



www.landuse.co.uk

Wokingham Borough Landscape Character Assessment

Prepared by LUC for Wokingham Borough Council
November 2019

Project Title: Wokingham Borough Landscape Character Assessment

Client: Wokingham Borough Council

| Version | Date | Version Details | Prepared by | Checked by | Approved by |
|---------|----------|-------------------------------|--------------------------------|----------------|----------------|
| 1 | 30.10.18 | Draft Report | Alice Knight Katrina Davies | Katrina Davies | Kate Ahern |
| 2 | 04.03.19 | Draft Report for consultation | Alice Knight Katrina Davies | Katrina Davies | Kate Ahern |
| 3 | 19.03.19 | Final draft for consultation | Alice Knight | Katrina Davies | Katrina Davies |
| 4 | 25.11.19 | Final Report | Alice Knight | Katrina Davies | Katrina Davies |



www.landuse.co.uk

Wokingham Borough Landscape Character Assessment

Prepared by LUC for Wokingham Borough Council
November 2019

Planning & EIA
Design
Landscape Planning
Landscape Management
Ecology
GIS & Visualisation

LUC LONDON
250 Waterloo Road
London
SE1 8RD
T +44 (0)20 7383 5784
london@landuse.co.uk

Offices also in:
Bristol
Edinburgh
Glasgow
Lancaster
Manchester



Land Use Consultants Ltd
Registered in England
Registered number: 2549296
Registered Office:
43 Chalton Street
London NW1 1JD
LUC uses 100% recycled paper

Contents

| | |
|--|--------|
| Introduction | 1 |
| Context | 1 |
| The purpose of Landscape Character Assessment | 4 |
| Policy Context | 5 |
| Relationship to Published Landscape Studies | 5 |
| Background of the Wokingham Landscape Character Assessment | 6 |
| Summary of Method | 6 |
| Structure of this report | 8 |
| The Landscape of Wokingham Borough | 9 |
| Introduction | 9 |
| Physical Influences | 9 |
| Cultural Influences | 23 |
| Perceptual Character | 26 |
| Summary of Landscape Issues | 30 |
| Landscape Character Classification | 35 |
| Landscape Types and Character Areas | 35 |
| A1: Thames River Valley | 38 |
| A2: Loddon River Valley | 51 |
| A3: Blackwater River Valley | 63 |
| B1: Loddon River Valley with Open Water | 74 |
| B2: Blackwater River Valley with Open Water | 85 |
| C1: Arborfield River Terrace | 96 |
| C2: Hurst River Terrace | 106 |
| D1: Remenham Wooded Chalk Slopes | 117 |
| D2: Sonning Wooded Chalk Slopes | 129 |
| E1: Remenham Arable Chalk Plateau | 140 |
| F1: Bowsey Hill Wooded Chalk Knolls | 151 |
| G1: Hare Hatch Farmed Chalk Slopes | 161 |
| H1: Wargrave-Twyford Arable Chalk Lowland | 173 |
| I1: Ashridge Farmed Clay Lowland | 184 |
| I2: Riseley Farmed Clay Lowland | 195 |
| I3: Grazeley Farmed Clay Lowland | 205 |
| I4: Hurst Farmed Clay Lowland | 216 |
| J1: Wokingham-Winnersh Settled and Farmed Clay | 226 |
| J2: Arborfield Cross and Barkham Settled and Farmed Clay | 236 |
| J3: Spencers Wood Settled and Farmed Clay | 247 |
| J4: Woodley-Earley Settled and Farmed Clay | 259 |
| K1: Stanlake Farmed Sand and Clay Lowland | 269 |
| L1: Bearwood Wooded Sands and Gravel Hills | 281 |
| L2: Farley Hill Wooded Sands and Gravel Hills | 292 |
| L3: Stanford East Wooded Sands and Gravel Hills | 303 |
| M1: Finchampstead Forested and Settled Sands | 313 |
| M2: Finchampstead Ridges Forested and Settled Sands | 324 |
| N1: Holme Green Pastoral Sandy Lowland | 336 |
| N2: Finchampstead Pastoral Sandy Lowland | 346 |

| | |
|------------------------------------|-----|
| Appendix 1 : Methodology | 357 |
| Approach | 357 |
| Process of Assessment | 357 |
| Appendix 2 : Glossary | 360 |
| Appendix 3 : Consultation Response | 365 |
| Appendix 4 : User Guide | 366 |

Tables

| | |
|---|----|
| Table 4.1: Landscape Character Types and Areas in Wokingham | 36 |
|---|----|

Figures

| | |
|---|----|
| Figure 1.1: Location of Wokingham Borough | 2 |
| Figure 1.2: National Character Area Context | 3 |
| Figure 1.3: The 'landscape wheel' (Natural England, 2014) | 4 |
| Figure 1.4: Adjacent Authorities | 7 |
| Figure 2.1: Bedrock Geology of Wokingham | 10 |
| Figure 2.2: Drift Geology of Wokingham | 11 |
| Figure 2.3: Topography and Watercourses | 19 |
| Figure 2.4: Agricultural Land Classification | 20 |
| Figure 2.5: Nature Conservation Designations | 21 |
| Figure 2.6: Woodland | 22 |
| Figure 2.7 Green Infrastructure | 23 |
| Figure 2.8: Cultural Heritage Designations | 27 |
| Figure 2.9: Levels of Tranquillity | 28 |
| Figure 2.10: Levels of Dark Night Skies and Light Pollution | 29 |
| Figure 4.1: Landscape Character Types | 35 |
| Figure 4.2: Landscape Character Areas | 36 |

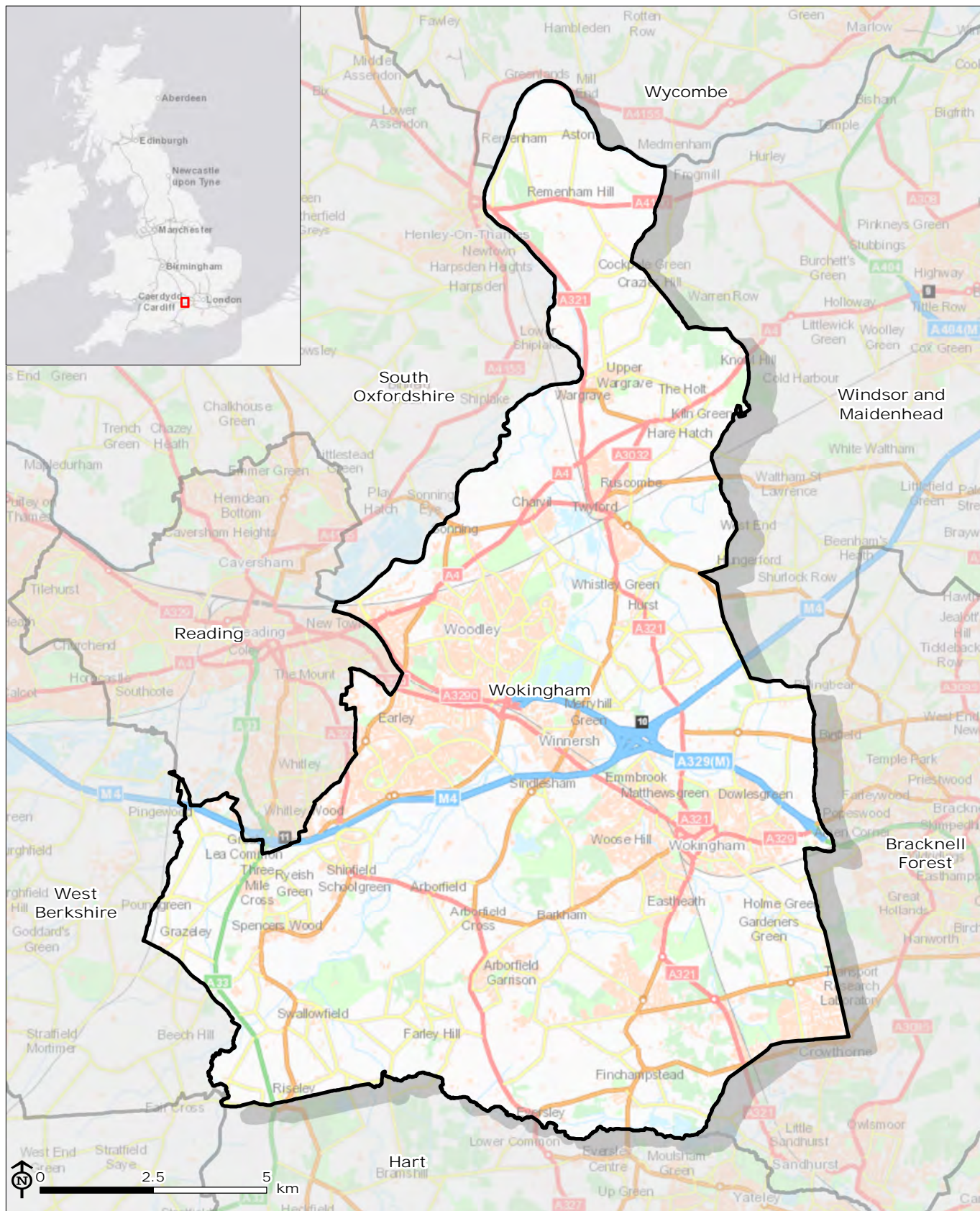
1: Introduction



1: Introduction

Context

- 1.1 Wokingham Borough is located in the heart of the Royal County of Berkshire 30 miles west of London, falling between the urban areas of Reading and Bracknell. The area administered by the borough authority covers 17,892 hectares. The location and context of the study area are shown on Figure 1.1.
- 1.2 To the north of the borough lies Wycombe District, to the east is the Royal Borough of Windsor and Maidenhead and Bracknell Forest Borough, to the south is Hart District and to the west lie West Berkshire Borough, Reading and South Oxfordshire District.
- 1.3 The borough has a population of 154,380 people, concentrated in the main urban centres of Woodley, Winnersh and Earley, the historic market town of Wokingham and the communities of Twyford and Finchampstead, as well as numerous smaller rural villages such as Sonning and Wargrave.
- 1.4 Two railway lines run through the borough, including the mainline from Reading to Paddington which runs through Twyford, while the Reading to Waterloo lines serves Wokingham, Winnersh Triangle and Earley stations.
- 1.5 The M4 motorway runs through the centre of the borough and provides routes to London and Wales. The A329 (M) runs from the M4 between Wokingham and Bracknell and on to the M3 to the south-east. The A33 runs south from Reading along the western edge of the borough. A series of busy main roads including the A4, A329 and A321 and smaller roads form a distributary network within the borough.
- 1.6 The borough is highly accessible, due to its proximity to several settlements and its network of Rights of Way and cycle paths which cross the open fields and woodlands. The Thames Path National Trail passes through the borough on its way **from the river's source in the Cotswold hills** to the sea. There are fine views of countryside throughout the length of the Trail including views into the Chilterns Hills AONB from Henley onwards. The Berkshire loop of The Chilterns Way cuts through the borough at Remenham taking a more inland route than the Thames Path. Some areas of heathland and woodland have open access, such as at Gorrick Plantation.
- 1.7 The Wokingham Borough landscape is considerably varied, an observation illustrated by the fact **that three of Natural England's National Character Areas cover the borough: Areas 110: Chilterns; 115: Thames Valley and 129: Thames Basin Heaths** (shown in Figure 1.2). These provide a **broad indication of the diversity of the borough's landscapes, which range from elevated chalk plateaux to open and settled clay farmlands and wooded hills to coniferous plantations and heaths**. The borough is unified by the interlinked system of attractive lowland rivers and their valleys - the Thames, Loddon and Blackwater.
- 1.8 Approximately 25 per cent of the land area in Wokingham Borough is built up, the remainder is predominantly agriculture and woodland but also present to varying degrees are other types of land use associated with the urban fringe including equine activities and small rural businesses. The presence of a number of estates lends a high degree of unity to the landscape. The Metropolitan Green Belt covers much of the north of the borough (16% per cent of the land area of the borough) – this designation serves a strategic role by checking the unrestricted sprawl of London and preventing neighbouring towns from merging with one another. It aims to keep land permanently open and protect the rural and undeveloped character of land 12-15 miles from the outer edge of London. The boundary was first formally identified in the Central Berkshire Structure Plan in 1980. The wooded chalk hills of the Chilterns AONB are immediately to the north of the Thames, which marks the northern borough boundary.

