

Green Hill Solar Farm

EN010170

Environmental Statement

Appendix 8.4: Landscape Character Area

Descriptions

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Character Area	Descriptions
National Character Area	
NCA 88. Bedfordshire and Cambridgeshire Claylands	<p>Description: The Bedfordshire and Cambridgeshire Claylands National Character Area (NCA) covers most of north and mid Bedfordshire and western Cambridgeshire, and part of east Buckinghamshire and Northamptonshire. The underlying clay geology (shared with the adjacent Upper Thames Clay Vales NCA in the southwest) gives a gently undulating topography that is divided by broad, shallow river valleys that gradually widen as they approach The Fens NCA in the east. These lower-lying claylands completely enclose the Bedfordshire Greensand Ridge NCA. A distinct boundary exists in the east where the Bedfordshire and Cambridgeshire Claylands NCA meets The Fens NCA and to the south where it meets both the elevated East Anglian Chalk NCA and Chilterns NCA. There is more of a gradual transition towards the Upper Thames Clay Vales NCA and Midvale Ridge NCA in the south-west, Yardley Whittlewood Ridge NCA to the north, and Northamptonshire Vales NCA and Leicestershire Vales NCA in the north-west where the River Nene marks the boundary.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none">• Gently undulating, lowland plateau divided by shallow river valleys that gradually widen as they approach The Fens NCA in the east.• The River Great Ouse and its tributaries meander slowly across the landscape, and the River Nene and the Grand Union Canal are also features. Three aquifers underlie the NCA and a large manmade reservoir, Grafham Water, supplies water within and outside the NCA• Variable, scattered woodland cover comprising smaller plantations, secondary woodland, pollarded willows and poplar along river valleys, and clusters of ancient woodland, particularly on higher ground to the northwest representing remnant ancient deer parks and Royal Hunting Forests.• Predominantly open, arable landscape of planned and regular fields bounded by open ditches and trimmed, often species-poor hedgerows which contrast with those fields that are irregular and piecemeal.• Wide variety of semi-natural habitats supporting a range of species - some notably rare and scarce – including sites designated for species associated with ancient woodland, wetland sites important for birds, great crested newt and species of stonewort, and traditional orchards and unimproved grassland supporting a rich diversity of wildflowers.• Diversity of building materials including brick, render, thatch and stone. Locally quarried limestone features in villages such as Lavendon, Harrold and Turvey on the upper stretches of the River Great Ouse.• Settlements cluster around major road and rail corridors, with smaller towns, villages and linear settlements widely dispersed throughout, giving a more rural feel. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads.• Recreational assets include Grafham Water, the Grand Union Canal, Forest of Marston Vale Community Forest, Chilterns AONB, woodland and wetland sites, an extensive rights-of-way network and two National Cycle Routes. The cities of Cambridge and Peterborough and several of the historic market towns in the NCA are popular tourist destinations.
NCA 89. Northamptonshire Vales	<p>Description: The Northamptonshire Vales National Character Area (NCA) is shaped like an anchor, with the Yardley Whittlewood Ridge and the Bedfordshire and Cambridgeshire Claylands NCAs sharply defining the southern edge. High Leicestershire and the Leicestershire Vales NCAs are to the north. The Welland Valley extends north-eastwards as part of the area, north of Rockingham Forest NCA. The Northamptonshire Vales NCA sweeps between the Northamptonshire Uplands NCA to the south-west and Rockingham Forest NCA to the north-east, the latter forming the northern boundary of the Nene Valley.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none">• Diverse levels of tranquillity, from busy urban areas to some deeply rural parts.• Mixed agricultural regime of arable and pasture, with arable land tending to be on the broader, flat river terraces and smaller pastures on the slopes of many minor valleys and on more undulating ground.• Relatively little woodland cover but with a timbered character derived largely from spinneys and copses on the ridges and more undulating land, and from waterside and hedgerow trees and hedgerows, though the density, height and pattern of hedgerows are varied throughout.• A strong field pattern of predominantly 19th-century and – less frequently - Tudor enclosure.• Distinctive river valleys of the Welland and the Nene, with flat flood plains and gravel terraces together with their tributaries (including the Ise). Riverside meadows and waterside trees and shrubs are common, along with flooded gravel pits, open areas of winter flooded grassland, and wetland mosaics supporting large numbers of wetland birds and wildfowl.• Frequent large settlements that dominate the open character of the landscape, such as Northampton and Wellingborough, and associated infrastructure, including major roads, often visually dominant.



Character Area	Descriptions
NCA 91. Yardley Whittlewood Ridge	<p>Description: The gently sloping land offers views of both the NCA itself and adjacent NCAs. Good views of the Ridge and its well-wooded character can be seen from the A509 near Olney and in the Tove river valley. The Ridge lies between the major towns of Northampton and Milton Keynes and is crossed by numerous roads.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> Watercourses include short sections of the rivers Til, Tove, Great Ouse and Kym as they flow across and out of the NCA. The Grand Union Canal utilises the valley cut by the River Tove dissecting the ridge at Stoke Bruerne. Well wooded with blocks of semi-natural ancient woodland, wood pasture and historic parkland including Royal Hunting Forests around Yardley Chase, Salcey Forest and Whittlewood Forest, although many areas have been supplemented with conifer plantations. Fields are medium sized with mature, speciesrich hedgerows and numerous hedgerow trees, usually oak or ash. Pasture and mixed farming dominate in the west, giving way to an increasingly arable landscape further east towards the claylands. A diverse variety of semi-natural habitats, including ancient and lowland mixed deciduous woodland, wood pasture and parkland, hedgerows, veteran trees, lowland meadow, flood plain grazing marsh, fens and reedbeds which support a range of rare species of butterflies including white admiral and wood white, as well as dormouse, barbastelle and noctule bats, and numerous scarce moths and specialist beetles.
NCA 95. Northamptonshire Uplands	<p>Description: The Northamptonshire Uplands National Character Area (NCA) extends north-east from the Cotswolds NCA south of Banbury to border the Northamptonshire Vales NCA and Leicestershire Vales NCA around Market Harborough at its northern extent. In the west it borders Dunsmore and Feldon NCA and it shares most of its eastern boundary with the Northamptonshire Vales NCA. A small area in the south-east abuts the Yardley Whittlewood Ridge NCA. It is part of the wider Jurassic 'wolds' landscapes that include the dip slope of the Cotswolds and extend north to the High Leicestershire NCA and the Leicestershire and Nottinghamshire Wolds NCA. The south-western corner of the NCA is designated as part of the Cotswolds Area of Outstanding Natural Beauty (AONB).</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> Gently rolling rounded hills and valleys with many long, low ridgelines and great variety of landform. Wide, far-reaching views from the edges and across the ridgetops. Sparse woodland cover, but with scattered, visually prominent, small, broadleaved woods, copses and coverts, particularly on higher ground. Mixed farming dominates with open arable contrasting with permanent pasture. Typical 'planned countryside' with largely rectangular, enclosed field patterns surrounded by distinctive, high, often A-shaped hedgerows of predominantly hawthorn and blackthorn, with many mature hedgerow trees, mostly ash and oak. Some ironstone and limestone walls in places and some localised areas of early irregular enclosure. Small pockets of semi-natural vegetation with many small scattered broadleaved woodlands, some ancient and often on hill tops, with mires, areas of lowland meadow, calcareous grassland and lowland dry acid grassland in the river valleys. Bluebell woods occur in places. Nationally rare, locally abundant and prominent ridge and furrow, with frequent deserted and shrunken settlements. Several large historic country estates such as Cottesbrooke Hall and Althorp and many small country estates, with extensive parkland containing a great many mature, veteran and ancient trees.
Regional Landscape Character	
LCT 4: Rolling Ironstone Valley Slopes Northamptonshire County Council	<p>Description: The Rolling Ironstone Valley Slopes landscape character type occupies the heart of Northamptonshire. It comprises a distinctive landscape of rolling valley slopes bordering the floodplains of the River Nene and its tributaries, the Brampton Valley and the River Ise. The landscape surrounds elevated areas of Clay Plateau where drift deposits overlie and obscure the surface expression of similar solid geology. It also borders the southern fringes of the Wooded Clay Plateau landscape character type and defines the eastern limits of the Undulating Hills and Valleys. A number of urban areas, notably Northampton, Wellingborough and Kettering may be found within and bordering the landscape. Seven landscape character areas have been identified within the overarching Rolling Ironstone Valley Slopes landscape character type, indicating subtle, localised variations in land cover and land use elements</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> Broad valley slopes dissected by numerous tributary streams; rolling landform, extensive views and sense of exposure on some prominent locations; steep slopes adjacent to more elevated landscapes; numerous water bodies including the county's largest reservoir; agricultural practices create a patchwork of contrasting colours and textures extending across valley slopes;



