside normal planning control.

Similarly, mineral waste is also produced in significant quantity, and much of it is managed on site. Other wastes that need to be provided for are produced in smaller quantities. These are hazardous wastes (including oils and solvents, chemicals and asbestos); radioactive waste; and sewage sludge.

Municipal Solid Waste (MSW) is defined as household waste and any other waste collected by Waste Collection Authorities. Household waste includes waste from Household Waste

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[42] BPP Consulting Baseline, Forecasts & Targets for Commercial & Industrial Waste Generated in Oxfordshire, February 2014

[43] National Planning Practice Guidance paragraph 033 ID: 28-033-20141

Recycling Centres (HWRCs), kerbside collection rounds, bring schemes, bulky waste collection, hazardous waste collection and street sweepings.

Table 3-9 shows MSW arisings for the period 2015/2016 in Oxfordshire. Of the 310,120 tonnes of municipal waste produced in Oxfordshire in 2015/2016, 94% was diverted from landfill by means of recycling, composting or some other form of treatment. For household waste only, 95% was diverted from landfill.

Table 3-9: Municipal Waste Arising & Managed by Management Type in Oxfordshire 2015/2016 (tonnes)

	Recycle/ Re-use	Compost	Food Waste	Landfill	Other*	TOTAL
Household	91,656	64,033	14,768	14,352	104,242	289,051
Non-Household	7,785	-	-	3,380	9,904	21,069
Total (MSW)	**99,441**	**64,033**	**14,768**	**17,732**	**114,146**	**310,120**
Percentage (MSW)	32%	21%	5%	6%	37%	100%

* Includes waste collected by Waste Collection Authorities (District Councils) and at Household Waste Recycling Centres

About 90% of Oxfordshire's waste is dealt with in the county[44]. The main method of dealing with waste has been by disposal at local landfill sites, but waste is now increasingly being diverted from landfill by recycling and treatment.

The County Council recently carried out a review of waste management capacity in the County. This information is reported in the Oxfordshire Waste Needs Assessment 2015 (August 2015). Table 3-10 reports on the outlined in the Waste Needs Assessment, including facilities that are non-operational and those which had been granted planning permission but were yet to be built ('committed' facilities).

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[44] Oxfordshire Waste Needs Assessment 2015 and Report for Oxfordshire County Council by BPP Consulting 2014

Table 3-10: Capacity of Oxfordshire Waste Management Facilities (January 2015)

Type of Facility	Capacity
Landfill	
Inert Landfill	7,418,038 cubic metres
Non-Hazardous Landfill	5,484,742 cubic metres
Hazardous Landfill	0 cubic metres
Total	**12,902,780 cubic metres**
Recycling / Transfer & Composting / Biological Treatment	
MSW and C&I Recycling / Transfer	660,300 tonnes per annum
C&D Recycling / Transfer	1,161,100 tonnes per annum
Composting / Biological Treatment	292,600 tonnes per annum
Total	**2,114,000 tonnes per annum**
Other	
MSW and C&I Treatment**	398,000 tonnes per annum
Hazardous / Radioactive*	548,650 tonnes per annum
Vehicle Dismantling & Other Metal Recovery	164,700 tonnes per annum
Total	**1,111,450 tonnes per annum**

*Excludes storage and waste water treatment

** 98,000 tonnes of MSW and C&I treatment is not yet operational

Landfill capacity is shown as estimated remaining void space.

Recycling / transfer capacity is expressed as the amount of waste that is capable of being recycled (not as total throughput).

Source: Oxfordshire County Council, Waste Needs Assessment (August 2015)

In 2015, permitted inert landfill void across 11 licensed facilities was estimated at 4,700,000 cubic metres with the potential to accommodate some 440,000 tonnes of inert waste per year. There are three other non-operational facilities and several new facilities expected to open as a result of unimplemented planning decisions giving a potential opportunity to dispose of 440,000 - 703,000 tonnes of waste each year[45]. Much of the existing capacity is provided by Shellingford Quarry (Vale of White Horse) and Shipton-on-Cherwell Quarry (Cherwell).

In 2015, Oxfordshire had six non-hazardous landfill sites with capacity to dispose of than approximately 5.5 million tonnes of waste. Three of these sites closed before they were completely filled, and only three sites remain in operation: Finmere Quarry in Cherwell, Slape Hill Quarry in West Oxfordshire and Sutton Courtenay in Vale of White Horse. At the end of 2015, these provided a landfill void of 5,484,742 cubic metres[46] (1 tonne of non-hazardous waste = 1 cubic metre void).

At the end of 2015 the total capacity of MSW and C&I recycling / transfer facilities in Oxfordshire was estimated to be in the order of 660,300 tonnes per annum. Much of this capacity is at temporary facilities; and approximately 60,000 tonnes of this capacity comprises facilities that have permission but are yet to be built. Any future strategic waste management facilities will be located in a broad area around Banbury, Bicester, Oxford,

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[45] Oxfordshire County Council (2015)

[46] Source: Environment Agency data for Dec 2013 extrapolated by Oxfordshire County Council

Abingdon and Didcot. Smaller recycling facilities will be provided near to Witney, Wantage/Grove, Chipping Norton, Faringdon, Henley-on-Thames, Thame and Wallingford to ensure that people have access to household recycling centres to reduce the miles travelled to such facilities.

At the end of 2015 the total capacity of CDE Recycling / Transfer facilities in Oxfordshire was estimated to be in the order of 1,161,100 tonnes per annum, 8,000 tonnes of which comprises facilities that have permission but are yet to be implemented. Of the 28 facilities listed in this category, eight are temporary facilities with planning permission to cease before the end of the plan period. These figures do not include recycling facilities that are located on construction sites.

In March 2013 Didcot A power station (which produced 100,000 tonnes of pulverised fuel ash per annum in 2011) was shut down and is now being decommissioned. This closure has significantly reduced secondary aggregate production and capacity in Oxfordshire.

At the end of 2015 there were nine facilities capable of treating food, green and / or other biological waste with an estimated capacity of 292,600 tonnes per annum. These comprise anaerobic digestion (AD) facilities, in-vessel composting facilities and open windrow composting sites.

Of the remaining or 'other' capacity in Table 3-10 (1,111,450 tonnes per annum), that which comprises metal recycling is mostly located at scrap yards which provide disposal facilities for end of life vehicles. The hazardous/radioactive waste capacity comprises a small number of specialist facilities that either transfer or recycle hazardous waste. In addition the contaminated ground water treatment plant at Harwell treats a large quantity of hazardous waste but is a specialist facility serving the Harwell site only. There are other facilities that manage hazardous or radioactive wastes that are not quantified in this total, including the strategic sewage treatment works and the former UKAEA laboratories at Harwell where nuclear legacy wastes are stored pending the availability of suitable disposal facilities.

Also included in this 'other' capacity is the energy from waste (EFW) facility at Ardley which was opened for use in 2014. Its capacity of 300,000 tonnes per annum and its location in northern Oxfordshire, close to the county boundary, means that it will almost certainly take in some waste from outside Oxfordshire. It is currently estimated that waste from Oxfordshire will take up about 70% of the plant's capacity.

Permission for a gasification plant with a capacity of 98,000 tonnes per annum at Finmere Quarry has been included in the 'MSW and C&I Treatment' figure, but this has yet to be implemented.

Oxfordshire is a net importer of waste. Some waste is brought into the county from elsewhere for disposal at landfill sites, under commercial arrangements. In particular, waste comes into Oxfordshire from London (much of it by rail) and Berkshire. The amount imported has fallen in recent years. In 2013 approximately 425,000 tonnes (of the total 670,000 tonnes of waste from other areas) was disposed in Oxfordshire landfills, as shown in Table 3-11, half of which was inert waste from construction and demolition projects. Sutton Courtenay is the largest receiving landfill site.

Table 3-11: Waste disposed in Oxfordshire from other areas 2008 – 2013 (tonnes)

Area	2008	2009	2010	2011	2012	2013
Berkshire	218,473	185,139	149,418	108,173	91,751	126,351
London	254,457	307,520	580,236	456,312	185,797	178,353
Rest of UK	67,628	64,497	65,655	120,965	109,477	118,926
Total	540,558	557,156	795,309	685,450	386,955	423,630

Land Use and Resources

Oxfordshire is the second most rural county in the South East region: over 50% of people in Oxfordshire live in settlements of fewer than 10,000 people. The principal urban area is Oxford, which provides a wide range of employment, shopping, education, financial, health, cultural and administrative services. Oxford is internationally renowned for its universities.

Since the 1970s, the spatial strategy for Oxfordshire has promoted increased development in the "country towns" (Banbury, Bicester, Didcot, Wantage, Grove and Witney) which typically have over 20,000 residents. These larger settlements are considered to be the most sustainable locations for housing and employment growth due to their range of jobs, services and facilities and the opportunities for walking, cycling and public transport.

The Oxfordshire Strategic Housing Market Assessment (SHMA) (2011-2031) concluded that across Oxfordshire, there is a need for provision of up to 93,560-106,560 additional homes (equivalent to 4,678 and 5,328 new homes a year) over the period 2011-2031. A breakdown per local authority is provided in Table 3-12 below.

Table 3-12: Assessed Housing Need – Oxfordshire Local Authorities, 2011-31

Housing Needed per year (2011-2031)	Housing Need Per Year (Net)	Midpoint of Range
Cherwell	1,090-1,190	1140
Oxford	1,200-1,600	1400
South Oxfordshire	725-825	775
Vale of White Horse	1,028	1028
West Oxfordshire	635-685	660
Oxfordshire	4,678-5,328	5003

Source: Oxfordshire Strategic Housing Market Assessment Summary – Key Findings on Housing Need, March 2014

Key locations for development are:

- Didcot and Wantage & Grove which are within the Science Vale UK area, which also includes Milton Park, Harwell Science and Innovation Campus and Culham Science Centre, where there are plans for around 20,000 new homes and 20,000 new jobs;

- Bicester, where further major housing and employment growth is planned, including the North west Bicester Eco-town which will deliver up to 6,000 new homes, and for which a masterplan will provide a long-term vision and framework for integrating growth of the town; and

- Oxford, which remains a world class centre of education, research and innovation.

Large housing developments (1000+ homes) are also proposed at Banbury, Upper Heyford, Witney and Carterton. Just over half of planned growth in Oxfordshire is in the southern part of the county, with the remainder in the northern part[47].

This distribution of housing means that minerals supply should seek to have a more even supply of resources with sand and gravel coming from these parts of the county. Waste facilities need to also reflect this distribution of housing and employment growth to ensure that they are well located to the areas which they serve.

Smaller towns such as Thame, Wallingford, Henley-on-Thames and Chipping Norton provide a range of local shops, education, health and community facilities.