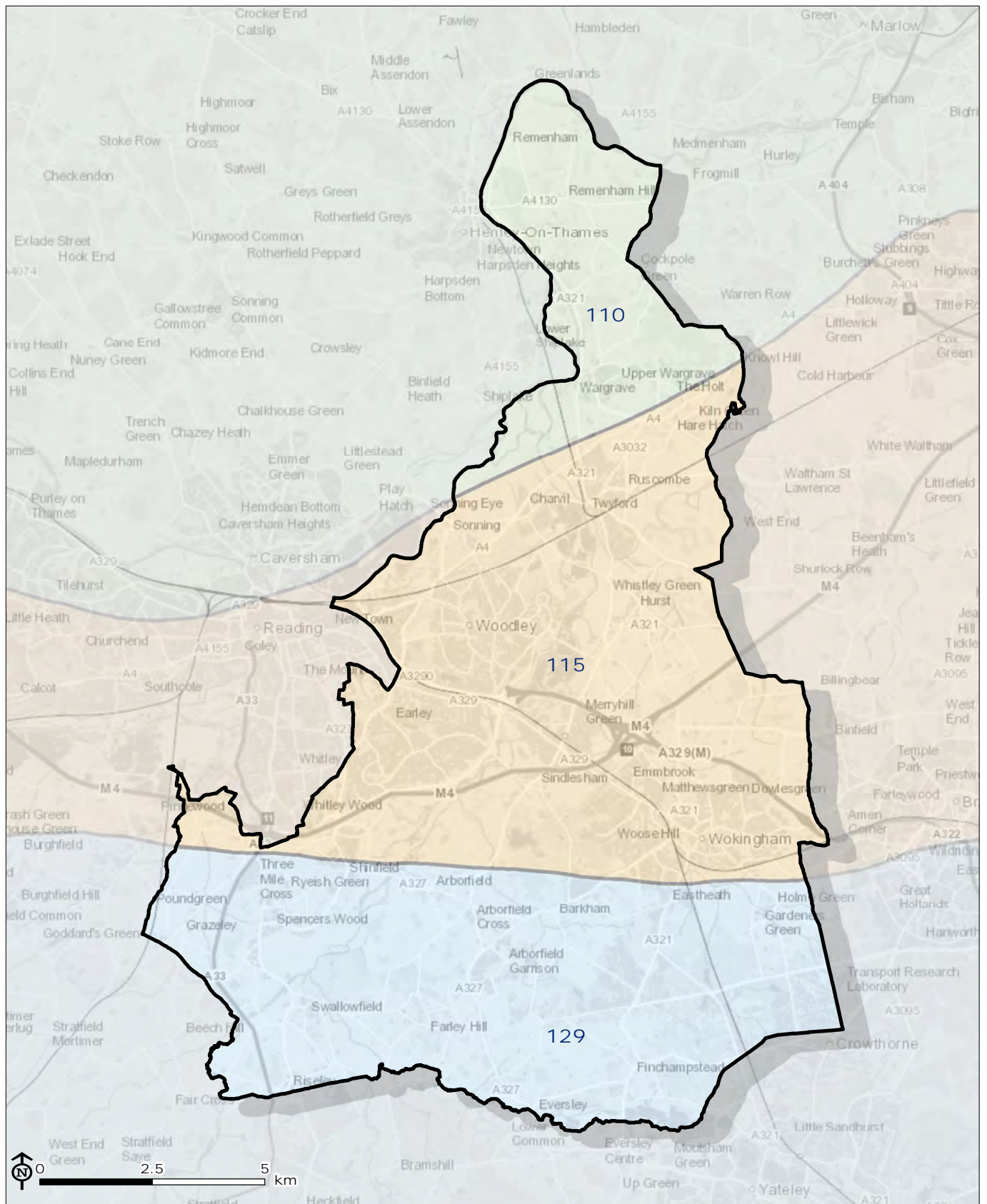


- Wokingham Borough boundary
- Adjacent Local Authority Boundary

Wokingham Landscape
Character Assessment

Figure 1.1: Location of
Wokingham Borough

LUC



Wokingham Landscape Character Assessment

Figure 1.2: National Character Area **Context**

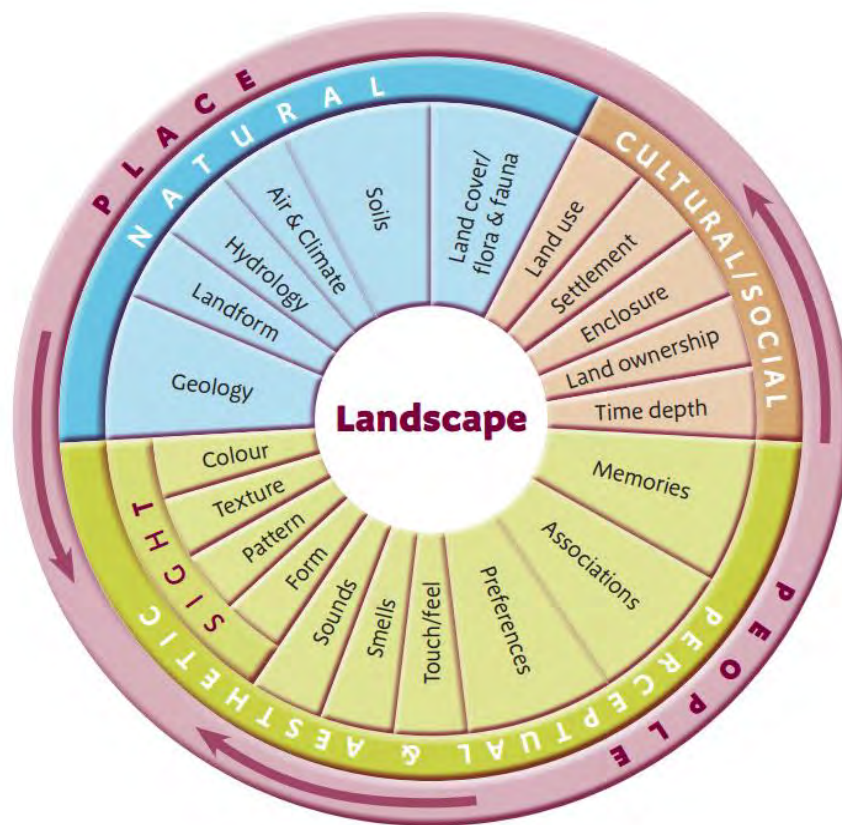


- Wokingham Borough boundary
- National Character Area
- 110: Chilterns
- 115: Thames Valley
- 129: Thames Basin Heaths

The purpose of Landscape Character Assessment

- 1.9 This Landscape Character Assessment (LCA) forms the most up to date evidence base for planners, developers and land managers to take account of the character and valuable attributes **of Wokingham's landscape when considering new development or land uses** – and to pursue opportunities to enhance and strengthen landscape character whenever possible. The need for this evidence base is all the more apparent in the context of continual pressures to accommodate new development and land uses, primarily the need for new housing, and accompanying infrastructure within the borough.
- 1.10 Landscape character **can be defined as** *'the distinct and recognisable pattern of elements, or characteristics in the landscape'*.¹
- 1.11 Landscape character assessment is the process of identifying and describing such variations in character across a landscape – in this case Wokingham Borough. It also seeks to identify and explain the unique combination of features and attributes that make different landscapes distinctive. **The 'landscape wheel' at Figure 1.3 below illustrates how the different natural, cultural and perceptual attributes of a landscape combine to produce character.**

Figure 1.3: The 'landscape wheel' (Natural England, 2014)



- 1.12 The process of Landscape Character Assessment is described in *'An Approach to Landscape Character Assessment'* (Natural England, October 2014). Understanding the character of place **and evaluating an area's defining characteristics is a key component of managing growth sustainably and ensuring that the inherent qualities of Wokingham Borough's landscape can continue to be appreciated.** Understanding of character can be used to ensure that any change or development does not undermine whatever is valuable or characteristic in a particular landscape.

¹ Definitions taken from Natural England (2014) an approach to Landscape Character Assessment. Available online at <https://www.gov.uk/government/publications/landscape-character-assessments-identify-and-describe-landscape-types>

Policy Context

The European Landscape Convention

- 1.13 The European Landscape Convention (ELC) came into force in the UK in March 2007. It establishes the need to recognise landscape in law; to develop landscape policies dedicated to the protection, management and planning of landscapes; and to establish procedures for the participation of the general public and other stakeholders in the creation and implementation of landscape policies.

The ELC definition of 'landscape' recognises that all landscapes matter, be they ordinary, degraded or outstanding:

"Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"

- 1.14 The ELC puts emphasis on the whole landscape and all its values and is forward looking in its approach, recognising the dynamic and changing character of landscape. Specific measures promoted by the ELC of direct relevance to this study include:
- the identification and assessment of landscape; and
 - improved consideration of landscape in existing and future sectoral and spatial policy and regulation.
- 1.15 This updated Landscape Character Assessment will continue to make a key contribution to the implementation of the ELC in Wokingham. It helps to reaffirm the importance of landscape, co-ordinate existing work and guide future work to protect, manage and plan the landscapes of Wokingham.

National Planning Policy Framework (NPPF)

- 1.16 The revised National Planning Policy Framework (NPPF), published in 2019, states in paragraph 170² that, '*Planning policies and decisions should contribute to and enhance the natural and local environment by:*
- ...protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality)*' (para 170.a)
- ...recognising the intrinsic character and beauty of the countryside and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland ...'* (para 170.b).
- 1.17 The Landscape Strategy and Landscape Guidance included in each LCA will be helpful in addressing the need for plan making and decision taking to protect and enhance valuable landscapes; to contribute to and enhance the natural and local environment and landscapes and to recognise the intrinsic character and beauty of the countryside.

Relationship to Published Landscape Studies

- 1.18 Landscape Character Assessment can be undertaken at a variety of scales and levels of detail, with the Wokingham Borough LCA included within a wider hierarchy of landscape character assessment information cascading down from the national to local (Wokingham) level.
- 1.19 At the national level England is divided into 159 distinct National Character Areas (NCAs). Each is defined by a unique combination of landscape character, biodiversity and geodiversity. There are descriptive profiles available for each NCA (published in 2014 by Natural England), setting out information on landscape character, changes in the landscape and an assessment of ecosystem services delivered. This assessment sits within the existing national assessment and Wokingham

² NPPF Chapter 15 Conserving and enhancing the natural environment Para 170

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779764/NPPF_Feb_2019_web.pdf

is covered by three NCAs – Areas 110: Chilterns; 115: Thames Valley and 129: Thames Basin Heath, as shown in Figure 1.2 National Landscape Character Context.

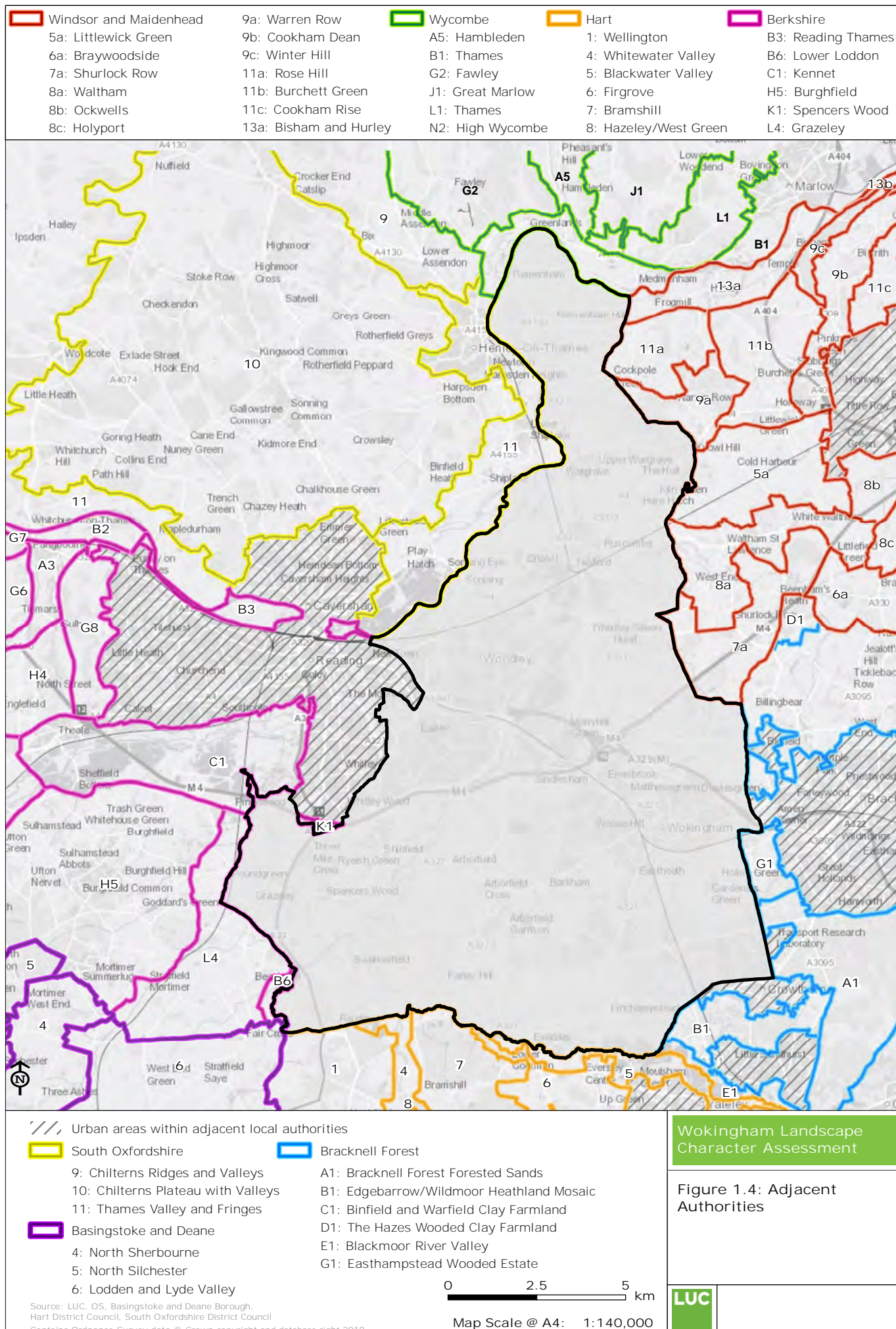
- 1.20 The Berkshire Landscape Character Assessment was published in 2003 and was used as a broad framework for the 2004 Wokingham Landscape Character Assessment. This updated document also follows the broad hierarchy established in the Berkshire Landscape Character Assessment (2003).
- 1.21 Landscape does not stop at administrative boundaries but continues seamlessly into surrounding boroughs. Therefore an aim of this assessment is to sit alongside the Landscape Character Assessments of adjacent authorities as shown in Figure 1.4 Adjacent Authorities.
- 1.22 This assessment can also provide a framework for more detailed assessments, such as local landscape character assessments produced to inform Neighbourhood Plans.

Background of the Wokingham Landscape Character Assessment

- 1.23 This Landscape Character Assessment (LCA) forms part of the evidence base to inform the Wokingham Borough Local Plan Update (LPU). This updated LCA aims to provide an objective description of the landscape and a strategy for managing it. The LCA provides an evidence base to support policies within the LPU or more widely guide decision making around development and the management of future change. It is designed to be used both as a positive tool to guide new development or land uses in a way which understands local variations in landscape character and to protect and enhance the special qualities and **local distinctiveness of Wokingham's landscape**.
- 1.24 The stated objectives of the updated Wokingham Borough LCA were set out in the project brief of April 2018. They were **to review the Council's existing evidence base and provide a** comprehensive and up to date landscape character assessment for all land outside the defined settlement boundaries.
- 1.25 This assessment builds on the existing Wokingham Landscape Character Assessment produced for the authority in 2004 but has been updated in line with current good practice, and to reflect the present state of the landscape, particularly in those areas where changes have occurred since 2004, for example in terms of development, agriculture and land use. The updated LCA contains more detailed evaluative information to provide greater understanding of key sensitivities and values to help in decision-making and accommodating change by providing an understanding of what is valued and why.

Summary of Method

- 1.26 The method adopted for the Landscape Character Assessment of Wokingham follows the guidance **promoted by Natural England through 'An Approach to Landscape Character Assessment'**. A full method description can be found in Appendix 1.
- 1.27 The key aspects were:
 - **Desk based review of the area's landscape character through mapping and the existing** landscape character assessment;
 - Classification, ensuring an appropriate fit within the hierarchy of landscape character assessment undertaken from the national to local level and compatibility with adjacent LCAs in neighbouring authorities;
 - Field survey to verify the classification of landscape types and areas and collect information on perceptual character, landscape condition, valued landscape features and key issues;
 - Writing the LCA descriptions in order to reflect any changes since the last study;
 - Producing an evaluative analysis for each LCA to identify what is valued as well as a forward looking landscape strategy and guidance;
 - Producing a draft report for consultation as part of the consultation process;
 - Producing a full report as part of the evidence base to inform the Local Plan Update.