Character Area	Descriptions
	<ul style="list-style-type: none"> • where broadleaved woodlands and mature hedgerow trees combine, these impart a sense of a well treed landscape; • hedgerows generally low and well clipped although intermittent sections show evidence of decline; • landscape directly and indirectly influenced by the close proximity of many of the county's urban areas.
LCA 4b: Moulton Slopes Northamptonshire County Council	<p>Description:</p> <p>The Moulton Slopes Character Area is located to the north of Northampton.</p> <p>The landscape is relatively well settled, with the villages of Boughton, Moulton and Overstone lying along the winding road that runs along the southern slopes of the Sedge Brook valley. Pitsford is also located within the character area. This small village is situated on the watershed between Pitsford Water and the valley of the Sedge Brook.</p> <p>Land cover is typically arable farmland, although improved and semi improved pastures are more dominant along lower valley slopes and along watercourses. Woodland cover is low, although significant areas of deciduous woodland can be found in the vicinity of Overstone. Cowpasture Spinney is a particularly interesting feature. This is a linear belt of woodland running along the stream to the west of Overstone Park. Large areas of woodland are also features of designed parklands, as at Overstone Park and Boughton.</p>
LCA 4c: Ecton and Earls Barton Slopes Northamptonshire County Council	<p>Description:</p> <p>The Ecton and Earls Barton Character Area occupies the valley slopes to the north of the River Nene between Northampton and Wellingborough. It is a gently rolling landscape.</p> <p>The main feature of the landscape is Sywell Reservoir and Country Park.</p> <p>The rolling landscape beyond the park is characterised by medium to large arable fields and areas of pasture, usually within smaller fields adjacent to watercourses and on the edge of settlements. A significant area of broadleaved woodland is conspicuous to the north of the area and at Ecton, associated with an area of parkland. The eastern half of the area contains no significant areas of woodland, although hedgerow trees provide some cover and shelter. A number of important tree groupings are evident on the skyline from within the area, including The Rookery at Great Doddington and a smaller tree group at Manor Road, Earls Barton.</p> <p>The landscape is relatively well settled, including the large compact post-war settlement of Earls Barton situated on the southern edge of the character area overlooking the valley of the Nene. Wilby, Great Doddington and Ecton provide smaller linear settlements located on the mid slopes. Beyond this lies a landscape characterised by scattered farms and dwellings. Connecting the settlements of Ecton, Earls Barton and Wilby with the surrounding urban centres of Northampton and Wellingborough is the busy A4500.</p>
LCA 4d: Hanging Haughton Northamptonshire County Council	<p>Description:</p> <p>Hanging Haughton Character Area is the most linear character area within the type, is located along the eastern edge of the Brampton Valley and is bordered to the south by a tributary of the main valley. The character area forms the valley slopes rising to the Clay Plateau in the east. From the upper valley slopes, long distant panoramic views are possible over the surrounding landscape, including views over the River Valley Floodplain towards the Undulating Hills and Valleys.</p> <p>The landscape is characterised by a predominance of arable land, although areas of improved pasture are evident below Brixworth and around Lamport, extending down and along the sloping landform towards the River Valley Floodplain and Hanging Haughton. Defining the fields are a combinations of low, clipped hedgerows and wooden post and rail fences. Whilst woodland in the character area is limited, the small deciduous copses combine with the many hedgerow trees and woodland in the surrounding landscape types to give the impression of a well treed landscape. Clint Hill Fox Covert is a prominent copse of mixed composition descending the slopes of Clint Hill.</p>
LCA4e: Pitsford Water Northamptonshire County Council	<p>Description:</p> <p>The Pitsford Water Character Area is largely surrounded by the clay plateau with the exception of the southwestern corner, which is bordered by a tributary of the River Valley Floodplain.</p> <p>Land cover is typically a combination of both arable and improved pastoral land with evidence of unimproved calcareous pasture. A pastoral landscape frequently occurs around villages within the character area and on steeper valley slopes, in particular along the western boundary. Whilst large to medium scale fields predominate, a network of smaller enclosures is apparent to the east of Scaldwell village within the tributary valley that feeds the reservoir. Woodland cover is typical of the landscape type. Surrounding Pitsford Reservoir are a number of woodland blocks, primarily with a coniferous composition, although mixed and broadleaved copses are apparent.</p> <p>The landscape is moderately settled, with the villages of Old and Scaldwell lying along winding roads descending the valley landscape. Whilst the village of Old has developed in a compact form around a road junction with a prominent church lying close to its centre, the Ironstone village of Scaldwell, although also compact, has a more pronounced linear form.</p>
LCA 4f: Kettering and Wellingborough Slopes Northamptonshire County Council	<p>Description:</p> <p>The Kettering and Wellingborough Slopes Character Area is the largest character area within the Rolling Ironstone Valley Slopes landscape type, extending from the northern edge of Wellingborough in the south to the southern limits of Desborough in the north.</p> <p>The settlements are generally compact in form and have developed around the junction of two or more roads, many with prominent church towers such as the square towers at Orlingbury, Pytchley and Rushden.</p> <p>Urban influences from Wellingborough, Kettering, Rothwell and Desborough are significant in the character area.</p> <p>Land cover typically comprises large to medium scale arable fields interspersed with semi-improved pasture, often smaller in scale and largely grazed by sheep. Small and medium scale fields also frequently occur in the northwestern section of the area. In general, pastoral fields are located in close proximity to settlements and individual farmsteads.</p>



Character Area	Descriptions
LCT 5: Clay Plateau Northamptonshire County Council	<p>Description: Northamptonshire's Clay Plateau landscapes occupy a central position in the county. They form the higher ground to the north of the Nene Valley and are surrounded by a complex system of valleys. The plateau landscapes are similar in many respects to the Wooded Clay Plateau to the north. However, a greater degree of woodland cover has created a strikingly different landscape character. These elevated, agricultural landscapes are sparsely settled and principally limited to farmsteads scattered across the undulating topography. They retain a distinctly isolated character, despite being intensively farmed.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none">• expansive, long distance and panoramic views across open areas of plateau;• sense of exposure on some prominent locations;• limited woodland / tree cover comprising broadleaved woodlands and mature hedgerow trees;• where trees, woodlands and undulating landform combine, they limit or define views and create a more intimate character in places;• productive arable farmland within medium and large scale fields predominates on elevated land although sheep and cattle pastures also prevalent, often in smaller fields adjacent to watercourses;• hedgerows are often low and well clipped, although intermittent sections show evidence of decline, and emphasise the undulating character of the landscape;• sparsely settled with small villages and isolated farms prevalent; and• monuments and landscape features associated with the Battle of Naseby are distinctive elements of the local landscape.
LCA 5b: Sywell Plateau Northamptonshire County Council	<p>Description: Sywell Plateau Character Area is located in the heart of Northamptonshire. The area is characterised by a predominance of large to medium to large scale arable fields generally regular or sub regular in shape, although their size decreases to the western side of the A43(T) from Walgrave to the southern boundary, where fields of improved grassland become more frequent. Improved pastures are also evident surrounding village settlements and on steeper landform adjacent to streams. The area occupied by Northampton (Sywell) Airport represents a significant area of unimproved calcareous grassland whilst the disused airfield to the north of the area is under arable cultivation. Woodland cover is typically low, comprising small to moderately sized often geometric broadleaved woodlands, although significant areas of coniferous planting can be found around Sywell Airport, including Hardwick Wood, Hardwick Short Wood and Sywell Wood; these all comprise ancient woodland. Other ancient woodlands in the area include Covert, Fraxton Corner, Mawsley Wood, Short Wood, Badsaddle Wood, Withmale Park Wood and Bush Walk, representing areas that are likely to have once formed part of more extensive woodlands. Well treed stream sides and occasional mature and semi-mature oak and ash in hedgerows also contribute to the overall woodland cover. Although views are generally extensive from the plateau areas, in places woodland cover contains views, resulting in a more intimate character.</p>
LCT 6: Undulating Claylands Northamptonshire County Council	<p>Description: The Undulating Claylands are located in the south of the county stretching from Brackley in the south, northeastwards to Irchester. This landscape type covers a significant area and appears as a wide belt of rolling countryside that becomes less extensive as it extends eastwards. It borders the distinctive Low Wooded Clay Ridge landscapes to the south, and is bounded to the north by the Undulating Hills and Valleys landscape character type. The landscape is deeply rural and sparsely settled, with small villages and farmsteads scattered throughout the undulating topography.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none">• broad, elevated undulating landscape that is more elevated to the west shelving eastwards and drained by numerous broad, gentle convex sloped valleys;• wide panoramic views across elevated areas, though the undulating landform creates more contained and intimate areas;• a productive rural landscape with an equal balance of arable and pastoral farming with the former predominating on more elevated land and often larger in scale, although arable land can be found along valley bottoms where sand and gravel deposits are located;• large woodlands are not a characteristic feature, although woodland in surrounding landscape types, small deciduous copses and hedgerow trees can together create the sense of a well-wooded character;• concentrations of small woodlands apparent around designed parklands;• hedgerows are often low and well clipped emphasising the undulating character of the landscape with scattered hedgerow oak and ash trees;• post and wire fencing frequently reinforces gappy hedgerows, in particular where pasture is the current land use;



Character Area	Descriptions
LCA 6b: Hackleton Claylands Northamptonshire County Council	<p>Description:</p> <p>The Hackleton Claylands Character Area, located on the northeastern edge of the Tove Catchment, comprises a number of tributary streams draining into the River Nene, which have created the landscape's undulating landform. Land cover across much of the area is characterised by a general predominance of arable land in large fields. Areas of improved pasture are, however, located around village settlements, including Denton and Quinton. These are frequently smaller in scale. Pockets of calcareous grassland are also evident, in particular adjacent to the stream northeast of Quinton and along the line of the dismantled railway. Woodland cover within the character is generally limited. Small broadleaved woodlands dominate, including High Covert, The Oaks and streamside woodlands northwest of Quinton. Preston Wood is also of a broadleaved composition and the only ancient woodland in the character area. The woodlands in the surrounding area, including Salcey Forest and Yardley Chase, have a significant influence on the area, limiting views south and southeast. Wide panoramic views are otherwise possible over the undulating landscape.</p>
LCA 6c: Bozeat Claylands Northamptonshire County Council	<p>Description:</p> <p>The Bozeat Claylands Character Area is the most eastern character area and the smallest area of Undulating Claylands. This rural landscape is characterised by a general predominance of arable land in large-scale fields, interspersed with smaller fields of improved pasture with grazing cattle, frequently surrounding settlements. A number of larger pastoral fields are present, however, generally with post and wire fencing sub-dividing them. Whilst the shape of fields varies considerably across the area, regularly shaped fields are often found surrounding villages with other fields combining both a sub regular and discontinuous form. Woodland cover is extremely low, the broadleaved geometric Bozeat Wood providing the only cover within the area. Mature oak and ash scattered along hedgerows and a number of well treed streams provide the only other tree cover in the character area, creating texture in an otherwise smooth landscape. Woodlands associated with Yardley Chase provide a wooded horizon to the southeast, however, forming a backdrop to the undulating agricultural landscape.</p>
LCT 8: Low Wooded Clay Ridge Northamptonshire County Council	<p>Description:</p> <p>The Low Wooded Clay Ridge landscapes define the southern boundary of the county where they rise gently from the lowlands of neighbouring Buckinghamshire to the south and east. Despite reaching only a maximum of 150m ASL, this character type is physically distinct from the adjacent low lying landscapes. To the north the landscape becomes more undulating before falling gently to the floodplain of the River Nene.</p> <p>The area has a strong agricultural character with a mix of arable and pastoral farming evident. Pastoral farming is predominant in the west, leading to more open, arable landscapes as the land dips to the east. Woodlands are an integral part of the landscape and add much to the area's visual appeal and character. Most are predominantly mixed oak woods and contain some trees planted in the early 18th Century. More recent conifer plantations form dense, dark blocks of woodland that can often be seen forming impenetrable backdrops to foreground landscapes, and offer a strong contrast to surrounding deciduous woodlands, particularly in Autumn and Winter.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • broad, elevated plateau with shallow soils, elevated above adjacent lowland landscapes; • extensive areas of ancient woodland form a backdrop to a foreground of farmland; • strong historic character derived from the landscape's ancient woodlands and Forest villages; • mixed land use of pasture and arable farmland extending between wooded areas; • medium sized fields defined by full hedges containing numerous hedgerow trees; and • low density of settlement and sparse road patterns.
LCA 8b: Salcey Forest and Yardley Chase Northamptonshire County Council	<p>Description:</p> <p>To the southeast of Northampton, and extending up to the southeastern boundary of the county is the Salcey Forest and Yardley Chase Character Area. The area is characterised by a predominance of arable cereals and horticulture, although scattered fields of improved pasture, often with grazing sheep, occur around the northwestern woodlands of Yardley Chase, around the edge of Yardley Hastings and Easton Maudit. Large and medium to large-scale fields under arable cultivation sweep over the landscape. In contrast, pastoral fields are generally smaller. Woodland cover is extensive, comprising mainly broadleaved woodlands with smaller areas of coniferous plantation and scattered sections of mixed woodland and felled areas. The majority of woodland cover is ancient having once formed part of the medieval Royal Hunting Forest of Salcey and Yardley Chase.</p>
LCT 12: Limestone Valley Slopes Northamptonshire County Council	<p>Description:</p> <p>The Limestone Valley Slopes mark the transition between the low, flat and predominantly pastoral landscapes of the Nene floodplain and the varied and more elevated landscapes that are to the east and west, principally comprising the Wooded Limestone Hills and Valleys, the Wooded Clay Plateau, Undulating Claylands and the Farmed Claylands. Limestone and mudstone geology predominates although is present in varying amounts on the valley sides.</p> <p>The valleys slopes are relatively well settled, with numerous linear villages occupying sheltered positions. A number of larger settlements are also present, overlooking the Nene and often extending onto neighbouring landscape types.</p>