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[47] Oxfordshire Minerals and Waste Local Plan Part 1- Core Strategy 2015

Of the 308 parishes with a population below 10,000 people, about three quarters (2011) have fewer than 1,000 residents. Oxfordshire's rural areas generally have low levels of deprivation and crime and similar educational achievement and health to the county as a whole. However, secure jobs in traditional rural occupations continue to decline, house prices are out of reach to workers in rural areas and increasing car use affects the safety of local roads and the viability of local services.

After dipping slightly between 2009 and 2011, house prices have risen, with the average house price of a home being sold in the county in January 2014 being £253,000, 50% above the national average and 13% above the average for the South East region[48]. Oxfordshire has overtaken London as the least affordable housing location in the UK[49]. Generally there is a strong housing market in the County, centred on Oxford. The housing market becomes somewhat less cohesive at key points around the boundary, specifically with the Reading/M4 corridor and the growth areas of Milton Keynes and Northampton exerting influence.

The need and demand for affordable housing (social rented and intermediate) is high in Oxfordshire as in the rest of the South East region. It is particularly an issue in Oxford City, where demand is permanently high because of the educational and employment opportunities in the city, and in rural areas in Oxfordshire.

Tourism and recreation make up an important part of Oxfordshire's economy. Just under 10% of employment in Oxfordshire is supported by the domestic and international visitor economy. This generates benefits to the retail, accommodation, attractions and transport sectors of £1.7 billion p.a. 90% of visitors come to Oxfordshire for the day[50]. Two National trails, the Thames Path and the Ridgeway pass through the county.

The restoration of former mineral workings provides opportunities to create recreational facilities. One of these is the Lower Windrush Valley Project. This is located to the south east of Witney in West Oxfordshire and is an area that has been extensively modified by mineral extraction over the last 60 years. The project was launched in 2001 and works closely with mineral operators, landowners and the local community to co-ordinate a range of environmental initiatives throughout the valley[51].

Economy

Oxfordshire has one of the strongest economies in the South East, which is itself the powerhouse of the national economy. Latest data suggests that the County (within the Berkshire Buckinghamshire and Oxfordshire region) has the greatest concentration of Hi tech and knowledge intensive businesses in the EU-27[52]. Oxfordshire is globally competitive in areas such as high performance engineering, bioscience, medical instruments and publishing; maintaining that competitiveness is central to the long-term prosperity of the county. At the same time, it is an attractive county, much of it rural, with an outstanding built environment.

Oxfordshire[46] has above average employment in education, professional, scientific and technical activities, manufacturing and accommodation and food services. Within these broad groups Oxfordshire has particular strengths in key niche clusters, including scientific

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[48] Oxfordshire Strategic Housing Market Assessment Summary- Key Findings on Housing Need, March 2014

[49] Centre for Cities Outlook 2013

[50] Oxfordshire Economic Assessment, September 2012

[51] http://www.oxfordshire.gov.uk/cms/public-site/lower-windrush-valley-project

[52] Eurostats

46 Oxfordshire Economic Assessment: Part 2 – Update of evidence September 2012

research and development (e.g. bio-technology, space and cryogenics), publishing and vehicle manufacture.

Oxfordshire is home to nearly 30,000 businesses, providing over 380,000 jobs, including a high proportion in research, science and technology, engineering, and high-tech manufacturing. The county's economy is recognised as one of the best performing in the UK and its contribution to the national economy is well above average. In 2013 Oxfordshire contributed £19.2 billion to the UK economy, giving it a 1.3% share. Workplace Gross Value Added per head in Oxfordshire averaged £28,767 in 2013, compared to the UK average of £23,755[53].

The Oxfordshire economy is relatively self-contained with the majority of its workforce (around 85%) resident in the County. Oxford is the principal employment centre, but there is significant economic activity centred on Banbury, as well as potential to expand the level of economic activity centred on Wantage and Didcot. Economic activity in the County is characterised by micro businesses, and small and medium enterprises. There are relatively few large employers based in Oxfordshire - 95% of Oxfordshire enterprises employ fewer than 20 people.

Thirty five percent of jobs in the county are located in the city of Oxford[54]. Almost exactly 100,000 people are employed in Oxfordshire's rural areas (i.e. in settlements of less than 10,000 people – this includes Harwell Science and Innovation Campus, Milton Park and other rural business parks). Twenty three percent of employees in rural areas are home based compared with 11% in urban areas. Oxfordshire's rural areas are generally prosperous, and although many of its towns are largely commuter towns, they have managed to retain economic vitality as attractive and thriving local centres providing a good range of services. Banbury is more self-contained and experiencing jobs growth itself, with 60% of working residents having jobs in the town, besides the significant number commuting to Oxford.

Workplace-based earnings for full-time workers in Oxfordshire averaged £616.40 per month in 2012, in line with the English average, yet 4% below the South East average (£640.2)[55]. At district level, work place earnings are below the national average in all districts except Vale of White Horse.

Both minerals and waste activities offer employment for local people with a range of skilled and unskilled jobs available. An AMRI Survey 2011 stated that 367 people were employed by the Mineral Industry in 2011, consisting of 72 in direct employment, 10 contractors and 285 drivers. According to the BRES (Business register and employment survey), in 2011 the number of people employed in the quarrying and mining of stone, sand and clay in Oxfordshire was 160. Both surveys indicate that the industry does not employ a large number of people. The number of people employed in the waste industry was not available to inform the SA Report.

This overview of Oxfordshire's economy is informed by the Oxfordshire Economic Assessment evidence base where more detailed information can be found:

http://www.oxfordshirelep.org.uk/cms/sites/lep/files/folders/documents/About%20Oxfordshire/Oxfordshire_Economic_Assessment_Full_Report.pdf

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[53] OCC (2015). Connecting Oxfordshire: Local Transport Plan 2015-2031 Volume 1: Policy Document DRAFT

[54] OCC (2015). Connecting Oxfordshire: Local Transport Plan 2015-2031 Volume 1: Policy Document DRAFT

[55] Annual survey of hours and earnings, 2012 (provisional)

Future Trends

The Strategic Environmental Assessment Directive requires that the likely evolution of the baseline without the plan needs to be identified. The environment will be affected by many other influences outside the scope of this plan. These include economic, social and environmental influences at international, national, regional and local levels.

From the baseline data set out in this report, it is anticipated that the following trends are likely:

- Between 2001 and 2011, the population of Oxfordshire increased by 8%. It is expected to continue to grow by a further 12% over the period to 2026, to approximately 748,000. This will occur more so in urban areas. This increasing population has led to increased demand on housing and the existing infrastructure. Oxfordshire has an ageing population, so the proportion of those who are economically active will decline, and more pressure will be placed on health and social services.

- Deprivation in Oxford is confined to certain urban wards and is not widespread. Initiatives to address this deprivation will be likely to reduce it in the medium term.

- Obesity, lack of exercise and unhealthy lifestyles are problems that face the county and are likely to worsen across the county.

- Road traffic and associated congestion and greenhouse gas emissions continue to increase in Oxfordshire.

- The numbers of serious or fatal road accidents in the county has been decreasing. However, some roads may become more dangerous for example through inappropriate use without a road safety strategy being put in place.

- An increase in heavy rainfall events and milder, wetter winters, attributable to climate change, may increase the vulnerability of the Thames and Cherwell valley to flooding. These types of events will likely increase soil erosion as a result of surface flash flooding.

- Public water supply demand is forecast to significantly increase due to expected population growth in the region. Thames Water currently supplies over 9 million people with water and this is forecast to increase by between 2.0 and 2.9 million people by 2040. An increased frequency of droughts related to climate change is likely to add to the pressure on the county's water resources.

- Oxfordshire's carbon emissions are higher than national or regional averages, and are still currently growing, however international and national targets from the government indicate a reduction in emissions by 2020.

- A decrease in the number of farmland birds in Oxfordshire continues, indicating a loss of biodiversity and suitable habitat. This loss needs to be stopped and reversed.

- The continued demand for new infrastructure to be developed and built is likely to result in further loss and fragmentation of habitats and associated species as greenfield land is lost.

- The historic environment is likely to remain an important economic, social and cultural feature of the county and the management and restoration of heritage assets is likely to continue; however there will be increasing pressure on these features from development as a result of the increasing population.

- Over the ten year period 2004 to 2013, annual production of aggregates (sand and gravel and crushed rock) in Oxfordshire fell from two million tonnes to just over one

million tonnes. The county is likely to continue to import crushed rock aggregates, much of it by rail.

- Oxfordshire has high recycling and composting rates, which are likely to continue to increase, although this may be accompanied by increasing waste arisings overall. Waste arisings are forecast to increase as a result of the expected increase in population.

4. Stage A3: Identifying key sustainability issue and opportunities

The identification of key sustainability issues for Oxfordshire with regard to minerals and waste planning will inform the preparation of the Core Strategy and is an important stage in the identification of the key issues facing the Core Strategy. The identification of sustainability problems and issues is a requirement of the SEA Directive:

'The Environmental Report' under the SEA Directive should include:

'any existing environmental problems which are relevant to the plan or programme including, in particular those relating to any areas of a particular environmental importance, such as areas designated pursuant to directives 79/409/EEC 'the Birds Directive' and 92/43/EEC 'the Habitats Directive''.

Key sustainability issues for Oxfordshire are outlined in Table 4-1. These have been identified from the review of relevant policies and plans (Task A1), the review of baseline data (Task A2), and officer knowledge of the county.

Table 4-1: Key Sustainability Issues and Opportunities in Oxfordshire

Key Sustainability Issues and Opportunities in Oxfordshire
Population growth will lead to increased waste production and demand for waste management facilities and for aggregates for construction, across the whole county.
Economic growth in Oxfordshire should be encouraged and minerals and waste development could support this through the provision of opportunities for unskilled labour.
Tourism represents an important part of Oxfordshire's economy. Minerals and waste development could detract from initiatives to encourage people to visit the whole county, not just Oxford. However, post mineral restoration could create opportunities for rural development and recreational facilities.
Climate change poses a threat to parts of the county through flooding. Minerals and waste development could meet this challenge not only by managing the positive and negative aspects of development in the floodplain, but also by encouraging working practices that minimise greenhouse gas emissions.
Increased traffic generation on both motorways and major roads in the county leads to congestion and contributes towards a reduction in air quality. Minerals and waste development should balance reducing air pollution by employing the 'proximity principle' with ensuring that minerals and waste transport minimises environmental impacts by using suitable roads.
Nine Air Quality Management Areas have been designated in Oxfordshire, where levels of NO_2 from traffic exceed recommended government levels. Minerals and waste developments need to manage their transport routes in order to reduce the negative impact on air quality, and to avoid exacerbating pollution levels in existing AQMAs.
Oxfordshire has low rainfall levels and the Thames Water area is one of the most water stressed in the country. Population growth will increase demand for water. The review of abstraction licences by the Environment Agency may result in smaller numbers of licences being permitted. Thames Water has proposed that it build a new reservoir in Oxfordshire to meet rising demand; this may result in increased demand for aggregate for a temporary period.