Structure of this report

1.28 This report is structured as follows:

Part 1: Overview

- Section 1: provides the context to the study and purpose of the LCA, policy context (this chapter).
- **Section 2: looks at the physical and cultural influences that have shaped Wokingham's landscape.**
- Section 3: introduces the landscape classification.

Part 2: The Landscape Character of Wokingham

- Presents the landscape character of Wokingham Borough in detail through a series of profiles.

1.29 The report is supplemented by the following appendices:

- Appendix 1: The method and approach to the study.
- Appendix 2: A glossary of terms.
- Appendix 3: A list of consultees and feedback received through consultation.
- Appendix 4: A summary of current issues around valued landscapes.
- Appendix 5: A '**User Guide**' designed for both developers and decision makers in considering the impact on landscape character as a result of any type of change.

2: The Landscape of Wokingham Borough

Introduction

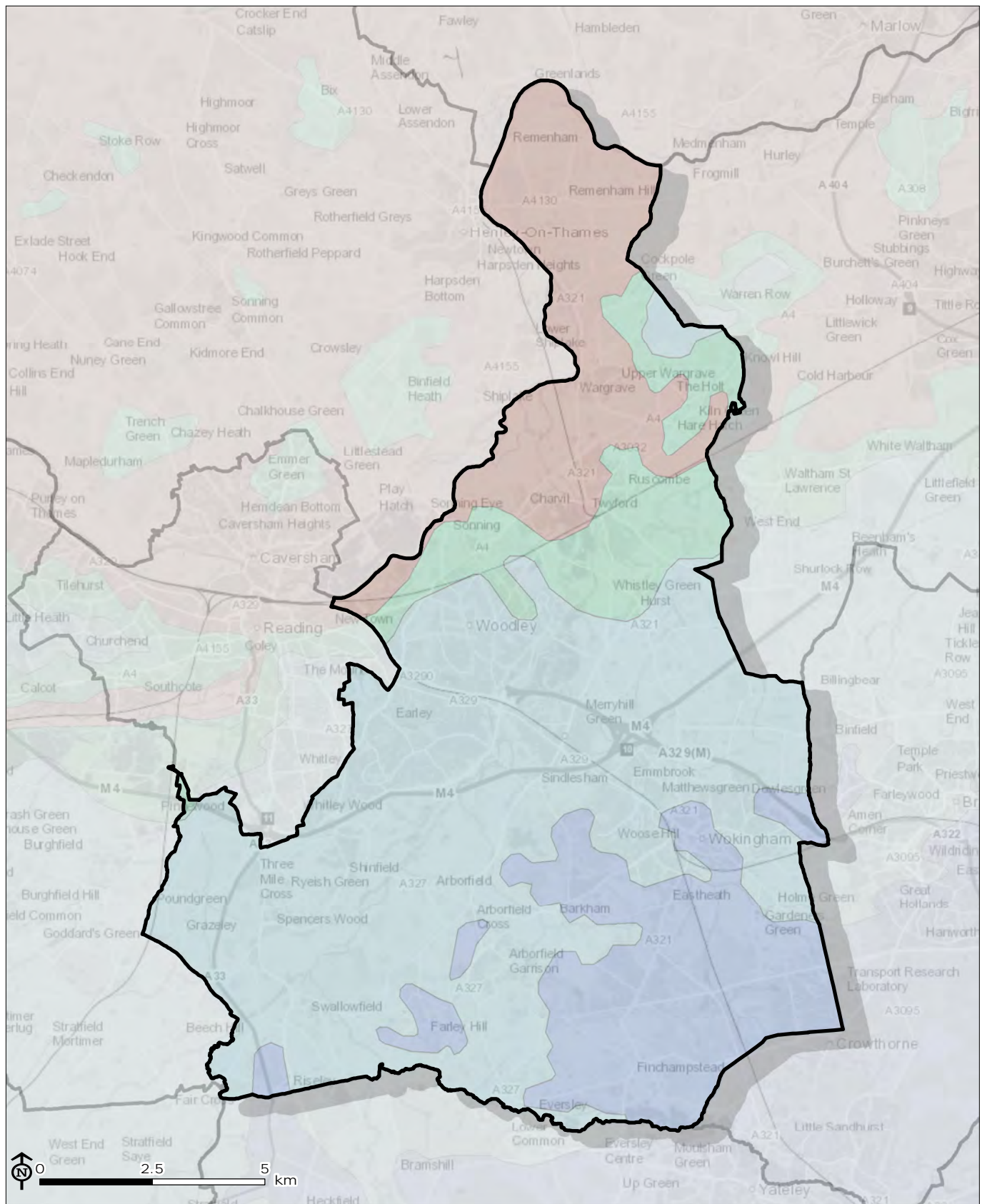
- 2.1 This chapter summarises the main physical and cultural evolution which has shaped the landscape of Wokingham Borough. The detailed descriptions of different Landscape Character Areas, that appear later in this report, highlight those key characteristics (both positive and negative) and valuable attributes that are of significance to each particular landscape.
- 2.2 The British Isles has a rich and diverse landscape that has evolved over many hundreds and thousands of years. It has been created by the interaction of the natural environment and human activities, in particular the combination of physical and cultural influences. Physical influences such as geology and landform, together with the overlying pattern of settlement and land use are key determinants of landscape character.
- 2.3 The text below briefly summarises the influences that have shaped the landscape of Wokingham Borough.


Physical Influences

- 2.4 The physical components of the landscape are the most tangible and fundamental influences upon its character, being the most permanent and least changeable aspects of its appearance. The underlying geology creates **the 'foundation' of the landscape. The actions of weathering, erosion** and deposition alter the landform, consequently influencing hydrological patterns and affecting the nature of soils and soil conditions. These in turn affect how humans have previously used and continue to use the landscape for agriculture, settlement, leisure and industry and consequently influence the nature of the vegetation and fauna that the landscape can support.





Geology and Landform

- 2.5 The basic structure of the landscape is fundamentally influenced by its underlying rocks and relief. Geology and the processes of weathering, erosion and deposition influence the shape and form of the landscape and its drainage and soils. In turn, these influence patterns of vegetation and land use.
- 2.6 Figure 2.1 illustrates the solid (or bedrock) geology that underlies the borough. Figure 2.2 shows the drift (or superficial) geology which overlies the bedrock. These are varied in nature and determine different soil types and drainage characteristics.
- 2.7 For simplicity the description of the geology of the borough has been broken up into the three principal geological phases with their associated formations. However, it must be recognised that this is for clarity and, in fact, the nature of the geology is considerably more complex than this overview may imply.



 Wokingham Borough boundary

Bedrock geology

-  Chalk Formations
-  Lambeth Group - Clay and Sand
-  London Clay Formation
-  Bagshot Formation - Sand

Wokingham - Landscape
Character Assessment

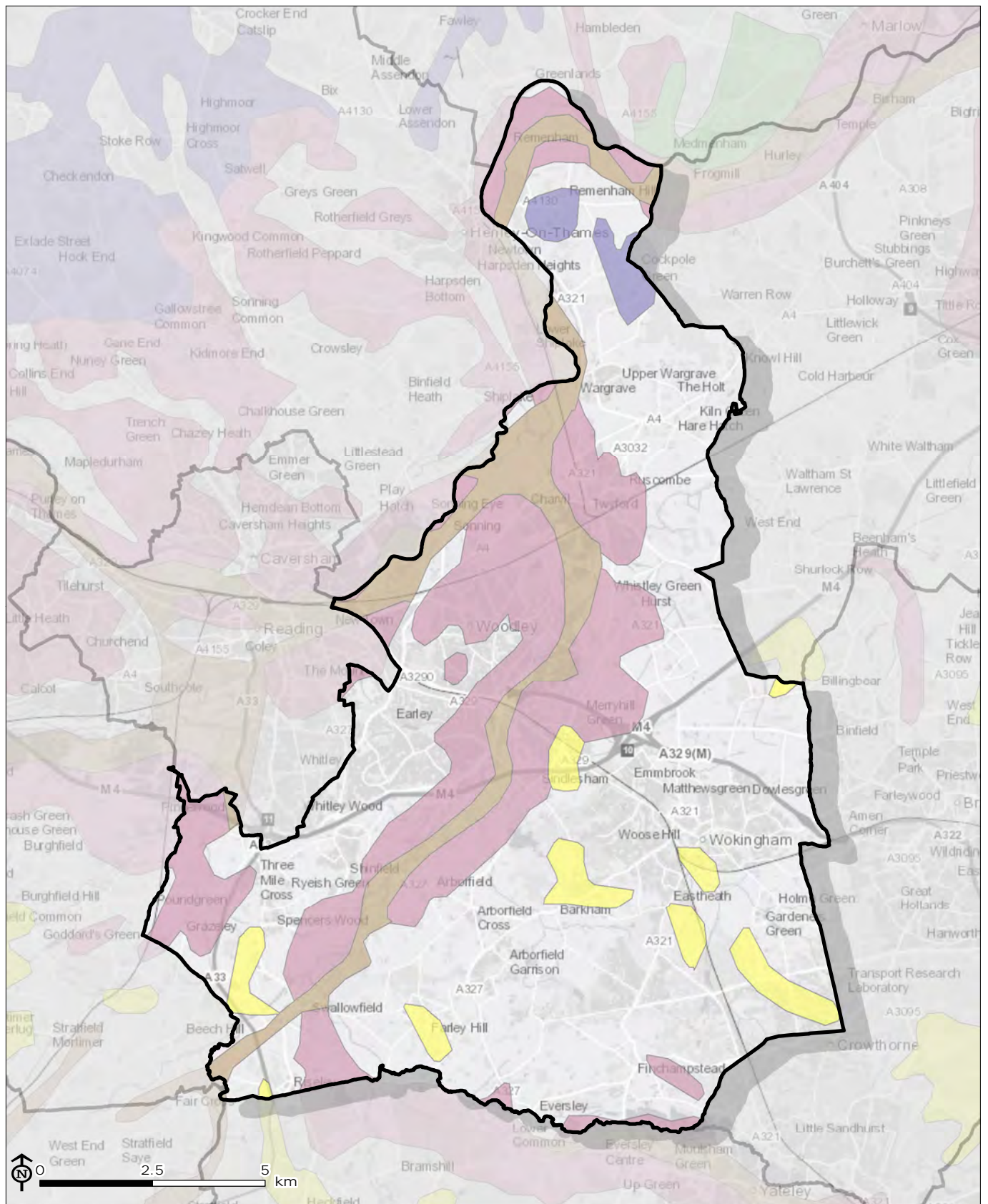
Figure 2.1: Bedrock
Geology of Wokingham


LUC

Source: BGS, OS





Contains Ordnance Survey data © Crown copyright and database right 2018

Map Scale @ A4: 1:120,000



 Wokingham Borough boundary

Superficial geology

-  Alluvium
-  Clay with Flint
-  River Terrace Deposit
-  Sand and Gravel

Wokingham - Landscape
Character Assessment

Figure 2.2: Drift Geology
of Wokingham

LUC

Source: BGS, OS

Contains Ordnance Survey data © Crown copyright and database right 2018

Map Scale @ A4: 1:120,000

The Chalk Landscapes

- 2.8 In geological terms Wokingham Borough is relatively young, being dominated by drift deposits of the Palaeogene and Quaternary Systems with some outcrops of the underlying older Cretaceous Systems. Beneath these systems are the older concealed strata of basement rocks of variable age from the Palaeozoic to Jurassic. The oldest surface geology of Wokingham Borough is that of the chalk strata of the Upper Cretaceous (between 65-97 million years old).
- 2.9 The greatest influences of the Cretaceous system are found in the north of the borough where a large outcrop and separate smaller band of White Chalk Subgroup occur. These have their origin in the deposition of pure calcareous seabed (pelagic) deposits within a sea created by the rising water levels across Europe during the Late Cretaceous period over an area known as the London Platform. Within the chalk beds, flints have also formed – often translucent grey or black silica nodules developing as a result of diagenesis. The **River Thames now separates Wokingham's** chalk outcrops from the more extensive chalk geology of the Chiltern Hills and the North Wessex Downs to the north and west.
- 2.10 Despite much of the chalk being subsequently overlain by Palaeogene and drift deposits the landscapes created by the formations of the White Chalk Subgroup are distinctive. They occur at higher elevations than most other strata of the borough and also provide the basis for some of the most topographically distinct landforms including steep scarp slopes, combe valleys and knolls. The elevated landform is attributable to stresses placed upon the chalk during the Alpine tectonic phase of the Palaeogene. During this period dry land was created by the uplifting of the chalk strata, leading to the recession of the sea at this time. The area also underwent considerable folding at this time to form the London Basin syncline, resulting in the differential raising of chalk strata above the surrounding landscape; it is these areas that today remain visible as chalk hills and downland.
- 2.11 Local variation within the chalk topography has occurred due to differential erosion and deposition in later geological phases. These included the formation of river cliffs and localised incised combe valleys in the chalk slopes by the action of permafrost impeding free drainage during the glacial episodes of the later Quaternary period.

The Clay and Sand Landscapes

- 2.12 Much of Wokingham Borough lies within the western part of the London Basin and its geology is therefore strongly influenced by the deposition of river-borne (fluvial) material in to the London Basin, including the sand and mudstone deposits formed during the Palaeogene 23-65 million years ago.
- 2.13 The oldest of these stratigraphic units is the Lambeth Group. This is dominated by the mottled sandy clays known as the Reading Formation, which are around 10m thick, and comprise mottled clays with fine to medium-grained sands laid down in marshy mudflats crossed by rivers. There are also thinner beds dominated by fine to medium sand and pebbly/flinty beds.
- 2.14 The thickest and most widespread of the mudstone units in Wokingham are the Thames Group of which the predominant member is the London Clay. This occupies a broad band in much of central Wokingham, commonly around 3m deep. These undivided brown to dark blue/grey silty mudstones, including localised areas of fine-grained sands and pebble beds, were deposited in an inland sea created by the considerable raising of sea levels during the Mid-Palaeogene leading to the flooding the London Basin (up to 200m in depth). Due to its method of deposition the clay landscape is relatively flat. It has historically been an important source of brick for construction. Although most important brickworks were located outside Wokingham Borough, the London Clay Formation has historically been an important source of brick for construction including at sites within Wokingham. The famous polychromatic Reading bricks produced using this material can still be seen in many historic buildings in the borough.
- 2.15 The London Clay Formation is overlain in the south east of the borough by the relatively much thinner Bracklesham Group. This formation, comprising the Bagshot Formation, Windlesham Formation and Camberley Sand Formation. These are dominated by thin and fine-grained orange or pale yellow sand inter-bedded with thin layers of pale grey clays, which was deposited in shallow marine or possibly marginal marine, estuarine conditions.