Character Area	Descriptions
	<p>Key Characteristics:</p> <ul style="list-style-type: none"> • Transitional landscape displaying characteristics of surrounding landscape character types; • gently undulating farmed slopes bordering the Nene and its principal tributaries; • expansive long distance views and wide panoramas across the valley to neighbouring landscapes; • predominance of arable land with isolated areas of improved and semi improved pasture and setaside land; • very sparse woodland cover comprising small deciduous and occasionally coniferous shelterbelts limiting the sense of exposure locally; • fields predominantly large, and medium to large; • small to medium sized pasture fields conspicuous surrounding villages; • fields generally enclosed by hedgerows with intermittent mature hedgerow trees, often showing signs of decline;
LCA 12a: Wollaston to Irchester Northamptonshire County Council	<p>Description:</p> <p>The Wollaston to Irchester Character Area extends from Northampton to Rushden. The area is characterised by a predominance of large scale fields of arable cereals and horticulture cloaking the gently undulating landform. Smaller improved pastures with grazing sheep and cattle are frequent, however, around settlements such as Little Houghton, Cogenhoe, Castle Ashby, Grendon, Bozeat and Wollaston. Within many areas of improved pasture, small pockets of calcareous grassland are evident with larger areas of neutral grassland located around Irchester Country Park. Boundaries across the area vary, including low hawthorn hedgerows, both clipped and overgrown, and post and wire fencing. Although overgrown, scrubby hawthorn is evident along boundary lines, but hedgerows trees are infrequent. Woodland in the character area is relatively varied although, as is typical of the landscape type, it is limited.</p>
LCT 13 Undulating Hill and Valleys Northamptonshire County Council	<p>Description:</p> <p>The Undulating Hills and Valleys represent an extensive and complex rural landscape character type that occupies almost a third of the county. It is found along the western fringes of Northamptonshire and stretches in a broad arc around the source of the Nene from Croughton in the south to Ashley in the north, overlooking the broad floodplain of the Welland. The unity of character within this landscape type is derived from a consistent pattern of mixed agricultural land use and land cover and rural settlement, tied together by an intricate network of hedgerows and small copses and shelterbelts.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Extensive undulating and productive rural landscape stretching across the west of the county; • cohesive and recognisable unity of character despite scale and extent; • watercourses form part of three principal river catchments of the Cherwell, Nene and Welland; • reservoirs and man made lakes are conspicuous features in the local landscape displaying a wide range of size, function and age; • navigable canals are an important visual component of the landscape and linear wildlife and recreational asset; • mixed farming predominates across the landscape although local land use and field patterns are strongly influenced by changes in landform; • numerous small deciduous woodlands, copses and shelterbelts punctuate the rural landscape; • hedgerow trees, within the strong hedgerow network, contribute to the perception of a well treed landscape and combine with other landscape and landform features to create an intimate, human scale landscape; • strong historic character underlies this deeply rural landscape; • numerous villages linked by winding country lanes contribute to rural character
LCA 13d: Cottesbrooke and Arthingworth Northamptonshire County Council	<p>Description:</p> <p>The Cottesbrooke and Arthingworth Character Area, located to the north of Northampton, is drained by a number of tributaries along the base of undulations flowing into the Brampton Valley from the southern section of the character area, and the River Ise from the northern section, north of Maidwell.</p> <p>Land cover in the area is a combination of both arable cereals horticulture and improved pastures. Land under arable cultivation predominates in the southern section of the character with improved pastures concentrated around the settlement and parkland landscape of Cottesbrooke Hall, and around Haselbech and Maidwell.</p> <p>Woodland in the character area is more extensive than in other areas of the Undulating Hills and Valleys landscape type. Broadleaved copses predominate with significant concentrations around Cottesbrooke Park, and although small in size, they combine to create a well wooded area. Broadleaved woodlands are also found around Haselbech, including Purser's Hill and other hilltop locations north of Cottesbrooke, around Kelmarsh, Far Hill and Warren Hill, northeast of Kelmarsh.</p>



Character Area	Descriptions
LCT 17: River Valley Floodplain Northamptonshire County Council	<p>Description: There are four separate sections of River Valley Floodplains within the county with the most southern representation of this landscape type occurring along the southwestern section of the county boundary, and the most northern area extending from the eastern edge of Kettering to the eastern edge of Wellingborough. This landscape type covers a relatively limited area, with each area having a linear form. A number of landscape types border the River Valley Floodplain, including large areas of the Undulating Hills and Valleys, Undulating Claylands and Rolling Ironstone Valley Slopes.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • wide views over the predominantly open floodplain, contained by woodland and rising landform of surrounding landscape types; • a productive agricultural landscape with varying cover of both arable and pastoral land, with a predominance of arable in the valleys of the Cherwell and Tove; • Areas of neutral and calcareous grassland evident, often closely associated with areas of improved pasture; • woodland cover is generally sparse, although limited small linear copses are evident along the course of rivers, railways and canals; • concentrations of small woodlands and large parkland trees apparent around designed parklands; • hedgerows often gappy and grown out, with reinforcing post and wire fences frequent, in particular around pastoral fields; • limited semi-mature and mature hedgerow and river edge trees provide important vertical elements; • significant urban influences on floodplain landscapes from surrounding large scale settlements and associated infrastructure elements;
LCA 17c: Brampton Valley Floodplain Northamptonshire County Council	<p>Description: The Brampton Valley Floodplain Character Area is located on the northern edge of Northamptonshire and drained by a number of tributaries. It flows from the northern edge of the character area around Draughton, and towards the centre of Northampton, before finally joining the River Nene. The meandering course of the main tributary that flows through the central part of the valley is frequently marked by willow and ash, and is particularly overgrown around Northampton in the Kingsthorpe Nature Reserve. In other areas, however, the watercourse is largely open, marked only by occasional trees punctuating the landscape.</p> <p>Land use in the area is a combination of both arable and pastoral fields, although the latter predominates in smaller scale fields in the southern section of the character area up to the Northampton and Lamport Railway, and northwest of Brixworth. Beyond this to the north, fields are larger and under arable cultivation. Due to the close proximity of urban development, 'horsiculture' predominates in pastures to the south, along with significant areas of neutral grassland. Fields are frequently divided with post and rail fences, with evidence of prominent, white ribbon temporary fencing. Many fields are undergrazed and have a scrubby, overgrown appearance in the landscape. Typical of the landscape type, woodland cover is sparse, confined to linear broadleaved copses along the course of tributary streams. However, hedgerow trees and streamside vegetation provide some tree cover within the area.</p>
LCA 17d: River Isle Floodplain Northamptonshire County Council	<p>Description: The gently sloping valley and floodplain of the River Isle Floodplain Character Area stretches between Kettering and Wellingborough to join the River Nene southeast of Wellingborough. Despite being heavily influenced by the close proximity of large urban areas and associated infrastructure, the character area does retain some sections that have a rural character where the river is surrounded by vegetation, including flag irises and rushes. A varied character predominates throughout the floodplain landscape. A combination of both arable and pastoral land, in fields of varying sizes, characterises the landscape. Often, however, small to medium scale grazing sheep pastures predominate, notably north of Burton Latimer, together with some areas to the south around Furnace Cottages and on the eastern edge of Wellingborough. Woodland cover, although limited, is more abundant in this character area than any other areas of River Valley Floodplain. It is mainly confined to linear woodlands closely associated with the River Isle and its tributaries, along the dismantled railway northeast of Wellingborough, and within Wicksteed Park and Boughton Park on the northern edge of the character area. Woodland here forms part of the more expansive parkland landscape of Boughton Park, including scattered parkland trees. Hedgerow trees are located throughout the landscape, contributing to overall cover with willow, alder and hawthorn common along the course of the River Isle.</p>
LCT 18: Broad River Valley Floodplain Northamptonshire County Council	<p>Description: The Broad River Valley Floodplain landscape character type occurs in two separate areas within the county, in association with the two major river valleys of the Nene and Welland. The principal area, comprising the Nene Valley, extends across the central and eastern part of the county from the west of Northampton towards the northeastern section of the county and beyond towards Peterborough. A further section of the character type is also located along the northern boundary of the county where Northamptonshire adjoins Leicestershire, adjacent to the River Welland. A total of eleven character areas have been identified, eight within the Nene Valley and three within the Welland Valley.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Broad, flat and predominantly wide floodplain surrounded by rising landform of adjacent landscape types; • river channel with slow flowing watercourse with limited bank side vegetation in areas; • predominance of unimproved pasture with pockets of both neutral and improved grassland and scattered arable land in fields of varying size; arable land becomes more frequent within the western section of the Nene Valley; • limited woodland cover confined to occasional broadleaved copses scattered throughout the floodplain;