Minerals and waste development could negatively impact on the biodiversity value of certain areas. Restoration of minerals sites may be constrained by the designation of airfield safeguarding zones across much of Oxfordshire, which reduce the risk of bird strike to aircraft. It may also be constrained by a lack of available inert fill to restore sites to uses such as reed bed or wet woodland.
Mineral and waste development offers opportunities to improve access to rural areas, create recreational facilities and contribute towards habitat creation in the county and biodiversity gains.
Oxfordshire includes parts of three Areas of Outstanding Natural Beauty which will need to be protected from adverse effects of minerals and waste development. This provides a constraint as to where new and extended operations can be located.
Oxfordshire is a county which has a rich historic built environment. Minerals and waste development could result in the loss or destruction of some of the historic assets of the county such as Scheduled Ancient Monuments and archaeological assets.
Oxfordshire has plentiful reserves of sand and gravel, having approximately one third of the unconstrained gravel resource in the South East region. Identifying sites for mineral extraction should take into account the cumulative effect of extensive mineral working on local communities and the transport infrastructure.
The extraction of sand and gravel in the county must be balanced against the potential loss of best and most versatile agricultural land which could result from extraction.
Water quality in Oxfordshire's rivers could be improved. Minerals and waste development could contribute to the pollution of water courses and groundwater
Significant provision needs to be made for secondary and recycled waste management facilities to continue to increase the amount of secondary and recycled waste which can be managed in the County.
Landfilling biodegradable waste products is a significant source of methane gas (a more powerful greenhouse gas than carbon dioxide). The amount of waste being disposed in landfill within the county should be minimised in order to reduce the contribution on greenhouse gas emissions.
The River Thames acts a constraint to the transportation of minerals and waste by restricting the lorry routes available suitable to cross the river between northern Oxfordshire (West Oxfordshire District and Cherwell District) and southern Oxfordshire (South Oxfordshire District and Vale of White Horse District).

Appendix 1: Long List of Policies, Plans and Programmes

International

- Aarhus Convention (Decision 2005/370/EC)
- The Air Quality Framework Directive (96/62/EC)
- The EU Directive On Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC)
- Environment 2010: Our Future, Our Choice (EU Sixth Environment Action Programme)
- The European Noise Directive (Directive 2002/49/EC).
- EU Habitats Directive (92/43/EC)
- European Convention on the Protection of Archaeological Heritage (Revised) (Valetta Convention, 1995)
- European Landscape Convention 2000
- White Paper Together for Health: A Strategic Approach for the EU 2008-2013
- Kyoto Protocol on Climate Change
- Management of Waste from Extractive Industries Directive (2006/21/EC)
- Nitrates Directive (91/676/EEC)
- The Convention for the Protection of the Architectural Heritage of Europe (Granada Convention)
- The Convention on Biological Diversity, Rio de Janeiro 1992
- The Johannesburg Declaration of Sustainable Development
- UNESCO World Heritage Site Convention (1972)
- Urban Waste Water Directive (91/271/EEC)
- Waste Framework Directive (91/156/EEC)
- Waste to Landfill Directive (99/31/EC)
- Water Framework Directive (2000/60/EC)

National

- Ancient Monuments and Archaeological Areas Act 1979 (as amended)
- Biodiversity 2020 (DEFRA, 2011)
- Circular on the Protection of World Heritage Sites 07/2009
- Climate Change Act 2008
- Climate Change Risk Assessment (DEFRA, 2012)
- Countryside and Rights of Way Act 2000 (CROW)
- English Heritage Policy Statement: Mineral Extraction and the Historic Environment Consultation (EH, 2012)
- Flood and Water Management Act (2010)
- Good Practice Guide on Planning for Tourism (ODPM, 2006)
- Healthy Lives, Healthy People: Our Strategy for Public Health in England (Department of Health, November 2010)
- Heritage Protection Bill (Government White Paper; Heritage for the Twenty First Century)
- Mineral Extraction and Archaeology: A Practice Guide (June 2008)
- National and Regional Guidelines for Aggregates Provision in England, for the period 2005-2020 (DCLG 2009)
- National Heritage Protection Plan (English Heritage)
- National Planning Policy Framework 2012
- Natural Environment and Rural Communities Act (NERC) Act 2006
- NPPF Technical Guidance
- National Planning Policy for Waste 2014 & Planning Practice Guidance: Waste 2014

- ➢ Planning (Listed Buildings and Conservation Areas) Act 1990
- ➢ Planning Practice Guidance: Minerals 2014
- ➢ PPS 10 – Planning for Sustainable Waste Management (revised 2011)
- ➢ PPS5 Planning for the Historic Environment – Practice Guide (DCLG, 2010)
- ➢ RSPB Nature After Minerals 2006
- ➢ Safeguarding our soils – A strategy for England (DEFRA Sept 09)
- ➢ Securing the Future: The Government's Sustainable Development Strategy (DEFRA, 2005)
- ➢ The Air Quality Strategy for England, Scotland, Wales and N Ireland (DEFRA, 2007)
- ➢ The Conservation of Habitats and Species Regulations 2010
- ➢ The UK Post-2010 Biodiversity Framework (Defra, 2012)
- ➢ Waste Water Treatment in the UK- 2012
- ➢ UK Government's Statement on the Historic Environment for England (2010)
- ➢ Waste Management Plan for England (December 2013)
- ➢ Water Act 2003
- ➢ Wildlife and Countryside Act 1981 (as amended)

Regional

- ➢ River Basin Management Plan for the Thames River Basin District 2009 & 2015
- ➢ Strategy for the Historic Environment: Heritage Counts English Heritage 2014
- ➢ Thames Corridor Catchment Abstraction Management Strategy
- ➢ Thames Valley Catchment Flood Management Plan (Environment Agency)
- ➢ The South East Biodiversity Strategy (2009)
- ➢ Water Resources Management Plan 2015-2040 (Thames Water)

Local

- ➢ Air Quality Management Areas
- ➢ Cherwell Local Plan 2011-2031 Part 1
- ➢ Cherwell Sustainable Community Strategy
- ➢ Chilterns AONB Management Plan -2014-2019
- ➢ Cotswolds AONB Management Plan 2013-2018
- ➢ North Wessex Downs AONB Management Plan 2014-2019
- ➢ Oxford Core Strategy 2026 Local Plan
- ➢ Oxford: A World Class City for Everyone 2008–2012 (Oxford Strategic Partnership)
- ➢ The Regeneration Framework for Oxford to 2026 (Oxford Strategic Partnership)
- ➢ Oxfordshire's Biodiversity Action Plan (Oxfordshire Nature Conservation Forum, 2001)
- ➢ Oxfordshire County Council Statement of Community Involvement Draft for Consultation January 2015
- ➢ Oxfordshire County Council Preliminary Flood Risk Assessment (2011)
- ➢ Oxfordshire County Council Local Flood Risk Management Strategy (2014)
- ➢ Oxfordshire Joint Municipal Waste Strategy (Oxfordshire Waste Partnership, 2013)
- ➢ Oxfordshire Level 1 Strategic Flood Risk Assessment (Scott Wilson, 2010)
- ➢ Connecting Oxfordshire: Local Transport Plan 2015-2031 (Updated 2016)
- ➢ Oxfordshire Minerals and Waste Local Plan 1996 (saved policies)
- ➢ Oxfordshire Rights of Way Management Plan 2015-2025
- ➢ Oxfordshire Sustainable Community Strategy 2030
- ➢ Oxfordshire Strategic Economic Plan 2014
- ➢ Shaping Futures West Oxfordshire Sustainable Community Strategy
- ➢ South Oxfordshire Core Strategy 2027
- ➢ South Oxfordshire Sustainable Community Strategy 2008-2016

- Thame Neighbourhood Plan 2013
- Vale Community Strategy 2008-2016
- Vale of White Horse Local Plan 2031 Part 1
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- West Oxfordshire Draft Local Plan 2011-2031
- West Oxfordshire Local Plan 2011

Appendix 2: Reviews of Relevant Policies, Plans and Programmes

Document Title	Description and environmental objectives, targets and indicators	Implications for Oxfordshire Minerals and Waste Local Plan: Part 1- Core Strategy
International		
Aarhus Convention (Decision 2005/370/EC)	The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted on 25th June 1998 in the Danish city of Aarhus at the Fourth Ministerial Conference in the 'Environment for Europe' process. The Aarhus Convention: Links environmental rights and human rights; Acknowledges that we owe an obligation to future generations; Establishes that sustainable development can be achieved only through the involvement of all stakeholders; Links government accountability and environmental protection; Focuses on interactions between the public and public authorities in a democratic context.	In drawing up the Core Strategy, public consultation and access to information must be introduced in order to support the decision making process. The SEA Directive requires that public consultation is carried out on the Plan and the accompanying Environmental Report.
The Air Quality Framework Directive (96/62/EC) The EU Directive On Ambient Air Quality and Cleaner Air for Europe (Directive 2008/50/EC)	The Air Quality Framework Directive (96/62/EC) on ambient air quality assessment and management defines the policy framework for 12 air pollutants known to have a harmful effect on human health and the environment. The Air Quality Standards Regulations 2007 transposed Directive 96/62/EC in to UK law. A new ambient air quality directive came into force on 21 May 2008 (Directive 2008/50/EC). Main points to note are that it consolidates existing air quality legislation apart from the 4th Daughter Directive (which covered arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons), which will be brought within the new Directive at a later date; and provides a new regulatory framework for PM2.5. The new requirements of Directive 2008/50/EC are transposed into English law by the Air Quality (Standards) Regulations 2010, and set limits for sulphur dioxide, nitrogen dioxide, oxides of nitrogen, particulate matter, lead, benzene, carbon monoxide, ozone, arsenic, cadmium, nickel and benzo(a)pyrene in ambient air.	The Plan policies should support overall objectives and requirements of the Directive.
Environment 2010: Our Future, Our Choice (EU Sixth Environment Action Programme)	The four environmental priorities outlined in this 10-year Action programme are: • Tackling climate change • Protecting nature and wildlife • Addressing environment and health issues, and	OCC needs to be aware of these strategies and consider how its plan can positively influence issues such as: air quality, the urban environment, natural resource use