- 2.16 The youngest of these is the Camberley Sand Formation, deposited around 41.2-47.8 million years ago. Following this deposition there was a fall in sea level. At this time the sea level receded to the east of the Wokingham area and therefore no deposition occurred in this period. Although no further marine depositions occurred, fluvial erosion and deposition would have continued to sculpt the landscape.

Sands and Gravels

- 2.17 The Quaternary Period including the Pleistocene or 'ice age' (0.01–1.64 million years ago) was a period of considerable change. Glaciers located at varying distance to the north of the borough led to deposition of materials, mostly sands and gravels, through glacial and fluvial processes.
- 2.18 As a result, the river courses established by earlier uplifts were changed and the modern river systems formed. Most significant in this respect within Wokingham was the creation of the Thames valley with its tributaries including the rivers Loddon and Blackwater. The movement of the Thames from its previous course is thought to have been due to the damming of the original valley by a glacier. As the river courses cut down and changed locations a series of river terraces were formed representing various ancient floodplain levels and relating to the cycle of glacial episodes. In total eight different River Terrace Deposits are represented within Wokingham with the oldest Eighth River Terrace occurring in the most elevated location in the south east of the borough.
- 2.19 The river terraces commonly comprise gravel and sands generally no more than a few metres thick and influenced by the underlying strata. Their composition reflects the geology of their watershed with 'flint with chert' gravels common in the Loddon and Blackwater Valleys and 'flint with limestone' prevalent in the Thames Valley – the latter relating to the chalkier outcrops of the contemporary Chilterns and Berkshire Downs. They are coarse deposits as the finer materials were removed during transportation. These are often extracted for use as aggregates in the construction industry.
- 2.20 Also at this time the periglacial Head of the 'Clay-with-Flints' groups were formed, which cap the high chalk in the north of the borough. These consist of the weathered remains of flints, small amounts of clay and siliceous fossils from the chalk, mixed with Palaeogene sediments. This results in a variably sandy and silty reddish-brown clay with abundant flint pebbles.
- 2.21 The youngest of the Quaternary deposits have been formed during the Holocene epoch – over the last 11,650 years. These are the alluvium and other fluvial materials formed on the river floodplains principally comprising silt and clay and with seams of sand and gravel. Human activity in the form of clearance of woodland and cultivation of the uplands during the Neolithic Iron Age and Roman period resulted in hillwash, which led to increased sedimentation in the river valleys.

Topography and Drainage

- 2.22 The underlying geology has been weathered to create the distinctive landform seen across the borough today. Figure 2.3 illustrates the key river valleys and the variety of topography across the borough.
- 2.23 As described above, the current river systems were established during glacial episodes some 450,000 years ago. The main drainage pattern is from south to north, connecting with the main river valley – the Thames Valley – draining from west to east. The River Thames is the largest of Wokingham Borough's rivers with a wide flat floodplain, defined to the north by the slopes of the Chilterns and to the south by the chalk slopes around Remenham and Sonning. This distinctive valley landscape defines the northern boundary of the borough.
- 2.24 The Thames is joined by a number of tributaries including the River Loddon, which is a significant river in its own right and has its own tributary river - the Blackwater /Broadwater River - that defines the southern boundary of the borough. The watershed of the Loddon includes a network of numerous small tributary streams set within very shallow 'valleys'. These include (from north to south of the borough) Twyford Brook; Billingbear Brook; Emm Brook, with its tributaries Ashridge Brook, Waterloo Road Stream and Queens Brook; and the Barkham Brook.
- 2.25 The Foudry Brook in the west of the borough drains into the River Kennet, lying just outside and to the north of the borough. The Kennet once formed the headwaters of the River Thames but today is one of its tributaries.

2.26 West of Wargrave, where the River Loddon joins the River Thames, the floodplain widens exhibiting an expansive character accommodating the branching of the River Thames forming **St Patrick's Stream**. To the north of Wargrave, the floodplain dramatically pinches and at this point the Thames splits forming the Hennerton Backwater – the two part of the river encircling the low-lying island of Wargrave Marsh.

2.27 Numerous fords across small rivers are a distinctive feature of the borough.

Soils and Agricultural Capability

2.28 The soil types and conditions found in Wokingham strongly relate to the nature of the underlying geology and drift deposits and the influences of hydrology, such as the susceptibility to seasonal waterlogging in river valleys. This in turn affects the land use potential and the intensity and type of land use. It also affects the land's subsequent ability to support different assemblages of natural vegetation. See Figure 2.4 **for an overview of Wokingham's Agricultural Land Classification**.

2.29 There are six basic soil groups within Wokingham, which can be loosely related to the geology. These are as follows:

- **Argillic Brown Earths:** These are found associated with the outcrops of chalk in the north of the borough around Remenham and associated areas including the Thames Valley. Within this group there are divisions recognising the nature of the underlying substrate between: well-drained fine or coarse loamy soils, locally stony and shallow, in Head over river gravel, associated with slowly permeable clayey alluvial soils affected by high groundwater and occasional short term floods; and, similar, well-drained, flinty, fine or coarse loamy soils over chalky head or chalk associated with calcareous moderately deep fine or coarse loamy soils in chalky Head and shallow fine silty soils over chalk. These tend to be given a grade 2 and 3 agricultural land classification with localised areas of grade 4 associated with the river corridor. Consequently they are used for pastoral grassland or broadleaf forestry (particularly the steepest lowest grade or frequently flooded land) and arable farmland.
- **Podzols/Brown Sands:** These are found in a very small area associated with the terraces and sands located around Farley Hill in the south of the borough. These soils are well-drained, stony sandy soils; commonly with a subsurface pan in river terrace gravel associated with slowly permeable loamy over clayey soils in Head over Palaeogene clay and occasionally with moderately well drained loamy soils affected by high groundwater. These are of low agricultural land classification - grade 4 - and therefore support pasture and woodland/forestry including coniferous plantation.
- **Gley-Podzols:** These are found associated with the sandy geological formations in the south and east of the borough around Finchampstead. They are generally sandy soils, sandy over clayey soils and sandy over coarse or fine loamy soils, commonly with subsurface pan and impeded drainage in Head over Palaeogene strata associated with well drained sandy soils having subsurface pan in Palaeogene sands and permeable sandy and fine or coarse loamy soils affected by high groundwater. Being of generally low agricultural grade - typically grade 4 with areas of grade 3 - these acidic soils support pasture and woodland, particularly plantation conifer and also semi-natural vegetation including heathland and mire.
- **Argillic Gley Soils:** These are found along or associated with the river valleys of the Loddon and Blackwater and the associated smaller tributaries such as the Foudry Brook and the Twyford Brook. They are stony fine or coarse loamy soils in Head over river terrace gravels with high groundwater, associated with clayey alluvial soils affected by high groundwater and occasional short term flooding. The mixed agricultural grades - grade 4 along the immediate river corridor and grade 3 along the adjoining land - support a variety of land uses including both pastoral and arable farmland and small-scale woodlands. Drainage channels are frequent in areas of this soil type.
- **Stagnogley Soils:** These cover a large band across the centre of the borough from Spencers Wood to north of Wokingham largely corresponding to the clay landscapes. They are clayey or loamy over clayey soils in Palaeogene clays and Head with drainage impeded at moderate depths by an impermeable layer. They are generally of grade 3 and because their flatness makes them suitable for mechanised agriculture they support arable farmland with localised

areas of pasture, except where the sandier substrates emerge when they tend to be given over to woodland uses. They are frequently drained with a network of deep ditches.

Ecological Character

- 2.30 The presence and distribution of natural habitats found in the borough are strongly influenced by geology and landform. Important ecological habitats are recognised through designations: Sites of Special Scientific Interest (SSSIs), Local Wildlife Sites (LWS) and Local Nature Reserves (LNR), shown on Figure 2.5. The general distribution of woodland, including ancient woodland across the area is shown in Figure 2.6.
- 2.31 The majority of the borough is characterised by urban centres, namely Woodley, Earley, Wokingham, Winnersh and Twyford, together with wide-spread agricultural land use. Although urban and agricultural land uses dominate the landscape, the borough has retained a variety of undeveloped areas which support significant biodiversity, with woodlands, grasslands and wetlands all well represented, many of which have nature conservation designations.
- 2.32 Although there are sites of nature conservation value scattered throughout the borough, there are several areas **identified within Berkshire's Biodiversity Opportunity Areas (BOAs)** which indicate areas where there are substantial opportunities for habitat creation and restoration in order to create networks of resilient wildlife habitats.
- 2.33 The following BOAs are located within Wokingham Borough:
- Chilterns Escarpment;
 - Ashley and Bowsey Hills;
 - Thames Basin Heaths;
 - Blackwater Valley;
 - Loddon Valley Gravel Pits;
 - Loddon Valley South; and
 - Waltham Woodlands and Parklands.
- 2.34 To the north of the borough, the Chilterns Escarpment BOA contains the north facing chalk escarpment which runs along the northern boundary. This is dominated by rural land uses but is ecologically important for its extensive woodlands (many of which are ancient in origin) particularly on the steep chalk slopes. There are also pockets of chalk grassland between the woodland blocks, with small areas of unimproved chalk grassland remaining.
- 2.35 The wooded hills of the Ashley and Bowsey Hills BOA rise out of the chalk and include valuable semi-natural woodland habitats, often beech. Much of this woodland is also ancient in origin.
- 2.36 The Thames Basin Heaths BOA is located in the south east of the borough and extends into Bracknell. The sandy soils support extensive woodland cover, mostly coniferous, but also important relict heathland and bog habitats, with nationally important sites including Longmoor Bog (SSSI) and Heath Lake (SSSI).
- 2.37 The Blackwater Valley BOA, Loddon Valley Gravel Pits BOA and Loddon Valley South BOA have all been the focus of extensive gravel extraction, much of which has now been restored and have developed both nature conservation and recreational value. With further extraction proposed, particularly in the Loddon valley, the opportunity exists to coordinate management of gravel pits to enhance biodiversity. The river valleys support a number of important habitats, often associated with former gravel pits, including standing water, wet woodland, fens and reedbeds. The Loddon Valley in particular supports a number of sites of national importance, including the wet woodland at Lodge Wood and Sandford Mill (SSSI) and the lowland meadows at Stanford End Mill and River Loddon (SSSI). The opportunity exists to extend these areas of lowland meadow,
- 2.38 The Waltham Woodlands and Parklands BOA is a target for woodland and lowland meadow restoration as well as continued management of parkland.

- 2.39 The Wokingham Borough Council Biodiversity Action Plan 2012-2024 sets out the key habitats found in the borough, which include Woodland, Grassland and Hedgerows, Wetland and Heathland. Details of these habitats are set out below.
- 2.40 The need for strategic green infrastructure in urban and rural areas, to mitigate the effects of climate change and aerial pollution, is detailed in the NPPF (para 20 d). The Council has designated a number of Green Routes and Green Route Enhancement Areas (in Policy CC03: Green Infrastructure, Trees and Landscaping), to:
- Contribute significantly to the quality of life by creating a sense of place and wellbeing;
 - Provide health benefits by enabling access to opportunities for creation;
 - Provide opportunities for sustainable transport and access, including though public rights of way;
 - Combat climate change;
 - Minimise flood risk;
 - Create an ecological network that encourages the movement of wildlife along green corridors.
- 2.41 These are illustrated on Figure 2.7.

Woodland

- 2.42 Wokingham Borough is relatively rich in woodland habitats, with approximately 2776.47ha of the borough covered by woodland of which 1000ha is lowland mixed deciduous woodland.
- 2.43 The borough supports a range of woodland types with the underlying geology dictating the location of different woodland habitats from beech woodland over the chalk in the north, to the oak woodlands over acidic soils in the south and west. Between these, mixed broadleaved woodland underlain by London Clay is found. Wet woodland is associated with the floodplains of the major rivers and streams. Coniferous plantations on former heathland sites are among the poorest habitats for wildlife although natural regeneration of broadleaved tree species is improving this.
- 2.44 Particularly well-wooded areas are found to the north around Remenham and Bowsey Hill along the steep scarp slopes (where much of the woodland is ancient in origin) and to the southeast where mixed plantations are common on the sandy soils around Finchampstead.
- 2.45 Ancient semi-natural woodland is widely distributed throughout the borough, typically occurring as small fragments within the agricultural and urban matrix. More extensive areas occur on the steep chalky slopes to the north, for example Remenham Wood. Much of this ancient woodland has been replanted, largely with beech (*Fagus sylvatica*) on the chalk and with oak (*Quercus robur*) on the heavier soils, and is managed as coppice or high forest. Although replanting reduces the nature conservation value of these sites they remain important for biodiversity, and often support a unique assemblage of plants and animals.
- 2.46 The remaining ancient woodlands are mostly small coppice woodlands, which often support a species-rich ground flora, with bluebell (*Hyacinthoides non-scripta*) and wood anemone (*Anemone nemorosa*) often occurring in abundance. The majority of these small coppice woodlands have not received continuity of management and few have been coppiced in the past 20 years.
- 2.47 The NPPF places great emphasis on the preservation of ancient or veteran trees. The Wokingham District Veteran Trees Association was founded in 2007 to support a survey of veteran trees in the borough and works with the Council to protect and care for these trees. The WDVTA has mapped the locations and details of many trees³, and should be used alongside standard tree surveys to ensure ancient or veteran trees are appropriately preserved and protected¹⁶.
- 2.48 Wet woodlands are found in association with river valleys and bog communities. The riverine woodlands are particularly concentrated around the River Loddon valley and are generally

³ Wokingham District Veteran Tree Association Survey Map: <https://wdvta.org.uk/WDVTS/>

composed of alder (*Alnus glutinosa*), crack willow (*Salix fragilis*) and ash (*Fraxinus excelsior*). They provide a refuge for the rare Loddon Lily (*Leucojum aestivum*), and are considered to be of national importance. The bog woodlands are areas of wet woodland, generally found in shallow sandy valleys where there is some peat accumulation. A good example is Longmoor Bog (SSSI), which lies within California Country Park, and is carr woodland with alder (*Alnus glutinosa*), grey willow (*Salix cinerea*), downy birch (*Betula pubescens*) and alder buckthorn (*Frangula alnus*). These bog woodlands often support an interesting ground flora, dominated by sedges (*Carex* spp.) and Sphagnum species.