Character Area	Descriptions
	<ul style="list-style-type: none"> • hedgerow trees, although infrequent, are an important feature where they do occur, creating localised well treed areas; • hedgerows are generally overgrown and reinforced with post and wire fencing with intermittent sections showing evidence of decline;
LCA 18c: The Nene – Duston Mill to Billing Wharf Northamptonshire County Council	<p>Description: Located to the south of Northamptonshire, the Duston Mill to Billing Wharf Character Area is heavily influenced by the close proximity of significant areas of urban development. Dominating the area are large man made lakes occupying the valley floodplain, which have been created following the restoration of gravel extraction areas. Despite the influence of these urban and infrastructure elements, peaceful rural areas still remain. Surrounding the river and lakes is a landscape characterised by predominantly medium to large-scale pastoral fields occupied in areas with grazing cattle. Often overgrown and gappy hawthorn hedgerows divide the fields, with significant evidence of the use of post and wire fences. Although land use within the character area is dominated by large-scale lakes developed on the site of former sand and gravel pits, in places they are inconspicuous despite the large number of major roads traversing the valley, since there is limited vehicular access to the water's edge. Pedestrian access is more extensive, however, and includes the Grand Union Canal Walk, Nene Way and numerous public footpaths. Areas of the river and floodplain have also been developed as local nature reserves. Settlement is limited within the character area, incorporating only office and industrial development. Rising land surrounding the floodplain is heavily developed, with residential, industrial and commercial development creating a backdrop to the Broad River Valley Floodplain</p>
LCA 18d: The Nene – Billing Wharf to Woodford Mill Northamptonshire County Council	<p>Description: The Billing Wharf to Woodford Mill Character Area within the Nene Floodplain is the largest character area within the Broad River Valley Floodplain, extending for a significant length and width across the central eastern part of the county. A significant number of man made lakes again dominate the landscape, occupying the floodplain adjacent to the River Nene. In this location, the river is a less significant element within the landscape. The local nature reserves, country parks and lagoons in this area have been created from former gravel workings providing areas for not only public enjoyment and access, but also valuable habitats in the form of wet grasslands and reed beds, and nationally important areas for wildfowl and wading birds. Sections of dismantled railway and a number of high voltage pylons are also evident along the valley, the latter of which converge at the sub station northwest of Grendon. Surrounding the lakes is a landscape characterised by pastoral and arable fields, although water elements continue to dominate the majority of views. Whilst woodland cover remains sparse, a number of broadleaved copses contribute to the overall character. They frequently surround valley ponds, lakes and lagoons, thus helping to integrate these artificial waterbodies, created after gravel extraction has finished, into their landscape setting. More sensitive planting is required in a number of areas, however, to allow these man made features to integrate more harmoniously with their surroundings.</p>
LCT 1: Wooded Wolds Milton Keynes	<p>Description: The gently undulating plateau landscape is predominantly in arable use, with large woodland blocks which are linked to more extensive woodlands in West Northamptonshire. It retains its rural character and has limited settlement, although is crossed by large road corridors. The elevated landscape provides open views to the south, while woodland in West Northamptonshire provides a strong wooded backdrop to the north.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Gently undulating plateau landscape, between 90m and 120m AOD forming part of a wider plateau to the north. A limestone bedrock with considerable till deposits, gives rise to soils with a high clay content. • Small streams and springs, which drain into the Ouse and Tove, create topographic interest. • Large to medium scale broadleaved or mixed woodland blocks, including many ancient or ancient replanted woodlands, The Yardley Chase SSSI extends into this LCA, and contains broadleaved, mixed and yew woodland. • Medium to large arable fields bound by clipped hedges and occasional mature trees with smaller-scale fields and areas of pasture located closer to the settlements. • A sparsely settled rural landscape crossed by minor roads, although the M1 is locally dominant and audible across the LCT. • Public Rights of Way cross the landscape, connecting to settlements in the Undulating Valley Slopes (LCT 2) and the wider countryside. • An open expansive landscape with long panoramic views over valleys to the south, east and west. • The scenic and distinctive woodland backdrop that the LCT provides to adjacent landscape. • A rural landscape, with limited modern influences, and some areas of inaccessible land.



Character Area	Descriptions
LCA 1a: Yardley Chase Wooded Wolds Milton Keynes	<p>Description:</p> <p>Yardley Chase Wooded Wolds is a narrow strip of land on the northern edge of the borough. It forms the foreground to the wooded Yardley Chase and Salcey Forest to the north (within Northamptonshire), and is part of the wooded plateau, with topography ranging from 85m to 110m AOD. Woodlands within the LCA link to the extensive woodlands to the north, including Threeshire Wood, Kilwick Wood and Great Wood. Barrstaple Wood is part of the extensive Yardley Chase SSSI, which mainly lies in Northamptonshire. Yardley Chase was originally a Norman hunting chase, and is now woodland, pasture and parkland, valued for these habitats which support uncommon invertebrates. The broadleaved, mixed and yew woodland within the SSSI is in recovering condition, and has benefitted from the re-introduction of coppicing. This is a rural, and at times remote landscape, with dark night skies in the north, especially within the woodlands. There are good PRoW links across the landscape, although conversely there are also large areas which have no public access, for example south of Great Wood.</p>
LCT 2: Undulating Valley Slopes Milton Keynes	<p>Description:</p> <p>The Undulating Valley Slopes LCT is located across the north of the borough. It comprises the valley landscapes along the course of the River Ouse and the River Tove. The boundary with LCT 3 River Floodplains is marked by the rise in topography of the valley slopes above the floodplain, either to the boundary of flood zone 2 or the 50-55m contour line. The boundary with LCT 1 Wooded Wolds marks the change to the elevated and more wooded plateau and is defined along the 90m contour line. This is an open and gently sloping landscape, predominantly in arable use. It is generally a quiet and picturesque rural landscape with limited impact from modern development, except in proximity to the urban edge of Milton Keynes city.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Undulating valley slopes, rising from the Ouse and Tove rivers, from 50m to 105m AOD. • A varied bedrock of sandstones, limestones and mudstone result in diverse soils, with well-drained calcareous clays at the top of slopes and seasonally waterlogged loamy soils at the base of slopes. • Secondary valleys of small streams and springs where the landform provides a localised sense of enclosure. • Woodland cover is limited to small copses, some recorded as ancient woodlands and mature parkland trees associated with historic estates. • A mixed field pattern dominated by large-scale arable fields with unclipped hedges. Smaller pasture fields are common on lower slopes with those near settlements often used for horse grazing. There are some surviving areas of ridge and furrow earthworks. • A network of PRoW allows recreational access to the landscape, including the promoted routes Three Shires Way, Ouse Valley Way and Milton Keynes Boundary Walk. • Panoramic views over the meandering valley floodplain, with a wooded backdrop provided by the Wooded Wolds (LCT 1) to the north. Village church towers provide local landmarks. • A rural and peaceful landscape with an experience of dark skies away from larger settlements. However, electricity pylons, wind turbines and busy trunk roads in the east (LCA 2a and 2b) and the west coast mainline in the west (LCA 2c) reduces the sense of remoteness.
LCA 2a: Ouse Northern Undulating Valley Slopes Milton Keynes	<p>Description:</p> <p>Ouse Northern Undulating Valley Slopes LCA is located to the north of the River Ouse, and stretches from the east to the west of the borough, ranging from 50m AOD where it meets the Ouse floodplain to the south and rising to 105m AOD on the boundary with the plateau of the Wooded Wolds to the north and west. Areas of woodland are often recorded as priority habitat deciduous woodland, and some of ancient origin including Snip Wood and Overbrook Spinney. Pockets of semi-improved grassland are found on the lower edges of the valley slopes, and also around Court Farm. Meadow habitat has survived west of Olney and is designated as the Barn Field Long Lane LWS, while a small area of priority habitat lowland fens along a tributary spring is designated as the Valley Fen, Ravenstone LWS. A disused railway line west of Olney is designated as a Wildlife Corridor. The Ouse Valley and Yardley Chase Biological Opportunity Areas extend into this LCA.</p>
LCA 2b: Ouse Southern Undulating Valley Slopes Milton Keynes	<p>Description:</p> <p>Ouse Southern Undulating Valley Slopes LCA is located to the south of the meandering River Ouse, and stretches to the borough boundary near Newton Blossomville. The LCA rises from the Ouse floodplain (LCAs 3b and 3c) to the elevated plateau of LCT 4 Undulating Clay Plateaux to the east. Small blocks of woodland, many recorded as priority habitat deciduous woodland and often of ancient origin including Hollington Wood (also an LWS) are scattered across the LCA. A number of LWS are recorded, including at Costerpits for its semi-improved calcareous grassland and Petsoe Manor for field ponds and scrub. The Ouse Valley Biological Opportunity Area extends into the LCA.</p>
LCT 3: River Floodplains Milton Keynes	<p>Description:</p> <p>The River Floodplains LCT comprises the river valley floodplains of the River Ouse, and its main tributaries the Ouzel and the Tove. The boundaries of the LCT are defined by the extent of Flood Zones 2 and 3, and the 50-55m contour line, where the valley slopes begin to rise. This is a flat, open landscape with meandering river channels. The rivers tend to be slow flowing, with a variable depth and height of surrounding banks. The LCAs within the LCT are divided into rural and largely recreational floodplains.</p>