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	• Preserving natural resources and managing waste Under the EAP framework, Thematic Strategies are being developed on: • Air quality • Soil protection • Sustainable use of Pesticides • Waste prevention and recycling • Sustainable use of natural resources • Urban environment.	and waste prevention and recycling.
The European Noise Directive (Directive 2002/49/EC).	Transposed into English law through the Environmental Noise (England) Regulations 2006 (as amended). Minor amendments were made by the Environmental Noise (England) (Amendment) Regulations 2008b. Environmental Noise Directive (END) - concerns noise from road, rail and air traffic and from industry. It focuses on the impact of such noise on individuals, complementing existing EU legislation which sets standards for noise emissions from specific sources. The END requires: • the determination of exposure to environmental noise, through noise mapping; • provision of information on environmental noise and its effects on the public; • adoption of action plans, based upon noise mapping results, which should be designed to manage noise issues and effects, including noise reduction if necessary; • preservation by the member states of environmental noise quality where it is good. To date no noise mapping information has been released for Oxford. Noise maps which are available can be found at: http://services.defra.gov.uk/wps/portal/noise	Oxfordshire should seek to preserve its tranquil areas from noise pollution related to mineral extraction and associated transport/traffic. In areas degraded by noise pollution, the Plan should consider how to mitigate these effects.
EC Council Habitats Directive (92/43/EEC)	The Habitats Directive is a major European initiative that aims to contribute towards protecting biodiversity -the variety of life -through the conservation of natural habitats and wild plants and animals. Recognising that wildlife habitats are under pressure from increasing demands made on the environment, the Directive provides for the creation of a network of protected areas across the European Union to be known as 'Natura 2000' sites. This network includes Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which, on land, are already Sites of Special Scientific Interest (SSSIs).	Avoid development of waste management sites or mineral extraction which could have an impact on internationally or nationally designated sites. Full consultation (as an iterative process throughout the Local Plan preparation) must be undertaken with Natural England to ensure that there will be no significant

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	Targets: Take appropriate steps to avoid, in the Special Areas of Conservation, the deterioration of natural habitats and the habitats of the species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive. Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives.	effects on the integrity of the seven Special Areas of Conservation designated under the Habitats Directive, or those within 15km of the county border.
European Convention on the Protection of Archaeological Heritage (Revised) (Valetta Convention, 1995)	The new text makes the conservation and enhancement of the archaeological heritage one of the goals of urban and regional planning policies. It is concerned in particular with arrangements to be made for co-operation among archaeologists and town and regional planners in order to ensure optimum conservation of archaeological heritage. This convention aims for the recognition and protection of archaeological and heritage assets.	Archaeological sites can be potentially damaged through development. The Plan should take account of preserving archaeological heritage. Archaeological heritage should be considered in the SA Framework.
European Landscape Convention (Florence Convention, 2004)	The ELC defines landscape as: "An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors." (Council of Europe 2000). The definition applies to the whole territory of states including all urban and periurban landscapes, towns, villages and rural areas, the coast and inland areas. It applies to ordinary or even degraded landscape as well as those areas that are outstanding or protected. Key targets include: • raising awareness of the value of landscapes among all sectors of society, and of society's role in shaping them; • the identification and assessment of landscapes, and analysis of landscape change, with the active participation of stakeholders; • setting objectives for landscape quality, with the involvement of the public; • the implementation of landscape policies, through the establishment of plans and practical programmes.	This convention has been translated into different UK legislation which the Plan should take account of.
White Paper Together for Health: A Strategic Approach for the EU 2008-2013	The Strategy aims to provide an overarching strategic framework spanning core issues in health as well as health in all policies and global health issues. The Strategy aims to set clear objectives to guide future work on health at the European level, and to put in place an	The Plan should consider how it can positively influence health issues.

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	implementation mechanism to achieve those objectives, working in partnership with Member States. The Strategy focuses on four principles and three strategic themes for improving health in the EU. The principles include taking a value-driven approach, recognising the links between health and economic prosperity, integrating health in all policies, and strengthening the EU's voice in global health. The strategic themes include Fostering Good Health in an Ageing Europe, Protecting Citizens from Health Threats, and Dynamic Health Systems and New Technologies.	
Kyoto Protocol on Climate Change	The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. It provides a framework for international action, setting binding targets for 37 industrialised countries and the European community for reducing greenhouse gas (GHG) emissions. In 1997, the UK committed itself beyond to go beyond our Kyoto Protocol target by setting a national goal to reduce carbon dioxide emissions by 20% below 1990 levels by 2010. The UK has now set further targets for addressing climate change through its Climate Change Act 2008. The Doha amendment includes new commitments to reduce GHG emissions by at least 18% below 1990 levels in the period 2013-2020.	The Plan will develop the SEA objectives with consideration of these international commitments.
EU Directive on the Management of Waste from Extractive Industries (2006/21/EC) 'The Mining Waste Directive' (European Commission, 2006)	The Directive provides a regulatory framework that reflects the risks of environmental harm/impact on human health arising from the management of waste from the extractive industries. Article 4 of the Directive imposes a general objective on Member States to ensure protection of the environment and human health. Implemented in the England and Wales via the Environmental Permitting Regulations (2010). Minimum supplementary requirements include: • operators to address the category of the waste facility, the amount of waste likely to be generated, its characteristics, and the method of management; • permits and conditions for waste facilities to secure environmental and safety measures; • for waste facilities which present a significant accident hazard, the development of a major accident prevention policy (similar to the provisions in the Seveso II Directive); • the drawing up of closure plans to ensure that the land affected by the waste facility is restored to a satisfactory state; and • operators to provide a financial guarantee (or equivalent) to ensure that sufficient	The Plan should provide an appropriate framework for managing waste from extractive industries and the SA should consider inclusion of objectives to protect the environment and human health from extractive waste disposal.

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	funds are available to rehabilitate the land affected by a waste facility to a satisfactory state in the event that an operator defaults on its closure obligations.	
Nitrates Directive (91/676/EEC)	Reduce water pollution caused or induced by nitrates from agricultural sources, and prevent further such pollution. Member States are required to establish nitrate vulnerable zones if nitrate levels are above certain thresholds, review them every four years, and implement action programmes to improve them.	The Plan policies to support overall objectives and requirements of the Directive.
The Convention for the Protection of the Architectural Heritage of Europe (Granada Convention)	This convention sets the framework for an accurate conservation approach within Europe. The issues addressed in this convention are defined by the following objectives: Support the idea of solidarity and cooperation among European Parties, in relation to heritage conservation; It includes principles of "conservation policies" within the framework of European cooperation; Strengthen and promote policies for the conservation and development of cultural heritage in Europa.	The Plan should take into account archaeological objectives when developing and selecting options.
The Convention on Biological Diversity, Rio de Janeiro 1992	The Convention has 3 main objectives: The conservation of biological diversity; The sustainable use of the components of biological diversity; and The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.	The Plan and SA should consider biodiversity impacts within their objectives.
The Johannesburg Declaration of Sustainable Development 2002	Adopted at the World Summit on Sustainable Development (WSSD), sometimes referred to as Earth Summit 2002, The Johannesburg Declaration builds on earlier declarations made at the United Nations Conference on the Human Environment at Stockholm in 1972, and the Earth Summit in Rio de Janeiro in 1992. While committing the nations of the world to sustainable development, it also includes substantial mention of multilateralism as the path forward. Undertake to strengthen and improve governance at all levels, for the effective implementation of Agenda 21.	The Plan will support the sustainability targets of Agenda 21 at the local level, and will need to reflect the principles of sustainable development within the objectives.
UNESCO World Heritage Site Convention (1972)	The Convention sets out a definition of 'cultural heritage' including monuments, groups of buildings and sites in Article 1; and a definition of 'natural heritage', including natural features, geological and physiographical formations and natural sites in Article 2.	The Plan needs to recognise the status of, and seek to protect, cultural and natural heritage. World Heritage sites are particularly important. SA needs to ensure both cultural and natural heritage issues are tested by the

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		SA Framework.
Urban Waste Water Directive (91/271/EEC)	The Urban Wastewater Directive's objective is to protect the environment from the adverse effect of urban waste water discharges and discharges from certain industrial sectors. Member states are required to designate sensitive areas (sensitive water bodies) and identify hydraulic catchment areas. The Directive specifies minimum specifications for water treatment according to size of agglomerations of development.	The Plan will need to ensure policies and allocations are deliverable, taking account of the requirements of the Directive.
Waste Framework Directive (91/156/EEC)	The Directive replaces the previous 2006 Waste Framework Directive, which in turn had replaced the original Directive 75/442/EEC. It lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of generation and management of waste. The Directive establishes the priority order of the waste hierarchy as being: a) prevention, b) preparing for re-use, c) recycling, d) other recovery, e.g. energy recovery, and d) disposal. By 2020 the preparing for re-use and the recycling of waste materials such as at least paper, metal, plastic and glass from households shall be increased to a minimum of 50 per cent by weight. By 2020 the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute for other materials, of non-hazardous construction waste should be increased to a minimum of 70 per cent by weight.	The Plan will need to ensure that adequate facilities are planned for to ensure the objectives and targets of the Directive can be delivered. In the SA ensure that opportunities to drive waste management up the waste hierarchy are identified.
Waste to Landfill Directive (1999/31/EC)	The Landfill Directive seeks to prevent or reduce as far as possible negative effects on the environment, in particular the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, as well as any resulting risk to human health, from the landfilling of waste, during the whole lifecycle of the landfill. Targets: By 2015 to reduce biodegradable municipal waste landfilled to 30% of that produced in 1995 By 2020 to reduce biodegradable municipal waste landfilled to 35% of that produced in 1995.	The Plan needs to provide the necessary land use policies to encourage operators to establish alternative methods to dispose of the county's waste, to reduce the amount of waste going to landfill in Oxfordshire in line with the Directive's objectives.
Water Framework Directive (2000/60/EC)	The Water Framework Directive seeks to expand the scope of water protection to all waters, surface waters and groundwater and requires that all member states manage their inland and coastal water bodies so that they achieve "good status" for all waters by 2015. It introduces River Basin Management Plans to ensure integrated, sustainable management of water courses.	The Plan should ensure that implications of dewatering of minerals sites and of management of waste sites are assessed to ensure that development proposals take into account River Basin Management

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	Targets: All river basins should achieve *"good ecological and good chemical status"* by 2015 Limits the quantity of groundwater abstraction to that portion of overall recharge not needed by ecology.	Plans.
National		
Ancient Monuments and Archaeological Areas Act 1979 (as amended)	This Act makes provision for the investigation, preservation and recording of matters of historical interest and covers scheduled monuments, areas of archaeological interest etc. Defines archaeological sites of national importance, such as ancient monuments and areas of archaeological importance, which are to be protected. Section 2 of the Act applies to the control of works affecting ancient monuments, making an offence of: • any works resulting in the demolition or destruction of or any damage to a scheduled monument; • any works for the purpose of removing or repairing a scheduled monument or any part of it or of making any alterations or additions thereto; • any flooding or tipping operations on land in or under which there is a scheduled monument. Section 35 of the Act describes the circumstances where offences may occur due to operations in areas of archaeological importance.	The Plan should take into account archaeological advice on the historic environment and assets when developing and selecting options. SA should include an objective to protect and enhance the historic environment. Archaeology should be recognised as an important element of the historic environment.
Biodiversity 2020 (DEFRA, 2011)	Vision – By 2050 our land and seas will be rich in wildlife, our biodiversity will be valued, conserved, restored, managed sustainably and be more resilient and able to adapt to change, providing essential services and delivering benefits for everyone. More specifically, the 2020 Mission outlined in the Strategy, states: "Our mission 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". Specific 'outcomes' are then cited for 'habitats and ecosystems on land (Outcome 1), marine habitats, ecosystems and fisheries (Outcome 2), species (Outcome 3) and people (Outcome 4). These outcomes include the delivery of the targets stated in the Natural Environment White Paper.	The Plan should ensure that minerals and waste developments do not hinder achievement of the objectives.
Healthy Lives, Healthy People: Our Strategy for Public Health in England (Department of Health, November 2010)	The white paper outlines the Government's commitment to protecting the population from serious health threats; helping people live longer, healthier and more fulfilling lives; and improving the health of the poorest. Amongst the white paper's multiple goals is a commitment to designing communities for active ageing and sustainability; making active ageing the norm rather than the exception;	The Plan policies should look for opportunities to contribute to community health, such as through the reduction of risk from climate change or the provision of green infrastructure.