- 2.49 Coniferous plantation is a common feature on former heathland sites in the southeast of the borough. These woodlands are generally of low conservation value. However, where appropriately managed, for example by encouraging structural heterogeneity and retaining deadwood and where forming intimate mosaics with other habitats such as heathland and bog, they can enhance habitat diversity at a landscape scale. This benefits specialist heathland birds such as nightjar and woodlark as well as other specialist invertebrate and fungi species. As coniferous plantations are neglected, some are naturally regenerating with native woodland which is enhancing biodiversity.

Grassland and hedgerows

- 2.50 The most valuable grasslands within the borough are those that have escaped agricultural improvement. Such grassland habitats are a scarce resource, and most have been lost to arable agriculture or substantially improved by fertiliser application. These range from acid grasslands (associated with lowland heathland) in the south and east through to neutral grasslands mainly on the London Clay to Chalk in the north and west.
- 2.51 Wet grassland is associated with the major rivers and streams of the borough, particularly the floodplain where drainage is impeded. Grazing marshes have undergone significant losses mostly through arable conversion or development. There is approximately 450ha of Floodplain Grazing Marsh in the borough within the floodplains of the rivers Loddon, Blackwater and Thames. Although the majority of this is considered to be in poor conservation status. These sites often provide important areas for breeding birds such as lapwing.
- 2.52 Lowland unimproved grassland has decreased by 97% nationally between 1930 and 1984, and suffered similar dramatic decline within the borough. Only 10ha of unimproved neutral grassland remains within the borough and this is generally restricted to small fragments along roadside verges and in churchyards. However, Stanford End Mill (SSSI) provides a rare example of neutral grassland that has received continuity of traditional management. The site is important for supporting a diverse suite of grassland species, most notably for its large and thriving colony of **snake's head** fritillary (*Fritillaria meleagris*).
- 2.53 Chalk grassland is a scarce resource in the borough and there are two separate sites at Remenham Wood and Happy Valley and Conways Bridge, both designated as LWS. This area is notable for supporting the nationally rare rough marsh-mallow (*Althaea hirsuta*). Less than 1ha of Purple Moor Grass and Rush Pasture are present in the borough.
- 2.54 Acid grassland is found as scattered patches in association with the free draining sandy soils and heathland vegetation, particularly around Finchampstead.
- 2.55 Hedgerows, along with their associated trees, banks and flora in the immediate margins are a key habitat and wildlife corridor within the open landscape. Their loss or decline in quality would be likely to have an adverse effect on the populations of numerous associated species including birds, mammals and insects. Hedgerow trees are of particular value given that the numbers of such trees are currently falling rapidly.

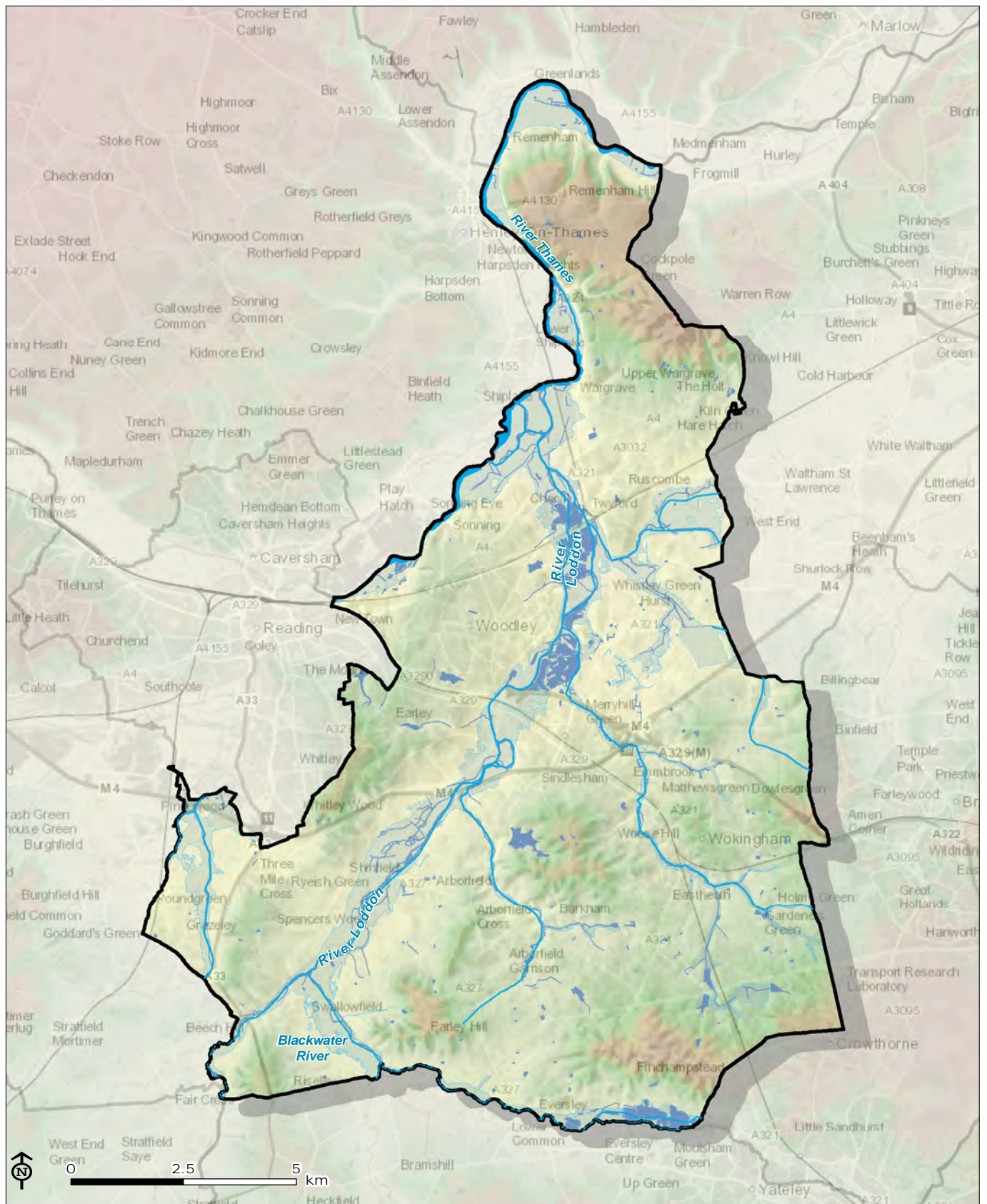
Wetland

- 2.56 Wokingham Borough is crossed by the River Loddon (which flows through the borough to its confluence with the Thames in the north of the borough). The borough is bordered by the River Thames in the north and the Blackwater River in the south. River floodplains account for 20% of the borough (a total of 3440ha). In addition there are a number of smaller streams that feed into the main rivers, including the Barkham Brook, Emm Brook, Twyford Brook, Hare Hatch stream and Foundry Brook. These rivers and streams form valuable ecological corridors between otherwise isolated sites.

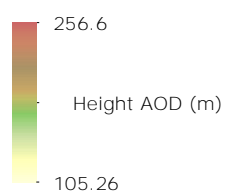
- 2.57 Considering these three rivers influence such a high proportion of Wokingham, there are very few associated natural wetland habitats remaining. Wetland vegetation such as reedbed and stands of tall-herbs are now mostly restricted to narrow fringes along the riverbanks and it is estimated there are only 10ha of reedbeds in the borough.
- 2.58 All the rivers are classified as lowland rivers with shallow gradients. The River Loddon is a neutral river of high ecological quality, and a four-kilometre section together with Stanford End Mill has been recognised as a SSSI. Here Loddon pondweed (*Potamogeton nodosus*) forms dense mats together with fennel-leaved pondweed (*Potamogeton pectinatus*), yellow water-lily (*Nuphar lutea*) and arrowhead (*Sagittaria sagittifolia*).
- 2.59 The River Thames is a major river extensively managed for boat traffic and flood defence purposes. It retains significant ecological interest. The River Thames has suffered from recreational pressure and flood defence management, and populations of the nationally important Loddon pondweed (*Potamogeton nodosus*) have dwindled and may now be locally extinct in this river. However the Thames floodplain has maintained some ecological interest and recent years have shown improvements in water quality. A number of wet woodlands still occur in the Thames valley and these provide important sites for the rare Loddon Lily (*Leucojum aestivum*).
- 2.60 The River Blackwater flows through predominantly urban areas and is prone to pollution incidents; however it retains ecological interests especially around Finchampstead.
- 2.61 Wokingham is reputed to have over 600 ponds, particularly common in the parishes of Hurst, Ruscombe, Winnersh, Sonning and Shinfield, although little is known of their ecological value.
- 2.62 Gravel extraction has been extensive in the Blackwater and Loddon valley and as a result there are numerous large lakes within these areas. This complex of wetlands and lakes support regionally important populations of a variety of wildfowl. These sites have enhanced local biodiversity and provide important areas for public recreation. Dinton Pastures County Park for example, is a 135ha reserve, which supports a variety of lakes, scrub and grasslands.
- 2.63 In addition there are a group of much older relatively small acidic lakes in the south of the borough but only one designated as a SSSI for its populations of acid loving aquatic plants (Health Lake SSSI) and this is very limited due to eutrophication caused by housing development.

Heathland

- 2.64 The extent of heathland habitat has declined drastically due to forestation, development and agricultural conversion. Heathland is now is restricted to small fragments concentrated on the sandy soils around Finchampstead and Crowthorne in south-east Wokingham. There are approximately 20ha of Lowland Heath with only two sites significantly greater than 1ha in extent, Longmoor Bog SSSI (6.3ha) and Simons Wood (**Simon's Wood and Heath Pond LWS**) (6ha). The heathland sites often have mosaics of dry and wet heath and are important sites for specialist invertebrates, birds and reptiles.



- Wokingham Borough boundary
- Surface water
- Flood zone 2 and 3



Wokingham - Landscape Character Assessment

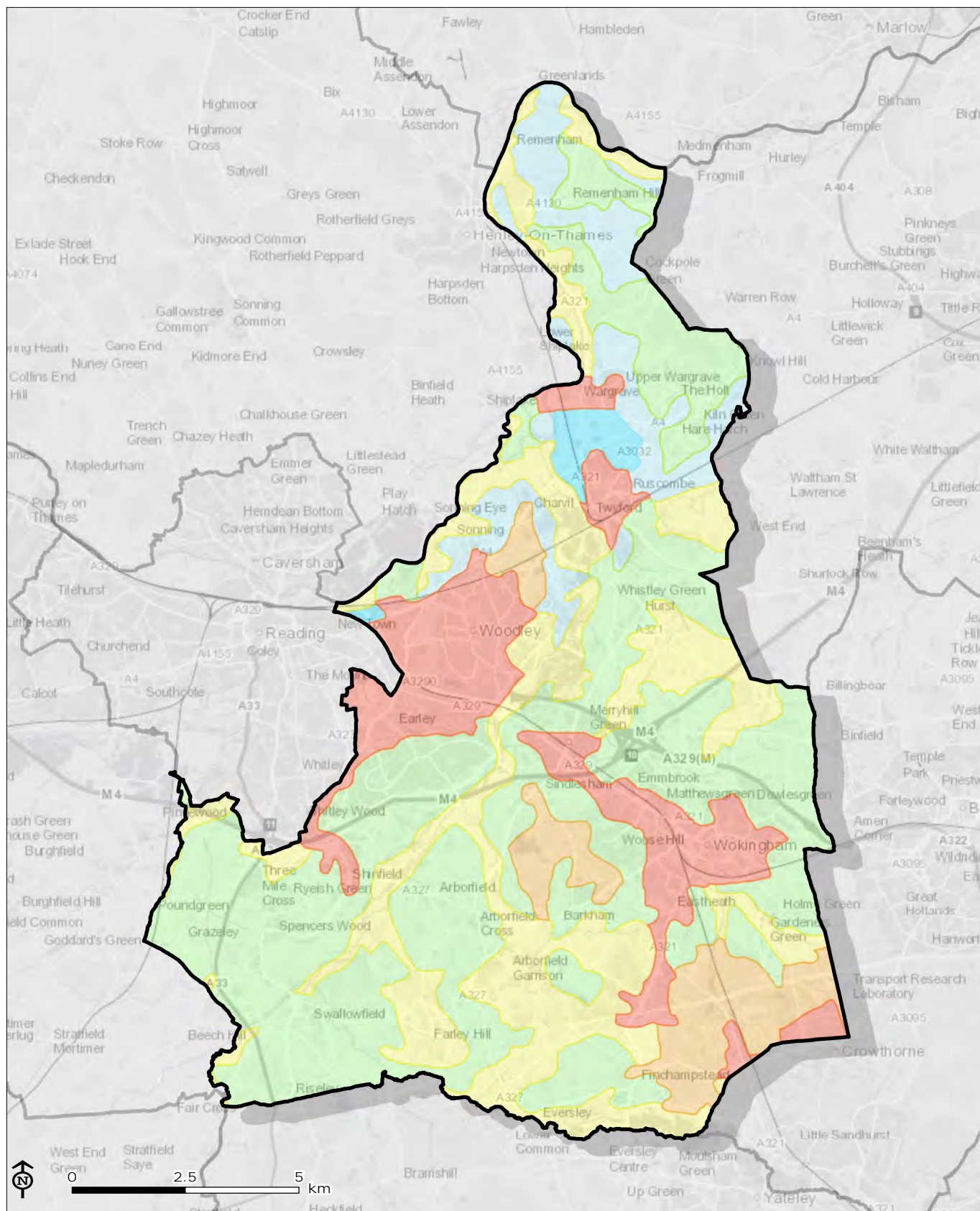
Figure 2.3: Topography and Watercourses

Source: EA, OS

Contains Ordnance Survey data © Crown copyright and database right 2019

Map Scale @ A4: 1:120,000





Wokingham Borough boundary

Agricultural Land Classification

- | | |
|---------|------------------|
| Grade 1 | Grade 5 |
| Grade 2 | Non Agricultural |
| Grade 3 | Urban |
| Grade 4 | |