Character Area	Descriptions
	<p>Key Characteristics:</p> <ul style="list-style-type: none"> • A flat landscape with slow flowing rivers on sinuous valley floors, underlain by a varied bedrock with alluvium deposits. • Riparian woodland lines the meandering river channels, some recorded as priority habitat deciduous woodland and wetland habitats lie on the floodplains, many of which are designated as LWS. • Open pasture fields lie adjacent to the river channel, bound by ditches and post and wire fencing • Historic and current mineral extraction have impacted the landscape, including the creation of extensive large lakes and ponds. • An open undeveloped floodplain, with restricted settlement, although there are views to villages and towns on adjacent higher ground. • Recreationally important landscape with good access on PRoW, parks on former mineral extraction sites, cycling routes and fishing (particularly within LCAs 3c and 3d). • Rural character, away from the urban settlement edges and major transport corridors.
LCA 3b: Ouse Floodplains Milton Keynes	<p>Description:</p> <p>The Ouse Floodplains runs from Newport Pagnell in the south to the north-east of the borough, close to Turvey (in Bedford borough). Its boundaries are marked by the rise in topography to the valley sides in the Northern and Southern Ouse Undulating Valley Slopes (LCA 2a and 2b). The boundary with the Ouse Lakes and Parkland Floodplains (LCA 3c) marks where the urban influences of Newport Pagnell and Milton Keynes city become more apparent, and is defined by Sherington Road. Land use is predominantly pasture, with sheep grazing in irregular small to medium sized open fields divided by drainage ditches, post and wire fences and occasional overmature and unmanaged hedges. Some arable fields reach the river channel. Remnant ridge and furrow is found on some pasture fields which provides time-depth to the landscape. Parkland landscapes extend into the river valley floodplain at Tyringham Hall (Grade II* Registered Park and Garden) and Gayhurst Court (Grade II Registered Park and Garden). These parklands are situated on either side of the Ouse, and both designed in part by Humphry Repton. Historic stone bridges at Olney, Tyringham and Sherington are listed buildings, with Olney and Tyringham bridges also designated as Scheduled Monuments.</p>
LCT 1: Clay Farmland Bedfordshire County Council	<p>Key Characteristics:</p> <ul style="list-style-type: none"> • A large scale landscape with an open and exposed character intersected by subtle wooded valleys. • Gently undulating landform levelling out to areas of flat plateaux on highest ground. • Large scale, intensive arable crop production dominates the land cover. • Tributaries, brooks and rivers cut through the plateaux forming a series of subtle valleys- tree-lined and a focus for settlement. • Dispersed woodland (some ancient) – predominantly mixed and deciduous – some having significant nature conservation value and SSSI status. • Significant hedgerow loss leaving variable and inconsistent field and roadside boundaries. • Active and disused airfields located on areas of higher, level ground. • Water towers, village churches and windmills are strong landmark features.
LCA 1a: Cranfield to Stagsden Clay Farmland Bedfordshire County Council	<p>Description:</p> <p>The landscape character area forms part of the Clay Farmland landscape type and is located to the west of Bedford. The area extends from Pavenham (located in the adjacent Wooded Wolds landscape) in the north to the boundary with the Mid Greensand Ridge (6B) at Brogborough in the south. The northern half of the area is in Bedford Borough and the southern half in Central Bedfordshire – refer also to the companion LCA for Central Bedfordshire. The eastern boundary runs along the base of the slopes that descend onto the lower lying areas of North Marston Vale (5D). This character area is geographically distinct from the other landscape of the same type, physically separated by the Wooded Wolds and Limestone Valleys. Part of the area is within the Forest of Marston Vale.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • A medium - large scale plateau landscape with an open and exposed character with long distant views, and strong skylines. • Predominantly under arable cropping contained within large open fields but with pockets of horse paddocks - particularly associated with the settlements. • The nationally important Hanger Wood SSSI represents one of the best examples of ash-maple woodland in Bedfordshire. • Small spinneys (some ancient, including Lambert's Spinney) are frequently dispersed across the arable landscape but are of insufficient extent to produce a sense of enclosure. • Variable field boundaries including short flailed and gappy hedges, overgrown hedgerows, and some areas where all boundaries have been removed. Mature standard oak trees often mark old hedgerow lines.



Character Area	Descriptions
LCA 1b: Riseley Clay Farmland Bedfordshire County Council	<p>Description: The Riseley Clay Farmland character area is a low lying landscape ranging from 30m to 90m AOD, with subtly varied topography founded on Oxford Clay overlain by Valley Gravel along some tributaries and Boulder Clay in higher areas. The area is dominated by arable farmland but scattered woodlands (some ancient) give variety, often crowning the horizon in long views across the level fields. The large and medium fields are bounded by hedges and ditches, the former in mixed condition. Smaller fields and occasional horse pastures are clustered around settlements. Hedgerow trees, usually ash or oak are present, many mature and sometimes within fields marking lost hedgerows. Recent planting is also evident in lines of semi-mature trees especially lining roads. A number of tributaries of the River Great Ouse run from west to east, crossed by modest bridges, their valleys forming a focus for settlement and tree cover. Their progress through the open fields is sometimes marked by the presence of isolated mature willows. There are also a few areas of neutral unimproved grassland (managed as hay meadows) of high ecological value. This is a peaceful, rural area with a dispersed but regular pattern of scattered farmsteads and small villages with frequent medieval earthworks and tall stone churches. The major trunk road of the A6 passes through the west of the area and here disused and untended plots of land give an air of neglect locally.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Open lowland founded on Oxford Clay, subtly varied with gently undulating valleys. • A rural, peaceful area with a remote feel. • Dominated by arable farmland with some scattered woodlands and smaller horse paddocks near to settlements. • Varied field pattern with small to medium fields around villages plus open areas of larger geometric fields bounded by hedgerows, fences and ditches. • Hedgerows are in mixed condition with some low flailed and gappy or lost leaving extensive areas of open, arable land. • Scattered woods give variety to the distant views and include some ancient woodlands of high biodiversity interest including Swineshead Wood SSSI. • Settlements often shelter amongst mature trees, Wilden being a case in point. • Consistent network of footpaths, bridleways and green lanes with the Three Shires Way crossing the north west of the area. • Views are generally distant over the subtly undulating open farmland with blocks of woodland and wind turbines often visible on the skyline.
LCT 2: Wooded Wolds Bedfordshire County Council	<p>Key Characteristics:</p> <ul style="list-style-type: none"> • Predominant underlying solid geology of Oolitic Limestone. • Elevated plateau with a sloping landform cut by tributaries of the River Great Ouse forming subtle valleys. • Small to medium scale landscape with an enclosed, peaceful character. • Significant woodland cover, including several ancient woodland sites, for example Park Wood and Odell Great Wood (SSSI). • A land use characterised by mixed arable and pastoral farming. • Horse grazing frequently focussed at settlement edges. • Gaps in tree cover provide commanding views across the adjacent Limestone Valleys. • The Three Shires Way and the John Bunyan Trail are important recreational routes crossing through the landscape.
LCA 2a: Hinwick Wooded Wolds Bedfordshire County Council	<p>Description: The landscape has a strong historic character and contains a significant amount of woodland, much of ancient origin. The woodland is predominantly deciduous, occurring in a series of fragmented blocks, swathes and belts of varying sizes. Odell Great Wood is perhaps the most significant area of ancient woodland, and is designated as a SSSI. The distinctive settlement character is a key feature, with hamlets being connected by narrow rural lanes. There is an absence of main transport routes which makes for a peaceful, largely uninterrupted character area. The consistent vernacular of honey-grey limestone houses and walls, an intact hedgerow network and the network of rural roads create a simple and unified landscape.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Rolling, gently sloping landform cut by tributaries of the River Great Ouse forming subtle valleys. • Small to medium scale landscape with an enclosed, peaceful character. Enclosure consists of thick hedgerows with frequent hedgerow trees of oak and sycamore. • A land use characterised predominantly by arable farming with some pasture. • Significant woodland cover, including several ancient woodland sites, for example Park Wood and Odell Great Wood (SSSI). • Network of footpaths and bridleways with The Three Shires Way forming an important recreational route crossing the landscape. • The relative elevation and rolling landform allows occasional views of wind turbines on the north eastern edge of the character area.



Character Area	Descriptions
LCA 2b: Pavenham Wooded Wolds Bedfordshire County Council	<p>Description:</p> <p>Much of the area has sparse settlement of a few scattered farmsteads although there are substantial villages at Stevington, Pavenham and Turvey. Rural roads skirt and rise up the slopes of the area. To the south the A428 crosses the area creating noise and movement in the largely peaceful landscape. The dismantled railway line (former Olney branch line) is a feature of the landscape south of Turvey. The combination of dense hedgerows, hedgerow trees and woodland and the undulating, sloping landform creates a sense of semi-enclosure with views that are generally framed or intermittent. Woodland blocks along rural roads provide channelled views. This provides for occasional contrasting views when a gap in the tree cover affords commanding views across the adjacent Harrold = Great Ouse Limestone Valley (3A) or Oakley - Great Ouse Limestone Valley (3B) character areas. Pavenham commands a particularly prominent position with views of the river valley to the south and east. Conversely the Pavenham Wooded Wolds provides a rural, unsettled backdrop to the lower ground of the River Great Ouse valley.</p>
LCT 3: Limestone Valleys Bedfordshire County Council	<p>Key Characteristics:</p> <ul style="list-style-type: none"> • The River Great Ouse meanders across the flat, wide open floodplain having one of the most natural sections of river remaining in the county. • Agricultural landscape with a mixed land-use of pasture (grazed by sheep and cattle) and arable land. • Restored gravel and limestone extraction sites form a series of lakes that bring visual interest and are an important recreational and ecological resource. • The variation in land cover and dispersed settlement creates a medium scale landscape. • Wetland vegetation including willow and poplar, line the River Great Ouse, picking out the course of the river. • Meadows and marshes adjacent to the River Great Ouse including Stevington Marsh SSSI. • An urban fringe character where the western edge of Bedford abuts the landscape type.
LCA 3a: Harrold – Great Ouse Limestone Valley Bedfordshire County Council	<p>Description:</p> <p>This is a broad valley, with the rising slopes and woodland of the adjacent Wooded Wolds providing enclosure and a largely unsettled rural backdrop to the character area. The River Great Ouse follows a meandering course through the unsettled valley floor with multiple channels, drainage ditches and tributaries lined in places with willows and poplars. The river has significant ecological value and is flanked along its much of its length by the large areas of open water – a legacy of previous sand and gravel extraction sites. In some cases the size and scale of areas of open water is at odds with the pattern and grain of this valley landscape; they are, however, Bedford Borough Landscape Character Assessment 85 2014, updated 2020 often enclosed by woodland belts and blocks. Pastoral fields grazed by sheep and cattle characterise the lower ground with arable farmland on the gravel terraces and gently rising limestone valley sides. Fields are generally medium to large in size and bounded by hedgerow and hedgerow trees. In places the hedgerows have been removed and replaced by post and wire fencing creating a more open character. In some sections of the area lack of active management of land surrounding the flooded gravel pits has led to invasion of grassland by scrub and the installation of more urban style fencing and signage.</p> <p>Key Characteristics:</p> <ul style="list-style-type: none"> • Moderately wide shallow valley founded on Oolitic Limestone, with Alluvium along the course of the river and Valley Gravel on the level valley floor. • The River Great Ouse gently meanders from west to east through the valley lined in places by poplar and willow. • Predominantly arable farmland plus pasture grazed by sheep and cattle. • Medium scale geometric fields are enclosed by hedges with some hedgerow trees. • The River Great Ouse is of significant ecological interest and represents one of the most natural sections of river remaining in the county. • The tall spires of stone built churches form distinctive landmarks in views across the valley, both within the character area and in the wider valley just beyond the Borough boundary. • The Ouse Valley Way long distance route crosses the landscape.