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	promoting community ownership of green spaces; and improving access to land so that people can grow their own food. The paper recognises the influence of the environment on communities and individuals, including: pollution, air quality, noise, access to green spaces, transport, good quality food and social inclusion.	
Circular on the Protection of World Heritage Sites 07/2009	Provides updated policy guidance on the level of protection and management required for World Heritage Sites. The circular explains the national context and the Government's objectives for the protection of World Heritage Sites, the principles which underpin those objectives, and the actions necessary to achieve them.	The Plan should be consistent with this guidance.
Climate Change Act 2008	This Act provides a legal framework for ensuring that Government meets its commitments to tackle climate change. The Act requires that emissions are reduced by at least 80% by 2050, compared to 1990 levels.	The Plan will need to support this Act.
Climate Change Risk Assessment (DEFRA, 2012)	The Climate Change Risk Assessment (CCRA) is the first-ever comprehensive assessment of potential risks and opportunities for the UK arising from climate change. The CCRA represents a key part of the Government's response to the Climate Change Act 2008, which requires a series of assessments of climate risks to the UK, both under current conditions and over the long term. Key messages which will need to be addressed are: • The global climate is changing and warming will continue over the next century; • The UK is already vulnerable to extreme weather, including flooding and heat waves; • Flood risk is projected to increase significantly across the UK; • UK water resources are projected to come under increased pressure; • There are health benefits as well as threats related to climate change, affecting the most vulnerable groups in our society; • Sensitive ecosystems are likely to come under increasing pressure; • Some changes projected for the UK as a result of climate change could provide opportunities for agriculture and other businesses, although not outweighing the threats; • Despite the uncertainties related to future climate change and its impacts, the evidence is now sufficient to identify a range of possible outcomes that can inform	The Plan needs to ensure that consideration for climate change is at the heart of the document.

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	adaptation policies and planning. Key findings of the CCRA as they relate to the Joint Plan area and as they relate to the Joint Plan area and its minerals and waste focus is considered in the baseline of this report.	
Countryside and Rights of Way Act 2000 (CROW)	The Countryside and Right of Way Act 2000 extends the public's ability to enjoy the countryside whilst also providing safeguards for landowners and occupiers. It creates a new statutory right of access and modernises the rights of way system as well as giving greater protection to SSSIs, providing better management arrangements of Areas of Outstanding Natural Beauty and strengthening wildlife enforcement legislation.	SA will consider the impact that the plan will play on natural habitats and designated areas.
English Heritage Policy Statement: Mineral Extraction and the Historic Environment Consultation (EH, 2012)	It details the English Heritage Policy on Mineral Extraction and Use focusing on: • Sustainability and supply; • Safeguarding the industry's heritage; • The impacts and mitigation of current and future extraction; and • Maintaining the historic fabric and local distinctiveness.	The Plan should be consistent with this guidance. The SA to consider the importance of conserving the historic environment.
Flood and Water Management Act (2010)	The Flood and Water Management Act places a duty on all flood risk management authorities to co-operate with each other. The Act also provides lead local flood authorities and the Environment Agency with a power to request information required in connection with their flood risk management functions. It requires flood and coastal erosion risk management authorities (that did not previously have such a duty) to aim to contribute towards the achievement of sustainable development when exercising their flood and coastal erosion risk management functions.	The Plan should comply with the act where appropriate.
Good Practice Guide on Planning for Tourism (ODPM, 2006)	The aim of this document is to provide guidance on planning for tourism. It sets out the main elements of tourism and how to appropriately include these within planning policy and how to consider it within future development. This document does not set any targets. However, it does require that planners understand the importance of tourism and take this fully into account when preparing development plans and taking planning decisions. Those involved in the tourism industry understand the principles of national planning policy as they apply to tourism and how these can be applied when preparing individual planning applications. Planners and the tourism industry should work together effectively to facilitate, promote and deliver new tourism development in a sustainable way.	The Plan needs to take on board the different elements of tourism and their relation/ contribution to the Joint Plan Area when formulating planning policy. The SA needs to ensure that the Plan takes a sustainable view of promoting, developing and working in the tourism industry within its economic strands of the SA Framework.
Heritage Protection Bill (Govt White Paper; Heritage for the Twenty First Century)	The proposals in this White Paper reflect the importance of the heritage protection. They are based around three core principles: • developing a unified approach to the historic environment;	The Plan will need to consider heritage issues within policy formulation.

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	• maximising opportunities for inclusion and involvement; and • supporting sustainable communities by putting the historic environment at the heart of an effective planning system.	
Mineral Extraction and Archaeology: A Practice Guide (2008, with revision note 2012) (English Heritage)	This document has been prepared by the Minerals and Historic Environment Forum as an aid to planning authorities, mineral planners, mineral operators, archaeologists and consultants. It provides guidance specifically for dealing with archaeological remains as part of mineral development through the planning process. The Guide provides clear and practical guidance on the archaeological evaluation of mineral development sites, particularly for the determination of individual planning applications for minerals development. Is should ensure that adequate information is acquired in a cost-effective way so that an informed planning decision can be made. The guide also provides some information on the mitigation techniques that could be employed.	The Plan will need to consider heritage issues within policy formulation.
National and Regional Guidelines for Aggregates Provision in England, for the period 2005-2020 (DCLG 2009)	Revised national and regional guidelines for aggregates provision in England for the period 2005 to 2020 inclusive. The document also indicates how the guidelines should be taken into account in the planning process, and outlines arrangements for future monitoring and review.	The Plan will have to take into account the apportionment for aggregates when making strategic decisions for aggregate provision.
National Heritage Protection Plan (English Heritage)	Sets out how English Heritage, together with partners in the heritage sector, will prioritise and deliver heritage protection from 2011 to 2015.	The Plan will take into account the identified aims of this plan and seek methods of joint working to ensure heritage protection.
National Planning Policy Framework 2012	The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied. It replaces all previous planning policies set out in Planning Policy Statements (PPSs) and Planning Policy Guidance (PPGs), though PPS10 is temporarily retained. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities. At the heart of the planning system is a presumption in favour of sustainable development. The NPPF recognises that there are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles: • an economic role – ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation; and by identifying and coordinating development requirements; • a social role – providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with	The NPPF sets out the requirements for the Plan. This is the main reference terms of national planning policy and procedure, which should be adhered to.

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	accessible local services that reflect the community's needs and support its health, social and cultural wellbeing; • and an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, 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.	
Natural Environment and Rural Communities Act (NERC) Act 2006	Section 40 of the Act places a new biodiversity duty on public bodies which includes local authorities. The implications of this Act are that biodiversity must be integrated and delivered in all aspects of infrastructure, finance, development control and forward planning.	Biodiversity must be integrated and delivered through the Plan. The Plan should seek to conserve and enhance Local Wildlife Sites and Local Nature Reserves and to give proper consideration to biodiversity outside designated areas.
NPPF Technical Guidance (2012)	This document gives additional guidance for the effective implementation of the National Planning Policy Framework on development in areas at risk of flooding and in relation to minerals extraction. The guidance gives detailed guidelines in relation to planning for minerals and planning for flood risk.	Minerals policy should be consistent with this guidance and the NPPF. The Plan should be informed by a Strategic Flood Risk Assessment.
Planning (Listed Buildings and Conservation Areas) Act 1990	This Act consolidates certain enactments relating to special controls in respect of buildings and areas of special architectural or historic interest with amendments.	The Plan should take into account archaeological advice on the historic environment and assets when developing and selecting options.
Planning Practice Guidance: Minerals 2014	This document provides guidance to support the National Planning Policy Framework, with a focus on minerals. The guidance covers the following topics: • Safeguarding of minerals • Minerals extraction • Environmental impacts • Planning for aggregate minerals, industrial minerals, hydrocarbon and coal extraction • Restoration and aftercare of mineral sites • Mineral planning orders/conditions.	The Plan should be consistent with this guidance.
PPS 10 – Planning for Sustainable Waste Management (revised 2011)	Key aim is to drive waste up the hierarchy and increase the use of recycled products. Provisions include: Make provision for waste minimisation activities to be incorporated within new planning	The Plan should be consistent with this guidance.