Wokingham - Landscape Character Assessment

Figure 2.4: Agricultural Land Classification

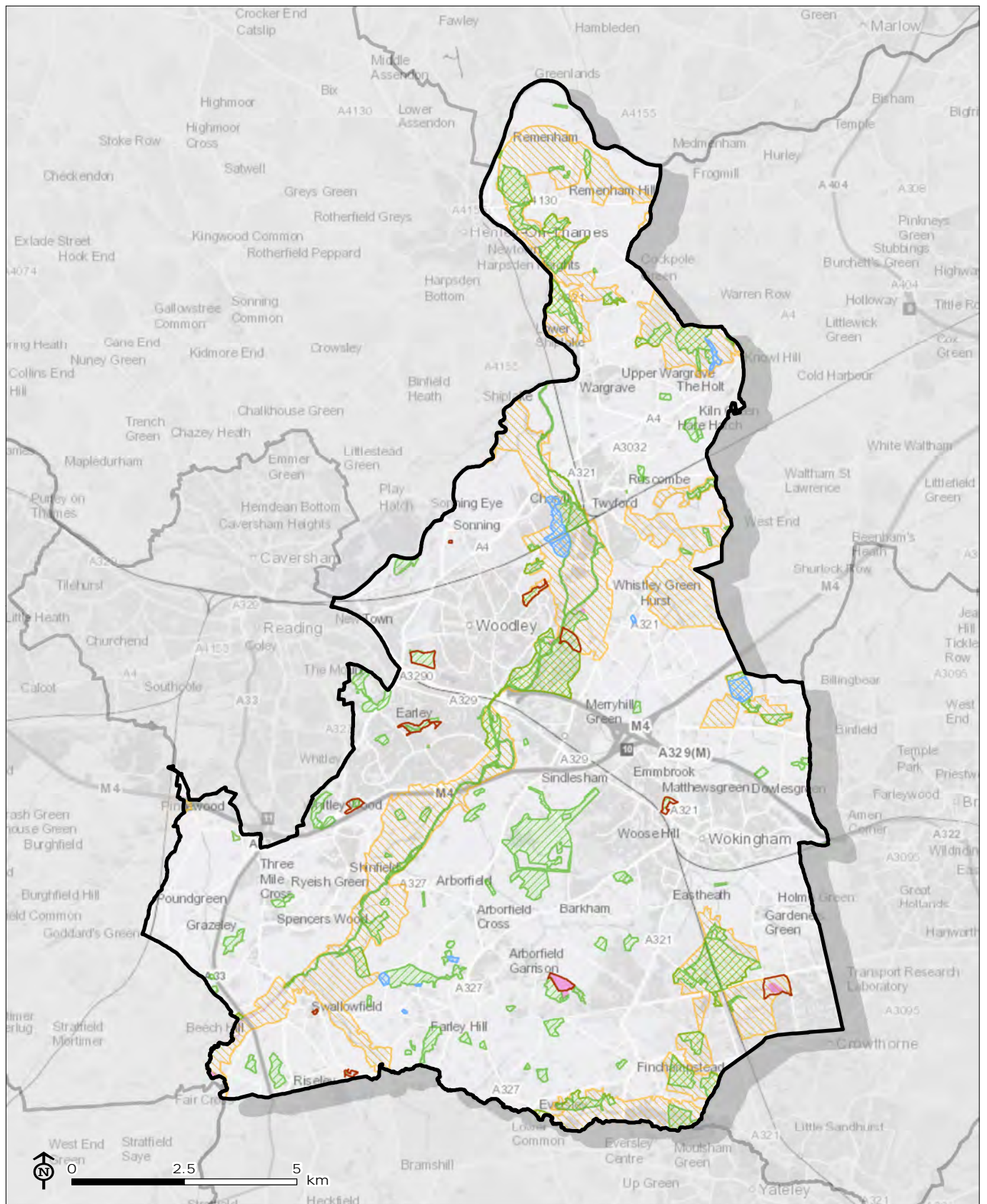
LUC

Source: NE, OS

© Natural England copyright 2018.

Contains Ordnance Survey data © Crown copyright and database right 2018

Map Scale @ A4: 1:120,000



- Wokingham Borough boundary
- SSSI
- Local Nature Reserve
- Local Wildlife Site
- Proposed Local Wildlife Site
- Biodiversity Opportunity Area

Source: Historic England, Wokingham Borough Council, Thames Valley Environmental Records Centre

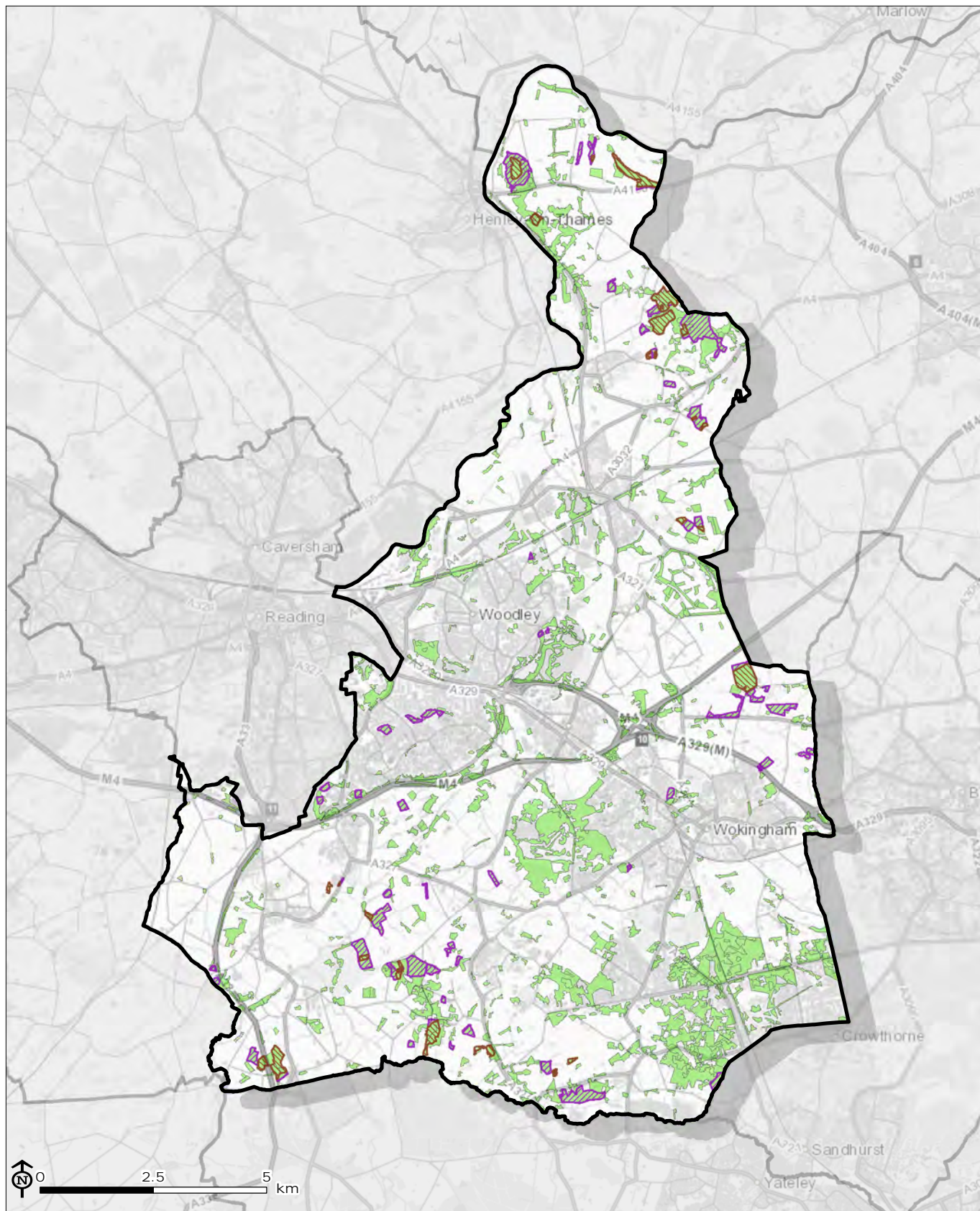
Contains Ordnance Survey data © Crown copyright and database right 2019

Map Scale @ A4: 1:120,000

Wokingham - Landscape
Character Assessment

Figure 2.5: Nature
Conservation Designations

LUC



- Wokingham Borough boundary
- National Forest Inventory
- Semi-Natural Ancient Woodland
- Planted Ancient Woodland

Wokingham - Landscape
Character Assessment

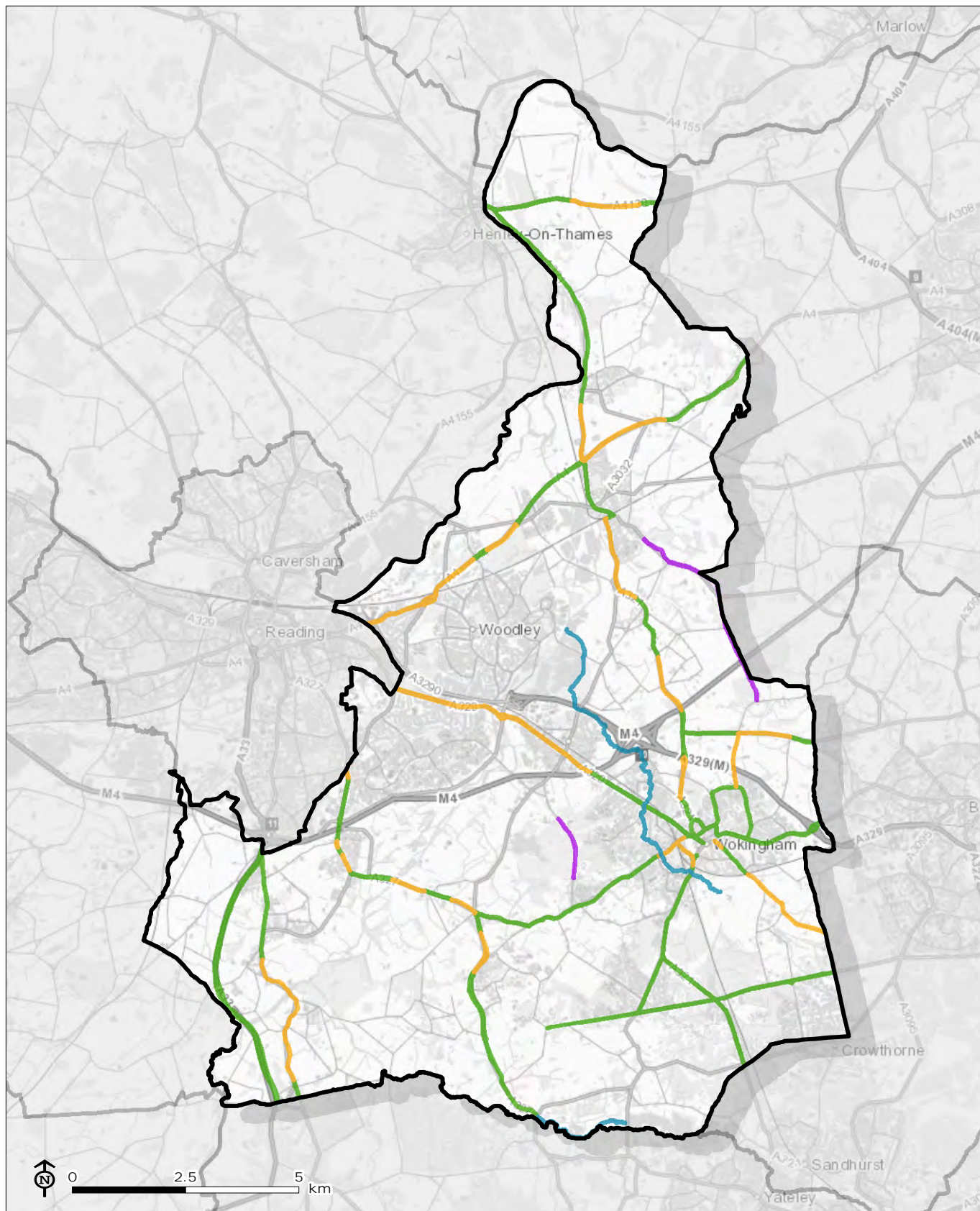
Figure 2.6 Woodland

LUC

Source: NE, Forestry Commission, OS

© Natural England copyright 2019.
Contains Ordnance Survey data © Crown copyright and database right 2019

Map Scale @ A4: 1:120,000



- Wokingham Borough boundary
- Green Route
- Green Route Enhancement Areas
- Proposed Green Route Enhancement
- Proposed Riverside Footpath

Wokingham - Landscape
Character Assessment

Figure 2.7: Green
Infrastructure

LUC

Source: WDC

Contains Ordnance Survey data © Crown copyright and database right 2019

Map Scale @ A4: 1:120,000

Cultural Influences

- 2.65 The landscapes and settlement of the borough have developed over time. They have been greatly **influenced by man's use of the land as population and agricultural pressures have ebbed and flowed**. The important historic features that remain in the landscape today are recognised through designations (Scheduled Monuments, Registered Parks and Gardens, listed buildings and locally designated examples of these) and the national designations can be seen on Figure 2.8.
- 2.66 The diverse landscape of Wokingham is a reflection of not only of its varied geology and topography, but also the product of its use through history. Since prehistoric communities first cleared the native woodland to grow their crops, each generation has inherited from its forebears an historic landscape and has, in turn, transformed it, in some cases subtly, in others more drastically. The accelerated transformation of the landscape in modern times has meant that that its cultural attributes of prehistoric, Romano-British, Anglo-Saxon, medieval and post-medieval have been progressively overwritten by recent events, creating a layer of cultural influences, in some places still indelible in the countryside, but elsewhere now hardly legible, if at all.
- 2.67 Possibly as early as the Mesolithic (8,500–4,000 BC), but certainly from the start of the Neolithic (c. 4,000 BC), prehistoric communities modified and managed the landscape for economic and social purposes. The extent of these changes has been visible in modern times mainly in the distribution of cropmarks recorded in air photographs, particularly along the Thames valley, but also in other areas where conditions are suitable. However, apart from two surviving round barrows near Finchampstead, the burial and ceremonial monuments, settlement enclosures and field systems are now no longer visible in the landscape. The permanent impacts of prehistoric settlement and agriculture were the gradual clearance of woodland starting on the valley floors, the progressive alluviation of the valley floors resulting from the cultivation of cleared soils on the valley sides, and the early depletion of sandy soils in the south of the borough leading to the early creation of heathland.
- 2.68 The settlement pattern and economy of the Romano-British period (43–410 AD) displays considerable continuity with those of the preceding Iron Age, and it is possible that in places prehistoric land boundaries may have been maintained. Again, most of the evidence is invisible within the modern landscape. Other features, however, were imposed upon the contemporary landscape, as determined by the priorities of the centralised Roman administration, the most visible being the Roman road between Londinium (London) and Calleva Atrebatum (Silchester). **The road's agger (earthen embankment) is still visible at locations in Crowthorne and Finchampstead parishes**, and its line is reflected in the alignments of a number of lengths of modern road and track. During its use, the road attracted high status settlements and villa estates, but although it remained a landscape feature in succeeding periods (it still forms the southern boundary of the borough at Riseley and Crowthorne) its influence as a communication route waned after the end of Roman rule.
- 2.69 During the Saxon period (410 – 1066) there was an expansion of settlement onto the previously unsuitable clay soils, and documentary and place-name evidence indicates that, apart from the heathland areas with their poor sandy soils in the southeast, the borough had a largely settled landscape by the time of Domesday survey in 1086. While it is possible that Romano-British estate boundaries were in turn preserved in those of Saxon estates, it is clear that by the 10th century the broad pattern of later medieval estates and parishes was well established.
- 2.70 The whole of east Berkshire formed part of the Royal Forest of Windsor, a wide and largely open expanse of heathland, with some woodland and other habitats. The area was maintained under Forest Law to protect the **Crown's venison (deer) and vert (the greenery the deer depended on)**, a process largely instigated under William I in the 11th century. The original Anglo-Saxon settlements and their surrounding fields remained in the newly afforested landscape. Much of the landscape with the borough remained subject to Forest Law, despite widespread disafforestation elsewhere in the country after 1227. The area and the extent of the royal hunting forest are **depicted in Norden's maps of the early 17th century** (J. Norden, A description of the honour of Windsor 1607).
- 2.71 The Royal Forest of Windsor lingered on as largely open land, used for hunting and exploited for timber until it was formally disafforested in 1813. Following disafforestation, large areas of