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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper,¹ Biodiversity 2020² and the European Landscape Convention,³ we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

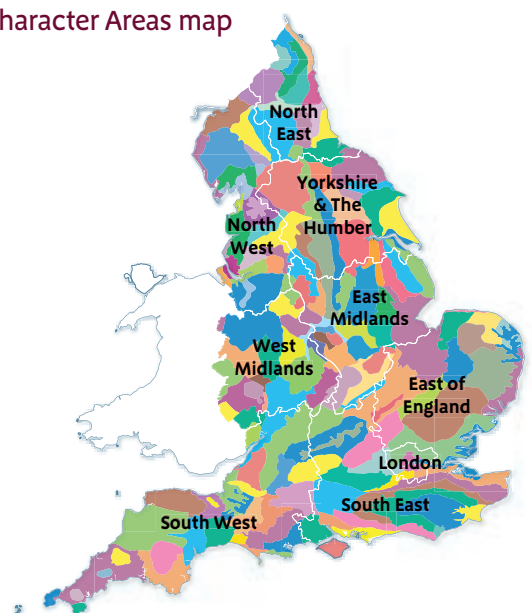
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk.

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra (2011); URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011); URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf

³ European Landscape Convention, Council of Europe (2000); URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>

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Summary

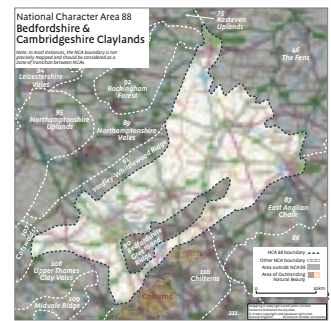
The Bedfordshire and Cambridgeshire Claylands National Character Area (NCA) is a broad, gently undulating, lowland plateau dissected by shallow river valleys that gradually widen as they approach The Fens NCA in the east. Within it, but distinct from it, is the Bedfordshire Greensand Ridge, a contrasting narrow and elevated outcrop of Greensand, with its associated habitats on acidic soils such as grassland, heathland and woodland. Views of the Bedfordshire and Cambridgeshire Claylands NCA and its large-scale arable farmland can be seen in most directions, from the elevated ground of the Yardley Whittlewood Ridge, Bedfordshire Greensand Ridge, East Anglian Chalk and Chilterns NCAs.

The NCA contains the Forest of Marston Vale – one of 12 Community Forests in England – and to the south, around Luton, a small proportion of the Chilterns Area of Outstanding Natural Beauty (AONB). While predominantly an arable and commercially farmed landscape, a wide diversity of semi-natural habitats are also present within the NCA, including a number of internationally important and designated sites that support a range of species – some rare and scarce – and offer opportunities for people to have contact with the natural environment. The River Great Ouse and its tributaries meander slowly and gently across the landscape.

The Marston Vale and Peterborough areas have been subject to extensive clay extraction for brick making. Subsequent restoration has provided opportunities for recreation and biodiversity aided by new woodland planting and other green infrastructure initiatives. Extensive quarrying of sand and gravel within the river valleys has also left its mark with a series of restored and flooded waterbodies that benefit biodiversity and recreation.

The majority of the Bedfordshire and Cambridgeshire Claylands NCA is sparsely populated. Settlements are generally located along the river valleys and more recently along major road and rail corridors. A feeling of urbanisation is brought by the numerous large towns, including Milton Keynes, Bedford, Cambridge, Huntingdon and Peterborough, and major transport routes, including the M1, A1 and A14 and the Midlands and East Coast mainline railways.

Tranquillity within the NCA has declined, affected by visual intrusion, noise and light pollution from agriculture, settlement expansion and improvements in road infrastructure. Mineral extraction and landfill activities, particularly within the Marston Vale and around Peterborough, have affected local tranquillity. Many areas, however, retain a rural feel and there are numerous opportunities for nearby urban communities to enjoy quiet, informal recreation. A sense of place and history provided by the area's rich geology and archaeology as well as historic features such as Stowe House, Wimpole Hall, Wrest Park, Bletchley Park, the Cardington Hangars, the Grand Union Canal and the post-industrial landscapes of the brickfields.



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Key ecosystem services include food provision, including unique genetic diversity found in local varieties of fruit; and the ability of the area's rivers and wetlands to provide water, regulate water quality and flow, as well as providing benefits for biodiversity and recreation. The NCA faces significant challenges around accommodating levels of future growth and managing water resources, both within the NCA and the impacts that this can have further downstream in other NCAs while, at the same time, protecting and enhancing its character and increased demand for leisure and recreation.



View of the Bedfordshire Claylands with Bedfordshire Greensand Ridge in the distance.

Statements of Environmental Opportunities:

- **SEO 1:** Maintain and manage a sustainable and productive claylands arable landscape, while managing, expanding and linking woodlands, hedgerows and other semi-natural habitats to benefit biodiversity, improve soil and water quality, and ameliorate climate change by promoting good agricultural practice.
- **SEO 2:** Protect aquifers and enhance the quality, state and structure of the River Great Ouse, its valley and tributaries, habitats, waterbodies and flood plain by seeking to enhance their ecological, historical and recreational importance while taking into account their contribution to sense of place and regulating water flow, quality and availability.
- **SEO 3:** Plan and create high-quality green infrastructure to help accommodate growth and expansion, linking and enhancing existing semi-natural habitats. Regenerate the post-industrial landscapes of the Marston Vale and Peterborough to improve and create new opportunities for biodiversity, recreation, timber and biomass provision while strengthening sense of place, tranquillity, resilience to climate change, and people's health and wellbeing.
- **SEO 4:** Protect, conserve and enhance the cultural heritage and tranquillity of the Bedfordshire and Cambridgeshire Claylands NCA, including its important geodiversity, archaeology, historic houses, parkland, and Second World War and industrial heritage, by improving interpretation and educational opportunities to increase people's enjoyment and understanding of the landscape.

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Description

Physical and functional links to other National Character Areas

The Bedfordshire and Cambridgeshire Claylands National Character Area (NCA) covers most of north and mid Bedfordshire and western Cambridgeshire, and part of east Buckinghamshire and Northamptonshire. The underlying clay geology (shared with the adjacent Upper Thames Clay Vales NCA in the south-west) gives a gently undulating topography that is divided by broad, shallow river valleys that gradually widen as they approach The Fens NCA in the east. These lower-lying claylands completely enclose the Bedfordshire Greensand Ridge NCA. A distinct boundary exists in the east where the Bedfordshire and Cambridgeshire Claylands NCA meets The Fens NCA and to the south where it meets both the elevated East Anglian Chalk NCA and Chilterns NCA. There is more of a gradual transition towards the Upper Thames Clay Vales NCA and Midvale Ridge NCA in the south-west, Yardley Whittlewood Ridge NCA to the north, and Northamptonshire Vales NCA and Leicestershire Vales NCA in the north-west where the River Nene marks the boundary.

The Bedfordshire and Cambridgeshire Claylands NCA contains the nationally designated Forest of Marston Vale Community Forest and a small proportion of the Chilterns Area of Outstanding Natural Beauty (AONB), which lies predominantly in the adjacent Chilterns NCA. Similarly, the NCA partially hosts several internationally and nationally important sites for nature conservation: the Nene Washes, the Ouse Washes and Woodwalton Fen – three Ramsar sites, two Special Protection Areas (SPA) and five Special Areas of

Conservation (SAC) that straddle the boundary with The Fens NCA, providing ecological and functional connectivity between these NCAs.

Water is shed to the River Great Ouse and River Nene: both rise in adjacent NCAs, their tributaries passing through the Bedfordshire and Cambridgeshire Claylands NCA to The Fens NCA and out into the Wash estuary. There are several aquifers supplying water for public, agricultural, horticultural, commercial and industrial uses both within the NCA and in adjacent NCAs. Grafham Water, a large manmade reservoir, supplies water to the nearby urban populations of Milton Keynes, Bedford and Northampton. The Grand Union Canal, located in the west of the NCA, flows north–south through Milton Keynes and links the Yardley Whittlewood Ridge, Bedfordshire Greensand Ridge and the Chilterns NCAs.

There are views of large-scale arable farmland across the lowland plateau in most directions and particularly from the elevated ground of the Yardley Whittlewood Ridge, Bedfordshire Greensand Ridge, East Anglian Chalk and Chilterns NCAs. Equally, the lower-lying claylands provide reciprocating views.

The NCA contains several major towns, including Milton Keynes, Bedford, Cambridge, Huntingdon and Peterborough, and is crossed by numerous roads. Major transport routes include the M1, M11, A1 and A14, and the Midlands and East Coast mainline railways. The NCA offers numerous quiet recreational opportunities for nearby urban communities, including site-based woodland and water-based activities, two National Cycle Routes and an extensive rights-of-way network.

Distinct areas

- Post-industrial landscapes of the Marston Vale and Peterborough brickfields
- Great Ouse river valley

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Key characteristics

- Gently undulating, lowland plateau divided by shallow river valleys that gradually widen as they approach The Fens NCA in the east.
- Underlying geology of Jurassic and Cretaceous clays overlain by more recent Quaternary glacial deposits of chalky boulder clay (till) and sand and gravel river terrace deposits within the river valleys. Lime-rich, loamy and clayey soils with impeded drainage predominate, with better-drained soils in the river valleys.
- The River Great Ouse and its tributaries meander slowly across the landscape, and the River Nene and the Grand Union Canal are also features. Three aquifers underlie the NCA and a large manmade reservoir, Grafham Water, supplies water within and outside the NCA.
- Brickfields of the Marston Vale and Peterborough area form distinctive post-industrial landscapes with man-made waterbodies and landfill sites. Restoration of sand and gravel workings has left a series of flooded and restored waterbodies within the river valleys.
- Variable, scattered woodland cover comprising smaller plantations, secondary woodland, pollarded willows and poplar along river valleys, and clusters of ancient woodland, particularly on higher ground to the north-west representing remnant ancient deer parks and Royal Hunting Forests.
- Predominantly open, arable landscape of planned and regular fields bounded by open ditches and trimmed, often species-poor hedgerows which contrast with those fields that are irregular and piecemeal.
- Wide variety of semi-natural habitats supporting a range of species – some notably rare and scarce – including sites designated for species associated with ancient woodland, wetland sites important for birds, great crested newt and species of stonewort, and traditional orchards and unimproved grassland supporting a rich diversity of wild flowers.
- Rich geological and archaeological history evident in fossils, medieval earthworks, deserted villages and Roman roads. A number of historic parklands, designed landscapes and country houses – including Stowe House and Park, Kimbolton Park, Croxton Park, Wimpole Hall and Wrest Park – combine with Bletchley Park, Second World War airfields, the Cardington Airship Hangars and brickfields to provide a strong sense of history and place.
- Diversity of building materials including brick, render, thatch and stone. Locally quarried limestone features in villages such as Lavendon, Harrold and Turvey on the upper stretches of the River Great Ouse.
- Settlements cluster around major road and rail corridors, with smaller towns, villages and linear settlements widely dispersed throughout, giving a more rural feel. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads.
- Major transport routes cross the area, including the M1, M11, A1, A6, A5 and A14 roads, the East Coast and Midlands mainline railways, and the Grand Union Canal.
- Recreational assets include Grafham Water, the Grand Union Canal, Forest of Marston Vale Community Forest, Chilterns AONB, woodland and wetland sites, an extensive rights-of-way network and two National Cycle Routes. The cities of Cambridge and Peterborough and several of the historic market towns in the NCA are popular tourist destinations.