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Superseded by National Planning Policy for Waste 2014 & supporting Planning Practice Guidance	applications. Waste Planning Authorities to allocate land for waste management operations ensuring they meet SA criteria (this includes allocating land for local, regional and national use as authorities may have to provide for strategic waste sites). Implement waste strategies to guide waste management solutions for an area. Ensure that development does not adversely affect the surrounding environment or harm human health or the environment. It is the Government's intention to bring in a series of new specific waste policies that will replace PPS10 through the National Waste Management Plan for England. National Planning Policy for Waste 2014 sets out detailed waste planning policies. It should be read in conjunction with the National Planning Policy Framework, the National Waste Management Plan for England and national policy statements for waste water and hazardous waste, or any successor documents. All local planning authorities should have regard to its policies when discharging their responsibilities to the extent that they are appropriate to waste management. The supporting Planning Practice Guidance provides information on implementing the waste hierarchy, preparing local plans and sustainability appraisals, planning applications, regulatory regimes and inspections and monitoring.	
PPS5 Planning for the Historic Environment – Practice Guide (DCLG, 2010)	PPS5 predates the production of the National Planning Policy Framework and is therefore not included in this list of PPPSIs. However, the Government maintains that the Practice Guide to PPS5 still remains a valid document, pending their review of guidance to support the NPPF. The purpose is to assist local authorities, owners, applicants and other interested parties to consider the historic environment when applying the National Planning Policy Framework. Key aim is to conserve the historic environment in recognition of its effect on national identity, character, distinctiveness and positive sense of place.	The Plan should be consistent with this guidance. The SA to consider the importance of conserving the historic environment.
The RSPB 'Nature After Minerals' initiative (RSPB, 2006)	The initiative offers a vision of large-scale habitats being created on mineral sites for people and for wildlife. It provides an opportunity for mineral operators and the planning system to work together with nature conservation organisations to provide habitat creation and biodiversity enhancement. Targets: Habitat creation on mineral sites offers the minerals industry, working together with planners and conservation organisations, an opportunity to contribute to the UK Biodiversity Action Plan (UK BAP) targets. The UK BAP target for the creation of wet reedbeds is 1,715 ha.	The Plan should incorporate policies which provide an expectation that mineral operators will plan restoration schemes for biodiversity enhancement and habitat creation, being mindful of the constraints in Oxfordshire of airfield birdstrike safeguarding areas, and potential limits to the amount of available inert fill for restoration. There is potential for mineral

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	Mineral restoration has the potential to provide 100% of this reedbed. Regional and Local Planning policies and site allocations should support habitat creation on mineral sites.	restoration to contribute to all BAP targets such as wet lowland meadow. The Plan should also ensure the sustainable use of soil resources, including 'best and most versatile agricultural land'
Safeguarding our soils – A strategy for England (DEFRA Sept 09)	A Strategy to safeguard and protect England's irreplaceable and fundamental natural resource, soil, which provides many essential functions for life. The strategy sets out how the government will value soils in the planning system; and prevent pollution of soils, and deal with the historic legacy of contaminated land.	Policies need to reflect the need to protect and improve soil.
Securing the Future: The Government's Sustainable Development Strategy (DEFRA, 2005)	The Strategic Framework has a set of overarching principles sets out a series of principles agreed between the UK Government and the Devolved Administrations. These principles will form the basis for policy in the UK. For a policy to be sustainable it must respect all five of these principles: • Living within environmental limits; • Ensuring a strong, healthy and just society; • Achieving a sustainable economy; • Promoting good governance; • Using sound science responsibly.	The Plan policies should support the aims of the Strategic Framework and provide a sustainable spatial vision. Provide sustainable spatial policies.
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland Volume 1 (2007) and Volume 2 (2011)	The Air Quality Objectives are a statement of government policy intentions or targets. The primary objective is to make sure that everyone can enjoy a level of ambient air quality in public places with a requirement for local authorities to undertake a local air quality review on 8 identified air pollutants and for prediction of levels in the future. Air Quality Management Areas (AQMAs) can be established where it is expected that targets will not be met. Targets include: • Sulphur dioxide 125ug/m^3 (24 hour mean) not to be exceeded more than 3 times a year. • Particles (PM10) 40ug/m^3 (annual mean). • Particles (PM2.5) 25ug/m^3 (annual mean). • Nitrogen oxide 40ug/m^3 (annual mean). The Strategy also sets out objectives for sulphur dioxide and oxides of nitrogen for the protection of ecosystems: Nitrous oxides 30ug/m3 (annual average), Sulphur dioxide 20ug/m^3 (annual average).	Consider how the Plan policies can support the objectives and targets of the Air Quality Strategy.

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	However these objectives only apply in certain defined areas consistent with the Air Quality Directive.	
The Conservation of Habitats and Species Regulations 2010	The original Conservation (Natural Habitats &c) Regulations, 1994 transposed the EU Habitats Directive (described above) into national law. The Conservation of Habitats and Species Regulations, 2010 consolidate the various amendments to the original regulations and include new provisions to implement parts of the Marine and Coastal Access Act, 2009. Part 102 (1) of the Regulations States: "Where a land use plan: a) is likely to have a significant effect on a European site or European offshore marine site (either alone or in combination with other plans or projects), and b) is not directly connected with or necessary to the management of the site, the 'plan making authority' for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's nature conservation objectives". The Regulations were recently amended by the Conservation of Habitats and Species (Amendment) Regulations 2012, which more fully integrates the requirement of the Birds Directive by requiring efforts to avoid pollution or deterioration of habitats for wild birds outside of specific designated areas.	The Plan will be subject to Habitats Regulations Assessment, and if significant effects are likely, appropriate assessment of its implications for European Sites. This will mean that the Plan cannot be enacted in a form which may damage a European Site without demonstrating 'imperative reasons of overriding public interest.
Waste Water Treatment in the UK- 2012	Provides a description of the present situation, monitoring and investment, and explains how individuals can help to reduce water pollution. It also explains how waste water is treated in the UK and what action is being taken to improve this. It fulfils the UK's obligations under Article 16 of the European Urban Waste Water Treatment Directive to periodically produce national situation reports on the collection and treatment of waste water, and on the re-use or disposal of the by-product of this treatment, sewage sludge.	The Plan needs to ensure that it complies with the regulations covered in the report.
The UK Post-2010 Biodiversity Framework (Defra, 2012)	The Framework is the UK Government's succession to the UK BAP (1992-2012) and is the result of a change in strategic thinking following the publication of 'Strategic Plan for Biodiversity 2011–2020' and its 20 'Aichi targets', agreed at Nagoya, Japan in October 2010, and the launch of the new EU Biodiversity Strategy (EUBS) in May 2011. The Framework demonstrates how the UK contributes to achieving the 'Aichi targets', and identifies the activities required of country biodiversity strategies to achieve the Aichi targets.	The Plan needs to have regard to the Oxfordshire Biodiversity Action Plan and district level Biodiversity Action Plans in Oxfordshire.
UK Government's Statement on the Historic Environment for England (2010)	The Vision: That the value of the historic environment is recognised by all who have the power to shape it; that Government gives it proper recognition and that it is managed intelligently and in a way that fully realises its contribution to the economic, social and	Policies within the Plan should be sensitive to the cultural, architectural and archaeological heritage of Oxfordshire.

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	cultural life of the nation. A number of commitments are made, including: Ensure that all heritage assets are afforded an appropriate and effective level of protection, while allowing, where appropriate, for well managed and intelligent change.	SA should include an objective to protect and enhance the historic environment.
Waste Management Plan for England (December 2013)	It replaced the 2007 Waste Strategy for England. The Plan does not introduce new policies but brings together the raft of existing waste policies under one umbrella (these are included below). The Plan reflects the requirements of the Waste Framework Directive and the Waste (England and Wales) Regulations 2011 including taking forward the following objectives: Measures to promote high quality recycling including the setting up of separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors. As appropriate, measures to encourage the separate collection of bio-waste with a view to the composting and digestion of bio-waste. As appropriate, measures to be taken to promote the re-use of products and preparing for re-use activities, in particular— (a) measures to encourage the establishment and support of re-use and repair networks; (b) the use of economic instruments; (c) the use of procurement criteria; and (d) the setting of quantitative objectives. Measures to be taken to ensure that by 2020 (a) at least 50% by weight of waste from households is prepared for re-use or recycled; (b) at least 70% by weight of construction and demolition waste is subjected to material recovery. The waste hierarchy underpins the Plan which proposes measures to prevent the generation of waste, use it as a resource and promote high quality recycling.	The Plan should take forward these objectives
Water Act 1989, 2003	The Water Act 1989 has several sections designed to prevent water pollution. With certain exceptions, the 2003 Act only applies to England and Wales; and various functions of the Secretary of State introduced or amended by the Act are devolved to be exercised by the National Assembly for Wales. The four broad aims of the Act are: •the sustainable use of water resources;	The Plan should where appropriate comply with the Act.

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	•strengthening the voice of consumers;	
	•a measured increase in competition; and	
	•the promotion of water conservation.	
Wildlife and Countryside Act 1981 (as amended)	The Wildlife and Countryside Act 1981 is the primary legislation which protects animals, plants, and certain habitats in the UK.	The Plan should consider the potential impacts it could have on wildlife and how these impacts can be mitigated.
Local		
Heritage Counts 2014 England	The thirteenth annual survey of England's historic environment. It is prepared by English Heritage on behalf of the Historic Environment Forum. This year the theme of the report focuses on the value of heritage.	The SA should consider the importance of conserving the historic environment and heritage.
	Heritage Counts 2014 brings together evidence so the sector can better understand and demonstrate the value of heritage and its impact on many factors including the economy, wellbeing and sense of place.	
	Indicators:	
	There has been a significant fall in local authority historic environment employment since its peak in 2006. This translates to a 32% decrease overall in full time equivalents (FTE), 35% for conservation officers and by 26% for archaeological officers. The pattern of employment change has varied across England. In the last year there has been a loss of nearly 13 FTEs providing conservation advice and over 31 FTEs providing archaeological advice.	
	Trainees and apprentices now number 4,526 in England. This has decreased by 17% on 2012/13. Since 2005/06 when Heritage Counts first reported this data the number of trainees and apprentices has fallen by 78% from 20,157.	
	Social Media and the sector's digital offer is becoming increasingly more important for heritage sites. Attractions offering some form of digital communications platform in 2013 noted a bigger increase in gross revenue from +3% 2012 to +6% 2013 compared to +3% in 2013 amongst sites with no digital offer. Audiences are using digital communications more to interact with heritage. Three in five users to a heritage website use it to plan how to get to a historic site (a significant increase from 2011/12 from 56.7% to 61.7%).	
Oxfordshire County Council Local Flood Risk Management Strategy (2014)	The Local Flood Risk Management Strategy: • Sets a long term programme for the reduction of flood risk. • Sets procedures for identifying the relative priorities of measures for reducing flood risk.	The Plan should take into account the Local Flood Risk Strategy and support it where appropriate.

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	• Establishes how to identify areas where a holistic approach to flood risk management will achieve multiple benefits. • Establishes how to identify affordable measures for implementation to agreed time frames. • Will facilitate engagement and consultation with the community and all our partners. • Encourages public awareness and self-help where appropriate	
River Basin Management Plan for the Thames River Basin District 2009 & 2015	This plan focuses on the protection, improvement and sustainable use of the water environment. The plan describes the river basin district, and the pressures that the water environment faces. It shows what this means for the current state of the water environment, and what actions will be taken to address the pressures. It sets out what improvements are possible by 2015 and how the actions will make a difference to the local environment – the catchments, the estuaries and coasts, and the groundwater. Targets: By 2015, 22 per cent of surface waters (rivers, lakes estuaries and coastal waters) are going to improve for at least one biological, chemical or physical element, measured as part of an assessment of good status according to the Water Framework Directive. This includes an improvement of 1737 km of the river network in the river basin district, in relation to fish, phosphates, specific pollutants and other elements. 25 per cent of surface waters will be at good or better ecological status and 17 per cent of groundwater bodies will be at good overall status by 2015. In combination, 25 per cent of all water bodies will be at good or better status by 2015. The Environment Agency wants to go further and achieve an additional two per cent improvement to surface waters across England and Wales by 2015. The biological parts of how the water environment is assessed – the plant and animal communities – are key indicators. At least 30 per cent of assessed surface waters will be at good or better biological quality by 2015.	The Plan should take into account the findings of the River Basin Management Plan when identifying possible locations for waste management and mineral extraction.
Thames Corridor Catchment Abstraction Management Strategy (Environment Agency, 2004)	The Environment Agency is responsible for safeguarding water resources and managing abstraction through Catchment Abstraction Management Strategies (CAMS). Surface and groundwater sources are used for a number of uses which can place significant stress on these systems. The CAMS implements the Water Act 2003 which includes the requirement for a transfer	The Plan preparation process needs to fully consult the Environment Agency to ensure that proposals for mineral extraction and waste management in the Thames catchment are approved as part of the CAMS strategy.