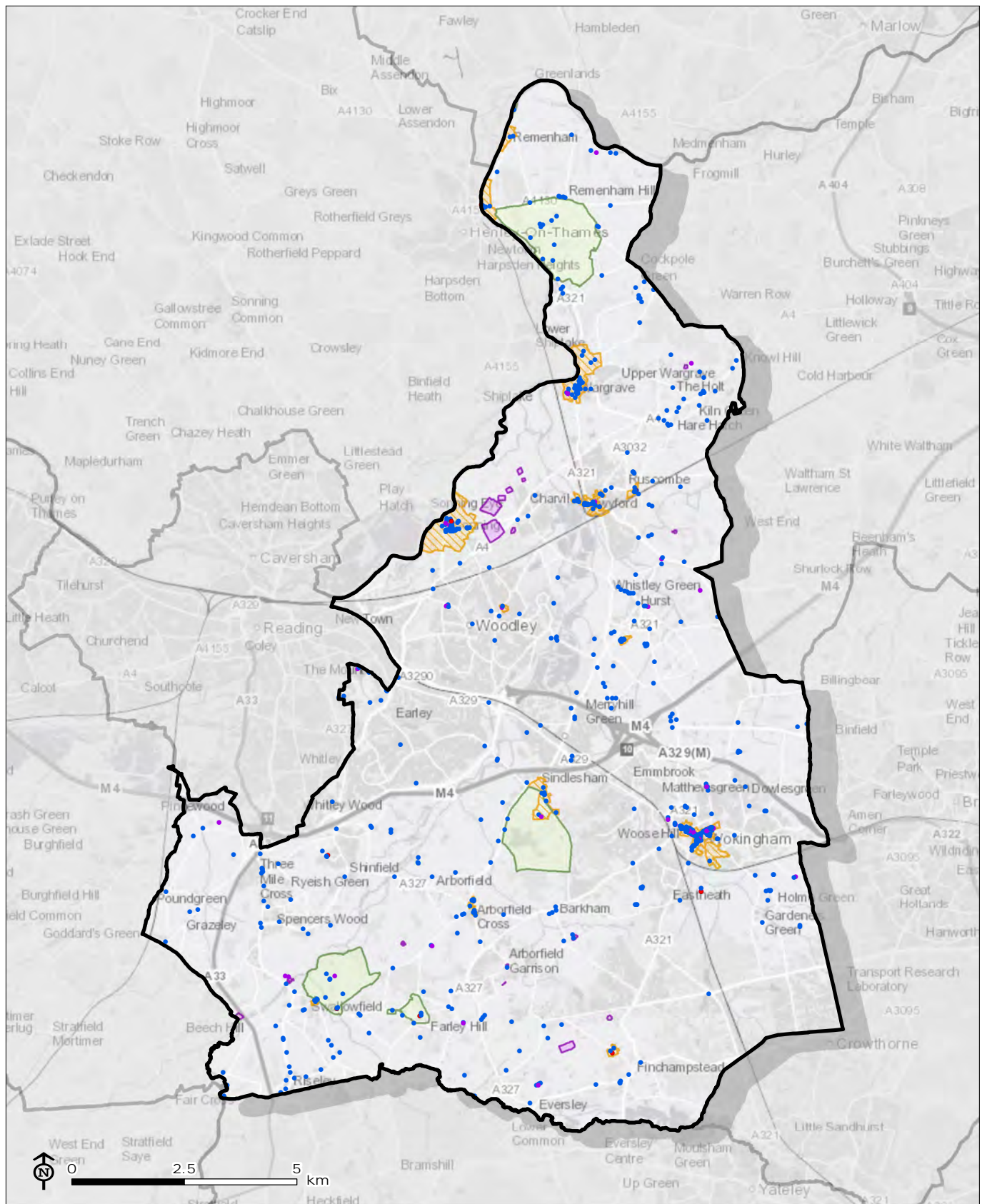
coniferous woodland were planted on former areas of open heathland, resulting in the loss of much of the heathland habitat in the borough.

- 2.72 The medieval settlement pattern of small villages, hamlets and farmsteads dispersed within the rural landscape remained largely unchanged until the 20th century. Urban development was largely constrained by the growth of Maidenhead to the east and Reading to the west. Wokingham, the only medieval town in east Berkshire not sited along the Thames, relied on the agricultural regions to its north and east and the heathland areas to the south for its livelihood. A number of moated sites of late medieval or post-medieval date survive, particularly in the southern part of the borough. These were primarily formed to enhance the status of a manor or other large house, rather than as defensive structures (**with the notable exception of Beaumys Manor**, home of the Le Despencers).
- 2.73 The rural landscape is characterised by a diversity of field patterns. The intricate patchwork of both small and medium-scale field systems, indicative of assarting, probably of medieval and post-medieval date, suggests that woodland, particularly on the clay soils, may have been cultivated during periods of pressure on land. These fields are characterised by their irregular boundaries, species-rich hedgerows and small areas of interspersed woodland. The main concentrations are in Shinfield, Swallowfield, Arborfield, Hurst, Ruscombe and Wargrave parishes. The straight-sided field boundaries, intermixed within this irregular pattern, reflect 19th century Parliamentary enclosures, both rationalising earlier field systems and also enclosing areas of previously common land as improvements in agriculture, including the use of fertilisers, made cultivation more viable. There has been further rationalisation and amalgamation of fields in the 20th century, resulting in the creation of some very large fields in areas of arable farming, and in the loss of numerous hedgerow field boundaries. The last remnants of heathland in The Royal Forest of Windsor were replaced by plantations in the mid-nineteenth century.
- 2.74 From the end of the medieval period, the borough's **position on the main communication routes** between London and the west had far-reaching effects, with new forms of communication making their mark on the landscape. In the 18th century, new locks were constructed to improve the Thames navigation, and the establishment of Turnpike trusts resulted in improvements to the existing main roads, and the creation of a new road through Wokingham. The 19th century saw the development of the railway network, encouraging urban development and stimulating industry (such as brick making on the London Clay). This process has continued in recent times with the construction of the M4 motorway, new bypasses (A33) as well as distributor roads and upgrades to the local road network.
- 2.75 The borough's **proximity to London** led to a new class of wealthy gentry building large country estates during the Victorian and Edwardian eras. Riverside locations along the Thames were favoured, as was the elevated clay ridge at Spencers Wood and the scenic heathland landscape in the southeast. Many of the estates were surrounded by formally landscaped parkland, often incorporating extensive plantations, radically changing the appearance of the landscape. Some of these survive today, but many estates were sold off and broken up in the 20th century, the houses being taken over by a variety of institutions, and the land reverting to farmland. However, traces of these former parklands are visible in the mature trees growing in the present fields and sometimes in the assemblages of grassland species that survive.
- 2.76 20th century developments have frequently removed earlier features from the landscape, although a series of concrete and brick pillboxes, such as those along the Foudry Brook, Loddon and Blackwater Rivers, mark the GHQ Stop Line (General Headquarters Line), a major defence line built during the Second World War. Other important sites from the Second World War include defences for the army barracks at Arborfield, those surrounding the former Reading aerodrome at Woodley, as well as various prisoner of war camp sites and barracks sites used in the build up to D-day. Some village halls are important in this context as the site of Home Guard HQs such as that at Spencers Wood. More recently, gravel extraction along the Loddon and Blackwater has created extensive lakes in areas of former farmland.

Perceptual Character

- 2.77** Away from the towns and main roads, significant areas of the borough are scenically and distinctly diverse. Whether through their distance from large settlements or as a result of containment from urbanising influences by woodland cover, they enjoy relatively high levels of tranquillity. This is shown on Figure 2.9, based on distance from large and/or busy transport networks, airports, built up areas, mineral extraction and power stations, and wind power developments⁴. These areas are important for recreation because of wide ranging views, and a network of footpaths along with ease of access from adjacent towns.
- 2.78** The levels of light pollution and dark night skies within Wokingham are shown on Figure 2.10, using satellite data to show where the darkest skies are. This illustrates that outside the main settlements and away from the M4 corridor much of the borough enjoys dark night skies with little light pollution. Dark skies can make an important contribution to perceptions and enjoyment of the landscape.

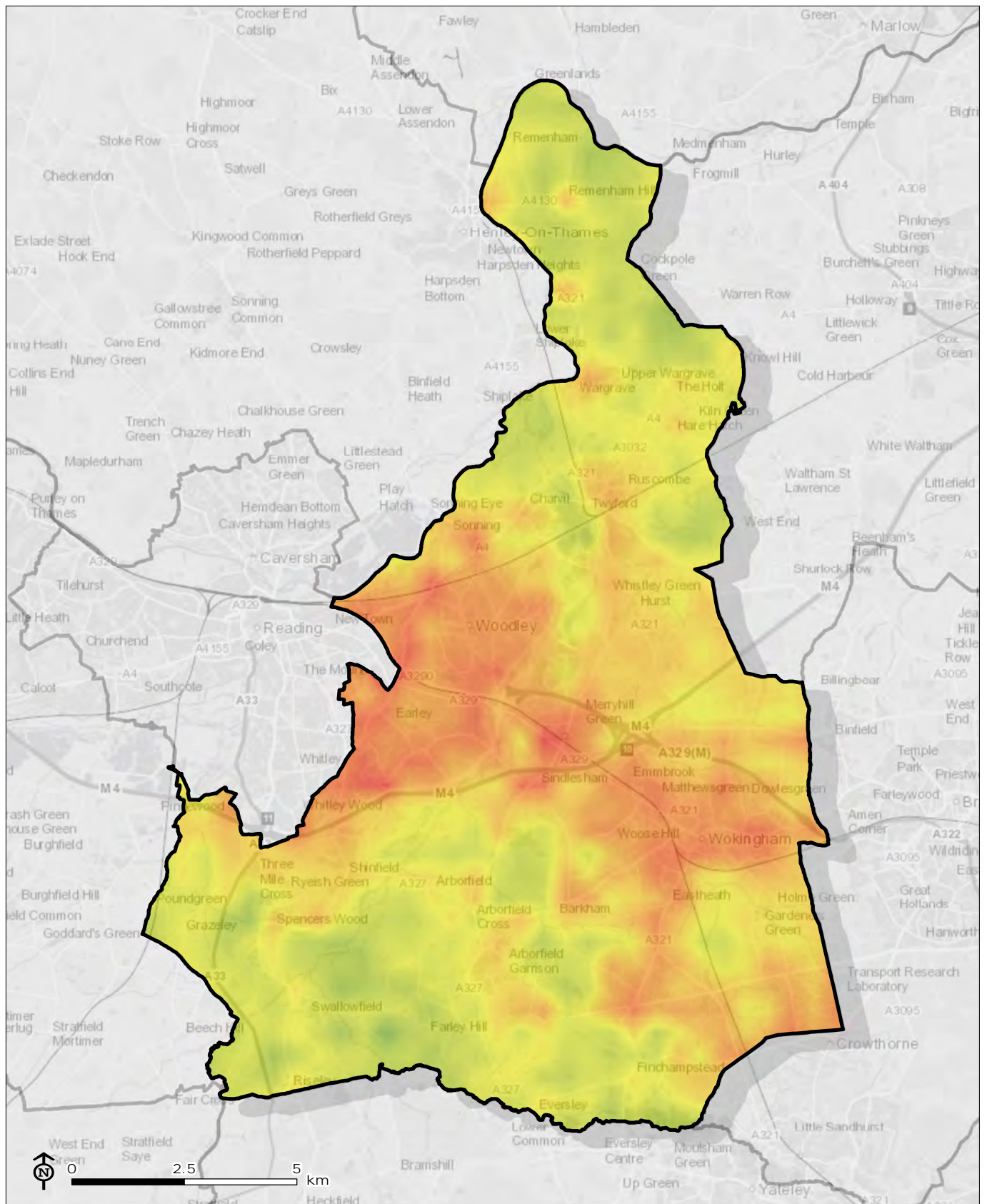
⁴ LUC for CPRE, Developing an Intrusion Map of England (2007): <https://www.cpre.org.uk/resources/countryside/tranquil-places/item/1790-developing-an-intrusion-map-of-england>



- Wokingham Borough boundary
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Scheduled Monument
- Registered Parks and Gardens
- Conservation area