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Bedfordshire and Cambridgeshire Claylands today

The Bedfordshire and Cambridgeshire Claylands NCA is a broad, gently undulating, lowland plateau dissected by shallow river valleys. Within it is the Bedfordshire Greensand Ridge NCA, a contrasting narrow and elevated outcrop of Greensand that supports habitats associated with acidic soils. The Bedfordshire Greensand Ridge and other higher ground offer views of the large-scale arable farmland of the Bedfordshire and Cambridgeshire Claylands NCA in all directions.

The claylands are underlain by flat to very gently dipping Jurassic (including Oxford Clay) and Cretaceous clay sediments. These are predominantly clay with occasional locally prominent limestones such as Blisworth Limestone and Cornbrash Limestone, and more sandy sediments such as Kellaways Sand. Throughout much of the NCA this underlying geology is covered by Quaternary glacial and fluvial deposits, including boulder clay or till and river terrace sands and gravels. The sediments and deposits are rich in fossils and the Oxford Clay is renowned for being the local source of clay for the brick-making industries of Peterborough and the Marston Vale. The soils are moderately fertile and permeable, and the majority are lime-rich, loamy and clayey. More fertile and free-draining soils occur in the river valleys.

The clay plateau is slightly elevated in the west and dissected by the upper reaches of the River Great Ouse, giving rise to better-drained soils derived from the underlying Jurassic limestone of the adjacent Yardley Whittlewood Ridge NCA. Many of the river valleys have well-drained soils over alluvium and river terrace gravels that have been extracted by the aggregate industry as source material for the construction industry. The brick-making properties of the Jurassic Oxford Clay in the Peterborough and Marston Vale areas have

created a distinct post-industrial landscape of waterbodies ranging in size from small field ponds and marshy areas to huge lakes that are important for birds, amphibians, invertebrates and stoneworts.

The source of the River Great Ouse is located to the north of Brackley (just within the adjacent Yardley Whittlewood Ridge NCA). Flowing in an easterly direction, the Great Ouse meanders gently in characteristic broad loops through Buckinghamshire, around the northern edge of Milton Keynes and onwards



The River Great Ouse meanders slowly and gently across the landscape in a broad shallow floodplain.

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through an enclosed landscape of watermeadows and attractive limestone villages towards Bedford and on into Cambridgeshire. The River Ouzel joins at Newport Pagnell, the River Ivel near Sandy, and the River Kym upstream of Huntingdon. The valley is lined by riparian habitats and trees such as alder, poplar and willow. The surrounding area is predominantly arable farmland with some pasture grazed by sheep and cattle. The river valleys feel enclosed in their upper reaches and broaden gradually as they approach The Fens NCA.

The rivers are generally slow flowing, in shallow, broad valleys of significant ecological value containing distinctive vegetation not common in, and in contrast to, the surrounding arable landscape, including flood plain grazing marsh, lowland meadow, wet woodland, fens and reedbeds. These habitats are important for rare and scarce flora and fauna such as wetland birds and invertebrates. Portholme Meadow Site of Special Scientific Interest (SSSI) and SAC, Cambridgeshire, for example, represents one of the largest remaining areas of lowland flood plain meadow in the country.

Along much of its length, the valley is flanked by large areas of open water, a legacy of mineral extraction (sand, gravel and, in parts of its upper reaches, limestone). The natural regeneration and restoration of mineral extraction sites have created new landscape features that are important recreational and biodiversity resources. Examples include Emberton Country Park in Buckinghamshire; Harrold-Odell Country Park, Felpersham Gravel Pits SSSI, and Priory Country Park in Bedfordshire; and Little Paxton Pits and Fen Drayton Lakes in Cambridgeshire.

In the south the Grand Union Canal, with its mills (for example, at Wolverton), series of locks, weirs and pollarded trees, provides distinctive character. It

continues southwards through Milton Keynes alongside the River Ouzel as it passes through a series of linear parks and amenity lakes. Grafham Water, to the south-west of Huntingdon, is one of the largest manmade reservoirs in England. Surrounded by arable fields and scattered woodland, it is important for strategic water supply, water-based recreation and nature conservation.

Woodland cover is generally scattered and sparse. There is a concentration of ancient semi-natural woodland in a band to the north of the NCA between Salcey Forest and Grafham Water on the Northamptonshire/Bedfordshire border – representing remnants of Royal Hunting Forest – and south-west of

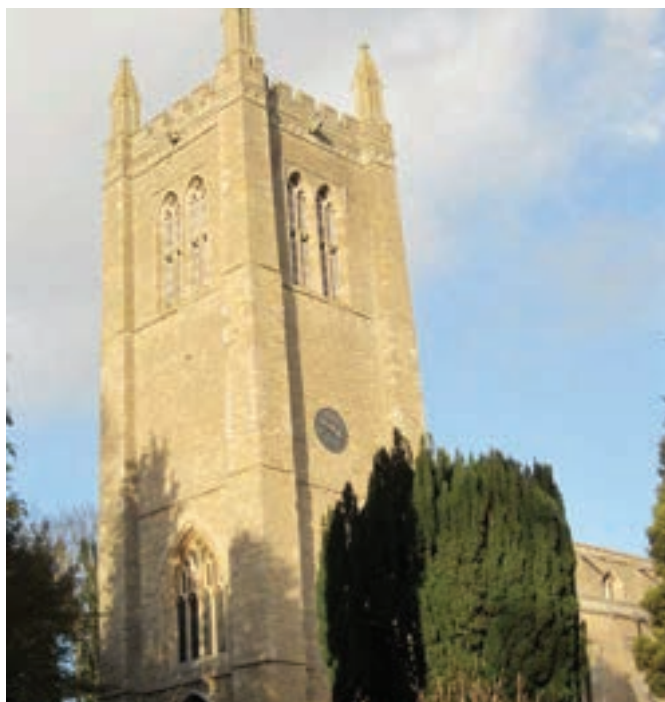


Remaining semi-natural ancient woodland supports a range of species.

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Locally quarried limestone is used in village buildings like this church in Odell.

Cambridge. Elsewhere woodland survives in numerous, but small and isolated, fragments. Secondary woodland and plantation is evident in the river valleys and as screening for mineral extraction and built development. There are a number of important ancient woodlands designated for their biodiversity interest – such as Marston Thrift, Brampton Wood and Monks Wood – and a significant amount of new woodland planting, particularly within the Forest of Marston Vale, to regenerate the landscape following clay extraction and landfill activities.

The Bedfordshire and Cambridgeshire Claylands NCA has a predominantly arable and intensively farmed landscape, with main crops of winter cereals and oilseed rape. Fields are generally large and rectilinear, typically increasing in size further eastwards. In the west, hedgerows are predominantly of hawthorn, generally intact, with few hedgerow trees of oak and ash. Further east, hedgerows are more species-rich and gappy. Open ditches with infrequent trees also bound some fields and are often under-managed. Within the river valleys, willow and poplar help to emphasise local distinctiveness.

The NCA contains many important sites for nature conservation, although in terms of area it is only a small proportion. There are three Ramsar sites, two SPA, five SAC, three National Nature Reserves (NNRs) and 61 SSSI wholly or partly within the NCA. In addition, a variety of semi-natural, priority habitats support a range of species – some rare and scarce. Those associated with ancient woodland include oxlip, butterflies such as the white admiral and purple and black hairstreaks, the dormouse (re-introduced) and the barbastelle bat. Ancient trees and remaining traditional orchards support specialist invertebrates. Remnant fragments of unimproved grassland support a rich diversity of flora such as the sulphur clover, crested cow-wheat and green-winged orchid. Riparian and wetland habitats provide valuable

habitat and connectivity within the landscape and support populations of breeding and overwintering birds, water vole, otter, great crested newt and rare species of stonewort. The extensive arable landscape supports farmland birds such as the skylark and grey partridge, and the brown hare.

Pre-Roman archaeological remains are concentrated in the Ivel and Great Ouse river valleys. Across the whole NCA, historic features include Roman and medieval settlements, moated manor sites, deserted villages, pockets of ridge and furrow, and ruined or isolated churches – for example, Bushmead Priory. A sense of history is provided by a number of historic houses and parkland estates such as Stowe House, Wrest Park, Kimbolton Park and Croxton Park; the Cardington Hangars (also known as Sheds), the only grouping of extant airship hangars in the UK dating from 1915; Second World War airfields; and the former code-breaking centre at Bletchley Park, which developed within a medieval and Victorian park.

The majority of the NCA is sparsely populated. Settlements are generally located along the river valleys and more recently along road and rail corridors. Small villages are usually nucleated around a church or village green, while fen-edge villages are often in a linear form along roads. A feeling of urbanisation is brought by the numerous large towns and cities (such as Milton Keynes, Cambridge and Peterborough), recent growth and development, and associated road and rail infrastructure improvements. Traditional building materials vary considerably, with localised pockets of materials and styles used. Locally quarried limestone is used in the buildings in villages north of the River Great Ouse whereas clay tile and brick is commonly found to the south and east. Surviving examples of timber-frame buildings and thatch and the occasional use of colour-washed render add to the eclectic nature of the area's building stock.

Tranquillity within the NCA has declined significantly – affected by visual intrusion, noise and light pollution from commercial agriculture, settlement expansion, and improvements in road infrastructure – but it is also variable across the NCA. Strong contrasts exist between greater tranquillity in more rural, inaccessible areas (including sections of the river valleys) and lower tranquillity in areas with a settled, urban and developed feel. Mineral extraction and landfill activities, particularly within the Marston Vale and around Peterborough, have further affected local tranquillity. Once very active, these areas have declined, although there are still some active and worked clay pits, brickworks, landfill sites and large waterbodies – comprising a mosaic of despoiled and restored land among agricultural uses. Four chimney stacks still punctuate the skyline, and landfill in the Marston Vale has left prominent 'domed' landforms. The full extent of these industrial areas is often concealed from public roads, but is more visible from elevated land such as the Greensand Ridge.