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	licence for the dewatering of mines and quarries from October 2008. The CAMS also provides a consistent and structured approach to local water resource management, recognising both abstractors' reasonable needs for water and the needs of the environment.	Take into account the simple maps in the CAMS which show the 'reliability' of proposals for 'new' water abstraction. The Plan should ensure that potential contaminated runoff from waste management facilities and associated developments are considered, along with the impacts of waste management facilities on groundwater in their vicinity.
Thames Valley Catchment Flood Management Plan (Environment Agency) over the next 50-100 years.	The EA is preparing CFMPs for the whole of England and Wales. They look at flooding from all sources, except for coastal flooding from the sea, which is covered by Shoreline Management Plans (SMPs). CFMPs identify the main factors influencing flood flows and flood risk, and assess how these may change over time. The CFMP will outline the flood risk management policies that will provide a balance between cost effectiveness, social needs and demands on land use for development and the environment. Targets: - To maximize the capacity of the flood plain to retain water in these areas; - To prevent development that compromises the capacity of the flood plain to retain water; - To manage flooding of some areas of natural floodplain to reduce the risk to some communities; - Develop a habitat creation programme to create flood plain BAP habitat; - Manage water levels to achieve more regular flooding of the floodplain.	The Plan should take into account the findings of the CFMP when identifying possible locations for waste management and mineral extraction, being mindful of the need not to increase flood risk for settlements downstream such as Oxford and Abingdon. It should also take the opportunity to proactively create areas for flood alleviation, to prevent potential flooding downstream in worked out sand and gravel pits along the Thames valley.
The South East Biodiversity Strategy (2009)	The South East Biodiversity Strategy identifies the way forward and provides a flexible framework for all to work with so that biodiversity can thrive. In particular it is important to recognise the benefits to the economy, culture, health and society that following such a strategy will achieve. The strategy provides a focus on how all business sectors can contribute and most importantly where priority action should be taken to deliver through specific targets. It should help existing Regional Strategies and assist in the development of new strategies which may be required for the South East.	The Plan where possible should support the objectives of the Strategy.
Water Resources Management Plan 2015-2040 (Thames Water)	The report provides information on the Water Resource Program 2010-15, the current and future demand for water and water supply and the different programme options.	The Plan where possible should support the objectives of the WRMP.

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Air Quality Management Areas	The following areas have been identified which fail the Government's objective for the nitrogen dioxide annual mean concentration: • Vale of White Horse District Council: Abingdon and Botley • West Oxfordshire District Council: Witney and Chipping Norton. • South Oxfordshire District Council: Wallingford, Henley on Thames and Watlington. • Oxford City: Oxford City centre and the Green Road Roundabout. • Cherwell District Council: Banbury Centre Targets: To prepare action plans which aim to address traffic flows which have been identified as the main cause of the air pollution, and measures will be taken to reduce nitrogen dioxide in these areas.	The Plan should include consideration of how site management can positively contribute to air quality especially through HGV management policies. The Plan needs to include air quality policies for instance with regard to dust, and emissions from machinery and vehicles. Policies should not exacerbate poor air quality in identified areas.
AONB Management Plans	The Cotswolds AONB -2013-2018 Management Plan seeks to ensure that the exploitation of natural resources is managed so as to conserve and enhance the natural beauty of the AONB. The Chiltern AONB Management Plan seeks to reduce any adverse impact of former extraction sites on the character of the AONB and complement the policies of the minerals and waste local plan to ensure the objectives of AONB designation are upheld. The North Wessex Downs AONB management plan 2014-19. The management plan is intended to provide a vision for all groups and organisations who seek to contribute to the conservation and enjoyment of the North Wessex Downs AONB. Targets: To support the provision of small scale quarries to supply high quality traditional building materials for local use. To support initiatives to increase rates of reuse and recycling of waste, whilst resisting the importation of waste, including green waste, from adjoining urban areas into the AONB. To maintain and enhance the distinctive landscape character of the North Wessex Downs , to encourage initiatives that facilitate sustainable land management that sustains the special qualities and features of the area & to achieve a shared understanding and recognition of the special qualities of the North Wessex Downs, and the benefits of conserving them, with local communities and businesses.	The Plan should aim to reduce the impacts on agricultural land of mineral developments and waste management and take into account the objectives of the Chiltern and Cotswold AONB management plans, particularly relating to the conservation and enhancement of the landscape and natural resources.

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Cherwell Local Plan 2011-2031 Part 1	The plan develops the policies and proposals of the approved Structure Plan and seeks to relate them to precise areas of land. In determining planning applications the Council will take into account the likely impact of a proposal on the natural and built environment and will seek to enhance the environment whenever possible. The plan makes provision for 8,259 dwellings to be built in the District from 2001 to 2011. The plan makes provision for 13,852 houses Housing figures for NW Bicester would be delivered beyond 2031	The Plan should identify sufficient deliverable mineral working locations to provide aggregate for the construction of new homes in Cherwell District. The Plan should identify sufficient waste management locations to provide the capacity to manage the increased waste arisings from the new homes.
The Cherwell Sustainable Community Strategy: Our District Our Future (2010)	Our District Our Future (2010) produced by the Local Strategic Partnership sets the vision for North Oxfordshire for the next 20 years. The aims for the future set out include: Cherish the resources that define Cherwell's character and distinctiveness including our natural environment, our built heritage and the vitality of our towns and villages; Support our towns and villages to be different from each other and maintain their local distinctiveness and qualities that define their identity. Cherwell's Design and Conservation Strategy will sit alongside and work with other Strategies produced by the Council, to deliver this vision.	The Plan should aim to harmonise with the Community Strategy's management and enhancement of the district' cultural and environmental resources.
Oxford Core Strategy 2026	The Local Plan sets out the policies and proposals for future development and land use in Oxford for the period to 2026. Planning permission will not be granted for development that fails to safeguard, maintain or enhance features of ecological and geological importance, in particular priority habitats/species and species of conservation concern. The plan makes provision for 8,000 new dwellings in the period from 2006-2026.	The Plan should identify sufficient deliverable mineral working locations to provide aggregate for the construction of new homes in the Oxford area. The Plan should identify sufficient waste management locations to provide the capacity to manage the increased waste arisings from the new homes.
Oxford: A World Class City for Everyone 2008–2012, and The Regeneration Framework for Oxford to 2026 (Oxford Strategic Partnership).	Oxford's Sustainable Community Strategy 'Oxford: A World Class City for Everyone' 2008–2012 was published by The Oxford Strategic Partnership (OSP). This set out the vision for Oxford City and states the key issues for the city. The Oxford Strategic Partnership aims to tackle inequalities and to develop better lives for Oxford's citizens by: Developing the local economy and the skills of our citizens, so as to increase the proportion of higher paid jobs; Working together to constantly raise environmental standards and to move steadily towards a low carbon economy;	The Plan can support the SCS by supporting projects that help to achieve the same objectives.

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	Providing good quality and sustainable housing for all our citizens;	
	Working together to reduce the health, education and income inequalities within Oxford;	
	Enhancing our residential and shopping areas to make the city healthier and greener, as well a safe and cohesive for all;	
	Developing partnerships between public, voluntary, and private organisations to research, test and improve practical solutions to the climate change crisis and the rising costs of energy;	
	Developing a sustainable transport infrastructure;	
	Building on the strengths of the city in education, business, culture and retailing to strengthen high value tourism and the conference market.	
	In December 2009, the OSP formally adopted the Regeneration Framework for Oxford to 2026 as an addendum to the Community Strategy. The regeneration objectives for Oxford include:	
	• to reduce inequalities between citizens;	
	• to increase the supply of housing, particularly affordable housing;	
	• to create places where people wish to live;	
	• to increase skills and promote skills development;	
	• to provide sustainable jobs for all through economic growth in central Oxfordshire;	
	• to improve connectivity between employment, housing and those seeking employment.	
Oxfordshire Biodiversity Action Plan (Oxfordshire Nature Conservation Forum, 2001)	The UK BAP was published in response to the requirements of the Convention on Biological Diversity (1992). It highlights a number of priority habitats and species with associated action plans. Action plans have been prepared for a wide variety of priority habitats and species Each priority habitat or species has specific targets.	The Plan should accept the importance of nature conservation objectives and pay particular regard to designated habitats and linear habitat structures. If developments that impact upon protected species or designated sites are necessary, then policies and proposals to avoid adverse effects on the integrity of designated sites should be adopted. Mitigation should be pro-active through site selection, timing, and consideration of alternatives. The restoration of old waste management

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		sites, e.g. for landfill, provides an opportunity to create some of the habitats prioritised in local Biodiversity/Habitat Action Plans.
Oxfordshire Preliminary Flood Risk Assessment	(The scope of the PFRA is to consider flooding from surface runoff, ground water and ordinary watercourses, and any interaction these sources have with main rivers. PFRA) The Preliminary Flood Risk Assessment (PFRA) provides a high-level summary of significant flood risk, based on available information, describing both the probability and consequences of past and future flooding. The report will help the council to develop a future strategy to manage local flooding in Oxfordshire.	The Plan should be mindful of the findings of the PFRA in its identification of potential locations for minerals and waste development.
Oxfordshire Joint Municipal Waste Strategy (Oxfordshire Waste Partnership, 2013) Supported by: The Oxfordshire Waste Partnership Action Plan; The Waste Prevention Strategy 2010-2020.	The strategy sets out how the partnership will work in partnership to improve the way we manage our waste over the next 25 . It will provide all stakeholders with an overview of the way we currently manage waste, identify the future challenges and need for change, and set out our shared vision for the future. This replaces the '*No time to waste'* Strategy agreed in 2007. The Oxfordshire Waste Partnership Action Plan is updated and agreed by the Partnership yearly and details the short and medium term actions needed to ensure the delivery of the policy objectives. The Waste Prevention Strategy 2010-2020 details where efforts will be focused over the next decade and how the impact and 'value for money' of activities will be demonstrated. Targets: To manage waste through seeing the most appropriate and sustainable solution that protects the environment, including minimizing the transportation of waste. In accordance with regional policy, the Oxfordshire Waste Partnership will seek to reduce the growth of municipal waste across the county to 0% by 2012.	Plan policies need to encourage a reduction in the growth of municipal waste arisings in line with the targets set by the Oxfordshire Waste Partnership.
Oxfordshire SFRA	The SFRA aims to identify the areas within a development plan that are at risk of flooding. To identify and detail those factors that are relevant to current and future flood risk and to outline policies to be applied to such areas to minimise and manage the risk The SFRA will provide an analysis of the main sources of flood risk in the county, to inform developers and land owners.	The Plan should be mindful of the findings of the SFRA in its identification of potential locations for minerals and waste development.
Connecting Oxfordshire: Local Transport Plan 2015-2031	The Local Transport Plan is part of a wider strategic framework through which Oxfordshire County Council, working with its partners, is tackling the challenges Oxfordshire faces over	The Plan should incorporate policies which aim to minimise the number of waste and