Wokingham - Landscape Character Assessment

Figure 2.8: Cultural Heritage Designations



0 2.5 5 km



Wokingham Borough boundary



Most tranquil

Least tranquil

Wokingham - Landscape
Character Assessment

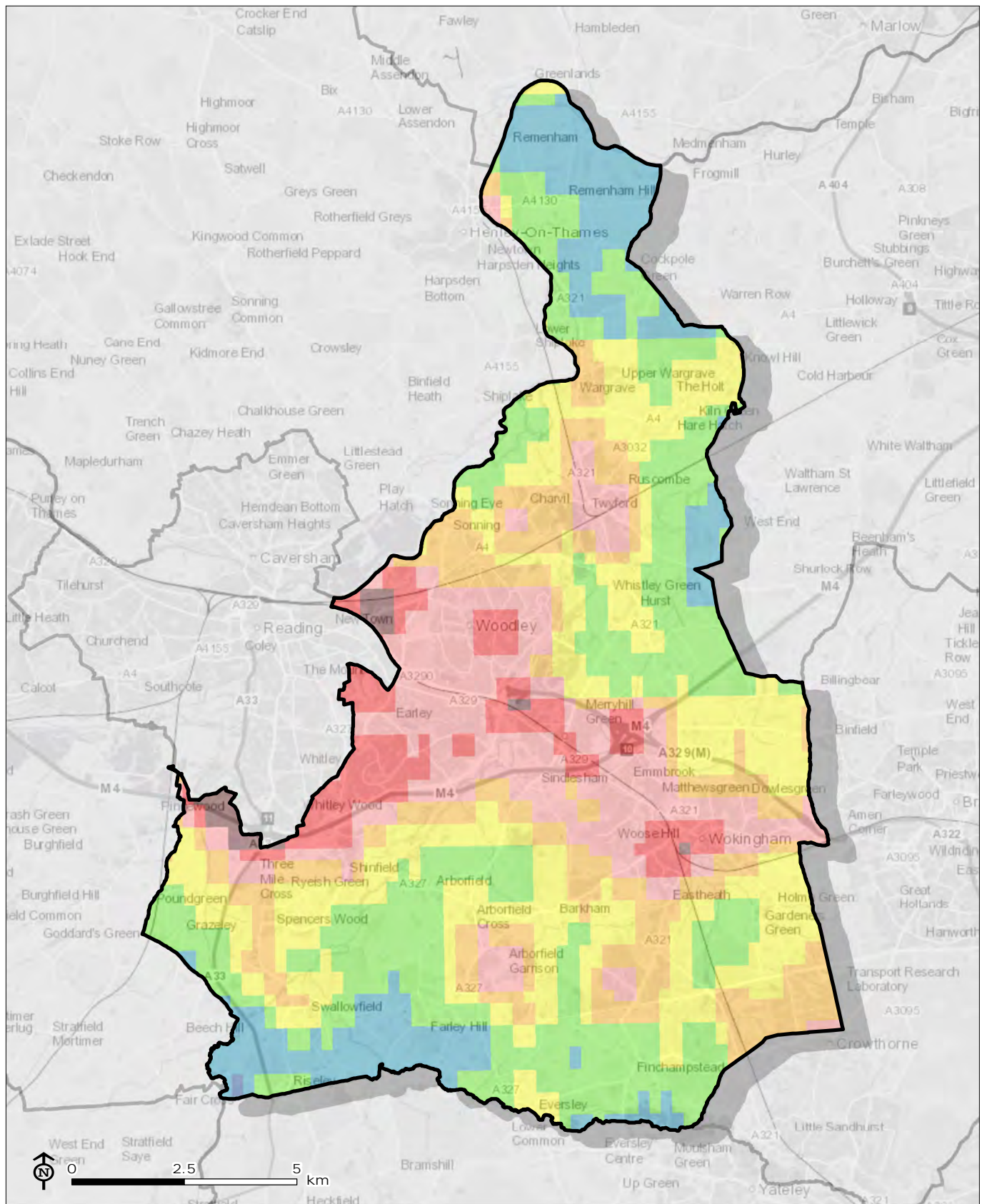
Figure 2.9: Levels of
Tranquillity



Source: LUC, Campaign to Protect Rural England

Contains Ordnance Survey data © Crown copyright and database right 2018

Map Scale @ A4: 1:120,000



Wokingham - Landscape Character Assessment

Figure 2.10: Levels of Dark Night Skies and Light Pollution



Source: LUC, Campaign to Protect Rural England

Contains Ordnance Survey data © Crown copyright and database right 2018

Map Scale @ A4: 1:120,000

3: Summary of Landscape Issues

- 3.1** In some areas of the Wokingham landscape, the condition of the landscape has deteriorated or is considered to be at risk due to factors summarised below. It is recognised that some of the causes of poor landscape condition are outside the remit of planning and some outside the remit of the Planning Authority itself. However, various issues may be addressed by policy and development control and where this is the case suggestions are made within this document on how positive outcomes may be achieved.

Development pressures

- 3.2** The presence of large urban areas both within and immediately outside the borough boundaries means that pressure for development and accompanying infrastructure, particularly major housing development, is a challenge to the existing landscape character.
- 3.3** The Core Strategy (adopted 2010) set out the spatial strategy for managing development to the period 2026. A key element was allocating the majority of housing development to four Strategic Development Locations (SDLs) across the borough. This approach is enabling significant new infrastructure such as schools, roads and open space to be delivered alongside housing development to help mitigate impacts and to try to alleviate pressure on other areas.
- 3.4** The development of these SDLs is at different stages, with some at a more advanced than others. As a result, although the balance of built form and green space will not vary greatly, the final layout and design within the SDLs has not been formally approved at the time of writing, and may be subject to change through the submission, or resubmission of further planning applications that may affect landscaping, house type and design, road layouts and various other matters. This LCA has therefore not sought to presuppose the final layout of these areas, and recognises that within the SDL boundaries large areas will not be developed for residential use, and will form important areas for open space, SANGS (suitable alternative natural green spaces) and other amenity uses. Such areas will play an important part of shaping and defining the landscape in and around the SDLs.
- 3.5** The extension of Wokingham, both north, east and south of the town (6,500 homes in North Wokingham SDL and South Wokingham SDL), the redevelopment of MOD land at Arborfield (3,500 homes as part of the Arborfield Garrison SDL), and the amalgamation and extension of the villages around Shinfield (3,000 new homes as part of the South of the M4 SDL), are greatly increasing the extent of urban development in the centre of the borough leading to loss of open agricultural land and woodland and challenging the rural character of landscapes immediately adjacent to these areas. The requirement for SANGS for larger scale development is also impacting on character of the local landscape, changing the land use from agricultural to recreational.
- 3.6** Any further expansion or infill of existing settlements will represent a significant increase in residential growth in these areas. New or extended settlements risk the urbanisation of rural villages and growth over and above the housing expansion of 10,000 homes proposed by 2026 in the adopted Core Strategy (2010).
- 3.7** Away from the main settlements, the characteristic rural pattern of dispersed rural settlement, which often includes small villages and farmsteads located in direct relationship to the landform, is at risk from more piecemeal development.
- 3.8** The demand for mineral extraction sites, often related to increases in house building and infrastructure, is likely to increase as the population increases. This demand is a threat to the lowland habitats although it also offers the opportunity to create new heathland and wetland habitats. Large scale sand and gravel extraction sites are considered as part of the Joint Central and Eastern Berkshire Minerals and Waste Plan (Wokingham Borough, Reading Borough, Bracknell Forest Borough and the Royal Borough of Windsor and Maidenhead, working in partnership with Hampshire Services) and will particularly impact the Loddon Valley and the river terraces along it.

- 3.9 Agricultural, industrial and housing development will also increase water demand and borehole extraction is lowering water levels in some areas so potentially threatening important wetland habitats and watercourses in the borough.

Increases in traffic and transport

- 3.10 The extensive transport network which crosses the borough, including the M4 motorway corridor, local highways and the two mainline railways have a large-scale impact on landscape character, particularly rural tranquillity. The upgrade of the M4 to a smart motorway has resulted in large scale clearance of vegetation on the embankments of the M4 and of roads crossing the M4.
- 3.11 Strategic road improvements, including new roads, especially those associated with strategic development locations in progress across the borough, are planned to help alleviate the impact of additional traffic on existing routes. They will however result in a negative impact on landscape character. These include new relief roads around Winnersh, South Wokingham, North Wokingham, Shinfield, and Aborfield Cross, as well as the part dualing Lower Earley Way.
- 3.12 Narrow rural roads are vulnerable to widening, new wider visibility splays for new development as well as experiencing an excessive number of vehicles, causing damage to grass verges and hedgerows, degrading their rural character. Change or lack of management is leading to the decline in species rich roadside grassland.
- 3.13 The recent electrification of the Great Western Main Line, which cuts through the borough as part of the Crossrail service, has resulted in increased visual impact of the railway in terms of additional overhead line catenary.

Agricultural changes

- 3.14 Agricultural changes, particularly related to the viability of traditional small-scale farming, are resulting in partial decline leading to suburbanisation in some areas and intensification of farming practices in others.
- 3.15 Intensification is associated with a loss of pasture for arable and fodder crops (maize) which is in turn resulting in field enlargement and subsequent loss of hedgerows and hedgerow trees. Hedgerows lose their function in arable landscapes and are often replaced by post and wire fences.
- 3.16 More intensive farming practices are resulting in larger amalgamated farms with new agricultural buildings. These agricultural buildings tend to be large scale and have no local distinction, and therefore are detractors within the landscape. Farm diversification, for example into biofuels and biodigesters, requires large scale features including fuel storage and digesters as well as new access roads and entrances, which often have negative landscape impacts.
- 3.17 Farms are generally decreasing in number with many smaller farms diversifying or going out of business and their agricultural buildings steadily converted to residential or commercial use, with accompanying change in lighting requirements, noise and roadside signage, further eroding rural character.
- 3.18 Development pressure, particularly along the settlement edge, is leading to fragmentation of existing agricultural land, with land being kept in hope of rising land value. These landscapes suffer from a consequent lack of active management and scrub encroachment resulting in poor visual character.
- 3.19 There is an increase of non-traditional use of farmland such as horse-paddocks, particularly on the settlement edge. Increased equine activity is having an impact on the character of the countryside with an increasing use of horse tape, number of ménages, stabling and degradation of pasture due to changes in management (e.g. lack of active grassland management leading to either scrub invasion or over grazing).
- 3.20 Expansion of areas of horticultural polytunnels and their associated shelterbelts are visually intrusive as they are often located in flat lowland areas and affect the openness of the landscape. Demands for pylons or communications masts are also a visually intrusive element in the landscape. In addition new dams, barns or cold storage facilities, as well as agricultural worker accommodation occasionally have an urbanising impact on the countryside.

- 3.21 Wetland landscapes are generally in decline. Drainage or in-fill due to agricultural intensification or development, pollution, nutrient run-off from surrounding farmland or lack of management are all a threat to these species-rich landscapes. Wetland drainage can cause flooding in winter and water shortages in summer.
- 3.22 Large scale renewable energy developments, such as wind and solar farms, which can have a significant impact on the landscape character, have had a limited to locally significant impact across most of the borough. There are no large-scale wind turbines (although the turbine at Green Park, Reading has a visual impact on the Wokingham landscape), and only a few field-scale solar farms (e.g. Swallowfields near Spencers Wood). Applications for solar farms may increase on marginal agricultural land and, notwithstanding the benefits of renewable energy, potentially have negative impacts on the landscape.

Decline in woodland management and loss of specimen trees

- 3.23 There is an ongoing loss of woodland, including valuable semi-natural woodlands, due to development.
- 3.24 The ongoing decline in traditional woodland management practise is leading to under management of farm woodlands and copses resulting in the loss of species diversity. There is pressure on semi-natural woodlands (including ancient woodland) from a lack of management or inappropriate management, as well as from the spread of invasive non-native plants such as Norway maple (*Acer platanoides*) laurel (*Prunus laurocerasus*) and rhododendron (*Rhododendron ponticum* agg.) which can prevent regeneration of native woodland.
- 3.25 Damage to woodland can also be caused by increased browsing pressure from rising deer populations which also results in reduced woodland regeneration.
- 3.26 There is also an issue with inappropriate management through lack of understanding or education e.g. fly tipping leading to the introduction of non-native garden species or the spread of invasive alien species (such as Japanese knotweed, Himalayan Balsam and giant hogweed) in parts of the borough.
- 3.27 The integrity of woodlands and their sustainable retention and management in the long term is impacted by the modern trend of woodlotting. This is where woodlands are sub-divided into smaller lots and sold to separate owners. The new owners then bring different approaches to woodland management, planning and development.
- 3.28 Mature hedgerow trees (particularly oak) are an integral part of the traditional hedge system and contribute to the wooded context of the borough. The loss of these trees through senescence, development purposes or climate change and associated pests and diseases together with a lack of replacement is a key challenge to the existing landscape character.
- 3.29 Agricultural intensification and consequent field enlargement is leading to direct felling and grubbing up of hedgerow trees. Tree loss is also caused by direct or indirect damage from agricultural machinery, leading to early decline or death.
- 3.30 Neglect of hedgerows leading to the degradation of hedgerows to a line of standard trees or the development of gaps within hedgerows is also an issue. Too frequent or badly timed cutting can also result in gaps in hedgerows or the decline in the variety and age structure of hedgerows and hedgerow trees, and ultimately the loss of hedgerows. The use of fencing, which reduces the agricultural necessity for hedge maintenance, has also hastening the decline of the hedgerow network. The agricultural practice of '**ranching**' (placing netting around fields to form a grazing block) is contributing to deterioration of internal hedges.

Climate change

- 3.31 Climate change is a major pressure on agricultural landscapes and is likely to result in increasingly unpredictable weather patterns with hotter drier summers, more intense rainfall and longer dry periods resulting in the need for agriculture to adapt to grow different crops and develop more flexible and responsive land management practices. Hotter summers and increases in temperatures could result in increased demands for irrigation and domestic uses. Responses to climate change may also result in pressure for development of renewable energy.

- 3.32 Climate change resulting in more extreme weather patterns could alter the species composition of existing species-rich woodlands and hedgerows, favouring species with lower water demand. There are likely to be increasing incidences of pathogens which may change the species mix of woodlands. Higher temperatures and prolonged drought are likely to put woodlands under stress and increase the risk of wildfires.
- 3.33 Climate change is also likely to affect important semi-natural habitats, particularly river and wetland habitats throughout the borough. This will include water shortages in summer and increased water flows and flooding in winter, causing potential damage to habitats and species.

Recreational pressures

- 3.34 Areas of woodland and open heathland, such as the areas of open access at **The National Trust's** Finchampstead Ridges, are popular recreational areas. This leads to relatively high visitor pressure at certain locations resulting in a loss of tranquillity, damage or fragmentation of habitats, erosion of archaeological features, visual intrusion of car parks or stationary vehicles, increase noise and pollution and demand for additional facilities. An increased population within the borough will add to these pressures.