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	the next decades. Environmental objectives of the transport plan including tackling congestion, creating safer roads, working to improve air quality, and improving the street environment.	minerals related vehicles on the roads, to reduce traffic from minerals and waste sites which is contributing to congestion on Oxford's roads, to minimise the impact on local residents' amenity and to minimize traffic related contribution to air pollution, especially in the five identified Air Quality Management Areas.
Oxfordshire Minerals and Waste Local Plan 1996	This Plan sets out detailed policies and guidance on minerals development, in order to provide a framework on which planning decisions can be made on all minerals currently worked within the Plan Area. Provide planning framework for Mineral Planning Authorities which balances society's needs for minerals and the need to protect the environment. Provide information to the public and minerals industry concerning the location and extent of future minerals development in the Plan Area.	The Plan will need to include policies that require a consideration of detailed matters such as the economic, environmental, nature conservation, agricultural, landscape, traffic, site restoration and other effects of the proposal that are relevant to the planning decision.
Oxfordshire's Rights of Way Management Plan 2015-2025	The plan sets out the existing network and aspirational access network that the council thinks could make access easier and safer and help to limit the impact of the main development areas.	The Plan should where possible support the objectives of the Rights of Way Management Plan.
Oxfordshire Sustainable Community Strategy *Oxfordshire 2030*	The SCS provides a long term vision for Oxfordshire. It provides direction for the Oxfordshire Partnership, which includes local authorities, health services, the police, local community groups, voluntary organizations and business. The SCS aims to work to maintain and build on Oxfordshire's economic success in a changing global economy, to encourage communities to be healthy and thriving and to protect the environment and be aware of climate change.	The Plan should contribute towards making Oxfordshire an economically thriving place, without detracting from its environment.
Oxfordshire Strategic Economic Plan (2014)	This plan's vision is to "By 2030 Oxfordshire will be recognised as a vibrant, sustainable, inclusive, world leading economy, driven by innovation, enterprise and research excellence." The plan sets out objectives for economic growth to 2030 under the following themes: • Innovative enterprise e.g. business collaboration; • Innovative people e.g. building of skills and specialisms; • Innovative place e.g. quality environment and choice of homes; • Innovative connectivity, including sustainable transport routes.	The Plan should help support the objectives of the Strategic Economic Plan.

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Shaping Futures West Oxfordshire Sustainable Community Strategy	Produced by the West Oxfordshire Strategic Partnership, 'Shaping Futures' sets out the shared 10-year vision for West Oxfordshire to be: 'one of the best places to live, work and visit'. Nine priority themes are identified to achieve this vision: • To keep towns and villages economically prosperous and vibrant. • To tackle the specific challenges of accessing services and facilities in West Oxfordshire. • To help young people to move from childhood to adulthood. • To support individuals and young families who want to stay in the area where they grew up. • To maintain and improve the health and well-being of all residents in West Oxfordshire. • To reduce crime and anti-social behaviour and the fear of crime across the district to improve the quality of life in our neighbourhoods. • To campaign to improve the transport infrastructure. • To support older people to maintain their independence and health. • To keep West Oxfordshire clean and beautiful while protecting the environment and trying to reduce the causes of and effects of climate change.	The Plan can support the SCS by supporting projects that help to achieve the same objectives.
South Oxfordshire Core Strategy 2027	The Core Strategy guides development in the district and sets out the Council's policies for the use of land. The plan seeks to protect and enhance the natural and built environment. This includes the protection and, where appropriate, the enhancement, of the landscape the Oxford Green Belt, the historic environment, nature conservation and biodiversity, landscape features and agricultural land.	The Plan should identify sufficient deliverable mineral working locations to provide aggregate for the construction of new homes in the District of South Oxfordshire. The Local Plan should identify sufficient waste management locations to provide the capacity to manage the increased waste arisings from the new homes.
South Oxfordshire Sustainable Community Strategy 2009-2026	'Our place, our future' is the sustainable community strategy (SCS) for South Oxfordshire and replaces the earlier community strategy which ran until March 2009. The SCS provides an overarching vision for South Oxfordshire of: 'an attractive, successful, vibrant and safe place where people choose to live, work and visit. It will be a place where everyone can enjoy: • a good quality of life; • a strong sense of community where diversity in people and place is respected and	The Plan can support the SCS by supporting projects that help to achieve the same objectives.

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	valued; • access to the services and facilities they need to support good health and social and economic well-being. It deals with difficult cross-cutting issues such as the economic future of South Oxfordshire, social exclusion and climate change. At the same time as doing this it must: • balance and integrate the social, economic and environmental aspects of communities in South Oxfordshire; • meet the needs of existing and future generations; and • respect the needs of other communities in the wider region or internationally to make their own communities sustainable.	
Statement of Community Involvement Draft for Consultation January 2015 (Oxfordshire County Council)	This Statement of Community Involvement sets out how the City Council will involve the local community when preparing planning policy documents and deciding on planning applications. It: Informs on how to get involved in planning decisions; Sets out how the Council will engage the wider community in planning decisions; and Sets out the level of community engagement that the Council expect from developers in the planning process. In summary, it is about how the Council inform, involve and consult local communities in planning functions.	The Plan must follow the SCI.
Thame Neighbourhood Plan 2013	Thame's Neighbourhood Plan sets out a vision for the area that reflects the thoughts and feelings of local people with a real interest in their community. The Plan sets objectives on key themes such as moving around, housing, employment, green space and community facilities. It builds on current and planned activity and says what the Town Council and its partners will work towards.	The Plan should support the Thame Neighbourhood Plan by supporting projects that help to achieve the same objectives.
Your Vale Your Future; A strategy for Sustainable Communities 2008-2016	The Vale of White Horse's Sustainable Community Strategy (SCS) developed by the Vale Partnership sets out the contribution that the council and its partners can make to deliver an overarching and long term vision for the district. The vision is for a sustainable Vale: • with prosperous, inclusive and thriving communities that have good access to a range of housing, jobs and services; • where everyone can feel safe and enjoy life; • where our needs can be met without compromising the natural and built heritage or the ability of future generations to meet their needs.	The Plan should support the SCS by supporting projects that help to achieve the same objectives.

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Vale of White Horse Local Plan 2011 and new Local Plan 2031 – Part One (Previously referred to at the Core Strategy)	The Vale of White Horse Local Plan 2011 was adopted in July 2006. In line with the NPPF, The Vale of White Horse District Council has now developed Part One of their new Local Plan which will run until 2031. Consultation on the draft new Local Plan – Part One commenced in February 2013 and ended in May 2013.	The Plan should identify sufficient deliverable mineral working locations to provide aggregate for the construction of new homes in the Vale of White Horse District. The Plan should identify sufficient waste management locations to provide the capacity to manage the increased waste arisings from the new homes.
	This consultation document will inform the preparation of the first part of the new Local Plan for the Vale of White Horse District, to be referred to as the Local Plan 2029 Part 1, previously known as the Core Strategy. A series of Strategic Objectives have been developed to help deliver the Spatial Vision for the Vale of White Horse. These Strategic Objectives (SO) are focused around the four overarching themes, as outlined below:	
	1. Building healthy and sustainable communities	
	SO 1: Provide for a range of homes across the district to deliver choice and competition in the housing market.	
	SO 2: Cater for existing and future residents' needs as well as the needs of different groups in the community, ensuring that an appropriate and sustainable proportion of new housing falls within the definition of affordable.	
	SO 3: Direct growth to the more sustainable locations in the district and ensure that development is integrated with existing communities, reflects the built and natural heritage, and is supported by a sufficient range of services and facilities.	
	SO 4: Improve the health and well-being of Vale residents and reduce inequality, poverty and social exclusion.	
	2. Supporting economic prosperity	
	SO 5: Support a strong and sustainable economy within the District, including the tourism sector.	
	SO 6: Support the continued development of the Science Vale UK area as an internationally significant centre for innovation and science based research and business.	
	SO 7: Maintain and enhance the vitality and viability of the Vale's town centres and local shopping centres in order to strengthen their service centre roles.	
	3. Sustainable transport and accessibility	
	SO 8: Reduce the need to travel and promote sustainable modes of transport.	
	SO 9: Ensure new development is accompanied by appropriate and timely infrastructure delivery to secure effective, and wherever possible, sustainable transport choices for new residents and businesses.	
	4. Protecting the environment and responding to climate change	
	SO 10: Improve and protect the natural environment including biodiversity.	
	SO 11: Ensure all new development achieves high quality design standards and to protect	

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	and enhance the natural, historic, cultural and landscape assets of the Vale.	
	SO 12: Minimise greenhouse gas emissions across the district and increase our resilience to likely climate change impacts, especially flooding.	
	Local Plan 2029 Part 2: – Detailed Policies and Local Sites. The Local Plan Part 2 (LPP2) will contain detailed planning policies to guide day-to-day decisions on planning applications	
West Oxfordshire Local Plan 2011 West Oxfordshire Draft Local Plan 2011-2031	The sets out the District Council's policies and proposals for development and land use in West Oxfordshire, including measures for the improvement of the natural and built environment and management of traffic. The role of the plan is to protect the existing high quality environment, the heritage and natural resources of West Oxfordshire whilst meeting the social and economic needs of the people who live and work in the area as well as the needs of tourists or other visitors. The plan makes provision for approx. 6,000 new dwellings, 2,400 of which will be in Witney in the period to 2011. The plan makes provision for 5,500 new homes (figure under review awaiting outcome of the SHMA)	The Plan should identify sufficient deliverable mineral working locations to provide aggregate for the construction of new homes in the West Oxfordshire district. The Plan should identify sufficient waste management locations to provide the capacity to manage the increased waste arisings from the new homes.