Many recreational facilities such as country parks, nature reserves, woodland and wetland sites and Community Forest are located close to the main urban populations. The large towns and cities such as Milton Keynes, Bedford, Huntingdon, Cambridge and Peterborough have green spaces within them and some recently improved green infrastructure links to the wider countryside. The historic cities of Cambridge and Peterborough are popular tourist destinations. The area also offers many opportunities for water-based recreation such as sailing and fishing – for example, at Grafham Water. The Grand Union Canal and the river valley offer opportunities for quiet, informal recreation and facilities for boating, walking, fishing and watching nature. An extensive rights-of-way network and two National Cycle Routes (Routes 51 and 6) provide additional quiet recreation opportunities.

The landscape through time

During the Jurassic and Cretaceous Periods the Bedfordshire and Cambridgeshire Claylands NCA was dominated by marine environments. The oldest rocks, which follow the western margin of the NCA, belong to the shallow marine Blisworth Limestone and are overlain by the estuarine Blisworth Clay. The overlying Cornbrash Limestone (particularly noted for its shallow marine, shelly fossils and corals), Kellaways Clays and Sands show a gradual rise in sea level, leading to the deeper sea that deposited the Oxford Clay which dominates much of the NCA. The Oxford Clay is particularly noted for its fossil marine reptiles, many of which have been found in the brick pits during clay extraction and are today displayed in local museums. Marine environments continued through the Upper Jurassic Period into the Lower Cretaceous (Greensand and Gault Clay) Period. The advance and retreat of ice sheets during the Quaternary Period (over the last 2 million years) has left thick deposits of boulder clay over much of the NCA, influencing the development of the rivers that cross the area and depositing a sequence of sand and gravel river terraces. These contain vertebrate fossils such as mammoth and woolly rhinoceros associated with colder periods, and hippopotamus and elephant linked to warmer interglacial periods.

Prehistoric farmers and Roman settlers farmed the lighter soils in the river valleys of the Great Ouse and Ivel, deterred by the dense woodland and the heavy soils of the clay plateau. Archaeological evidence is abundant in these valleys. Settlements along the river valleys have subsequently grown in size, including the expansion of the first Roman settlements that were at the river crossings at Huntingdon, Godmanchester, St Ives and St Neots. Small villages and historic market towns exist, some tourist destinations in themselves as

they contain attractive buildings, including mills and bridges, reflecting the use of the rivers and their valleys as important transport corridors.

During the medieval period improved agricultural practice and a rising population put pressure on the higher, heavier claylands and settlement was extensive, with available land organised into nucleated settlements of hamlets and small villages surrounded by communal fields and common grazing unless run by manorial or ecclesiastical estates. Areas less favourable to arable production remained as woodland. The decline of this farming system accelerated after the Black Death, continued with the increase in the value of sheep pasture and enforced depopulations in the 15th and 16th centuries, and concluded with Parliamentary enclosure in the late 18th and early 19th centuries. Abandoned medieval settlements and structures such as moated sites remain a feature of the landscape, some now protected as Scheduled Monuments. A few pre-1750 farmstead buildings, farmhouses and aisled barns still survive.

Enclosure during the late 18th to mid-19th centuries resulted in the creation of numerous isolated farmsteads, including a significant proportion of brick-built estate farms belonging to wealthy landowners such as the Duke of Bedford. The characteristic, ruler-straight boundaries and medium-scale fields still exist across the area, although many were subsequently subsumed through farm amalgamation and field boundary loss in the late 20th century by commercial arable farming. Several notable historic houses and estates, including Kimbolton Park and Croxton Park, remain. The grandest example is at Wrest Park, Silsoe – the estate of the de Grey family. The French baroque/rococo-style house, built around 1835, is unique in England. The formal gardens comprise canals, pavilions and radiating vistas set within woodland.

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Military airfields developed across the plateau from the First World War, some such as Alconbury developing as significant Cold War sites. The hangars at Cardington, dating from the First World War, provide a uniquely important testimony to airship technology in Europe although they are best known for their association with the R101 airship disaster of 1930. They remain a significant and prominent landmark of the Bedfordshire landscape and are still used as a movie set. Bletchley Park developed as a government code-breaking centre in the Second World War, at the centre of a local and international network of other intercept and data-processing stations. Many of the airfields have now naturalised back into the landscape, but others either await further development or thrive today as important technological and military centres and business airports – for example, Alconbury, Cranfield and Thurleigh.

The late 20th century witnessed further landscape change with continued commercial agricultural use and the industrial activity within the brickfields of the Marston Vale and Peterborough. Clay extraction for brick making and associated infrastructure further altered the landscape. Significant landfill took place within the Marston Vale, leaving a restored 'domed' landscape among water-filled pits. New woodland planting, especially within the Forest of Marston Vale, and other regenerative green infrastructure initiatives have created a number of new opportunities for recreation and biodiversity. Extensive quarrying of sand and gravel within the river valleys, not exclusively but especially in Cambridgeshire, has also left its mark with a series of restored and flooded waterbodies also benefiting biodiversity and recreation.

Cultural influences include John Bunyan, who wrote *Pilgrim's Progress* while imprisoned in Bedford jail; fictitious locations in the novel are thought to be drawn from the Marston Vale, Greensand Ridge, the Great Ouse river

valley and the Chilterns. Oliver Cromwell, a contemporary of Bunyan, was born in Huntingdon in 1599, and in the 18th century Olney was home to the reformed slave trader Rev. John Newton and the poet William Cowper whose association led to the writing of the Olney Hymns.

There has been significant development (residential, commercial and infrastructure, road and rail improvements) within the NCA and it continues to be the focus for new growth and development. There are growth plans for all of the main towns and cities in the NCA, including Milton Keynes which has a large geographic sphere of influence and continues to expand. Transport infrastructure, business and commercial development are now major components of the NCA's character, with good transport links north and south and particular nodes along the corridors of the A1, M1 and A14. As renewable energy technology has developed, the area has witnessed the establishment of a number of wind energy schemes.



The Cardington Hangars or Sheds are a prominent feature of the landscape near Bedford.

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Ecosystem services

The Bedfordshire and Cambridgeshire Claylands NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Bedfordshire and Cambridgeshire Claylands NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** Seventy per cent of the area is in agricultural use, although statistics indicate that there has been an overall decrease in the area of land in agricultural use, total farm size and area of land held. Soils are moderately fertile and classified as Grade 2 and Grade 3. The arable landscape is important for food production, is a major industry within the area and provides a significant food resource. It is likely to be influenced by changes in the market. Multiple benefits could be gained in terms of maintaining levels of food production, preserving historic character and enhancing biodiversity, although there are pressures on soil and water resources, especially water availability.
- **Water availability:** The River Great Ouse is the main river in this NCA, with many others feeding in as tributaries. A small part of the River Nene also passes through the NCA, supplying Rutland Water (outside the NCA) which is internationally important for nature conservation and provides drinking water to Kettering, Northampton, Peterborough and

surrounding areas. Grafham Water near Huntingdon, constructed in the 1960s, supplies water to Milton Keynes and towns in Bedfordshire and Northamptonshire. There are also several aquifers. Water availability within the NCA is considered to be restricted, with many waterbodies listed as having no water available. Water is abstracted for a number of different purposes, including agriculture, spray irrigation, industrial use, power generation and public water supply. Any new development is likely to put additional pressure on water resources. Careful management of water resources will be required.

Regulating services (water purification, air quality maintenance and climate regulation)

- **Regulating water quality:** The soils covering the majority of the NCA have a degree of impeded drainage and are at risk of compaction and erosion – requiring careful management to maintain a good soil structure and avoid increasing vulnerability to run-off under high precipitation conditions that can cause localised soil erosion and affect water quality. The whole of the NCA is a nitrate vulnerable zone (NVZ). Water quality improvements could be gained by reducing sediment, nutrient and run-off from agricultural land as well as controlling damage caused to the soil by vehicles or stock. The semi-natural habitats present – including woodland, hedgerows, semi-improved and unimproved grassland, flood plain grazing marsh, fen and reedbed – help to filter out any pollutants and sediments, thereby regulating water quality. This ability could be greatly strengthened by linking or expanding existing fragmented habitat.

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- **Regulating water flow:** The soils covering the majority of the NCA have some degree of impeded drainage which, if damaged, can increase the likelihood of run-off under high precipitation conditions. Flood risk occurs along the course of the River Great Ouse. Many of the rivers are heavily modified, embanked or re-sectioned rivers, with weirs and flood defence structures in place to manage water flows. The numerous lakes and other waterbodies within river valleys are also used in some cases for water storage and management purposes. The River Great Ouse catchment is known for its quick response during periods of heavy rainfall. Therefore measures taken in this NCA to reinstate the natural functionality of the flood plain will help to regulate and

manage flows further downstream in other NCAs and help protect sites that are important for nature conservation and which are known to have issues with water quality and flow, such as the Nene and Ouse Washes.

Cultural services (inspiration, education and wellbeing)

- **Recreation:** Recreation is a significant service in the NCA. It is generally low key, close to the main urban populations and associated with the river valleys, existing sites and restored post-industrial landscapes, particularly within the Forest of Marston Vale. There are numerous country parks and nature reserves available for local residents and



Grafham Water supplies water within and outside of the NCA and is an important recreational resource.

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visitors. Large towns and cities – including Milton Keynes, Bedford, Cambridge and Peterborough – have a good network of parks and green spaces within them and recently improved links to allow access to adjacent countryside. With the high development pressures in the NCA, it is likely that demand for leisure and recreation will increase with subsequent pressures on biodiversity, soil and water resources. Opportunities exist to cater for increased demand without significant effects on other services as long as the assets are positively managed.

- **Biodiversity:** Although only a small proportion of the NCA is designated for its biodiversity interest, the NCA contains a diverse range of habitats of importance. These include coastal and flood plain grazing marsh, lowland mixed deciduous woodland, fen, lowland meadow, reedbed, traditional orchards, wood pasture and parkland with ancient and veteran trees. These support a range of species – some rare and scarce. Many are associated with the remnant ancient woodland – including butterflies such as the white admiral and purple and black hairstreaks, dormouse, barbastelle bat and specialist invertebrates. Riparian and wetland habitats provide valuable habitat connectivity within the landscape and support populations of breeding and overwintering birds, water vole, otter, great crested newt and species of stonewort. The farmscape supports farmland birds such as skylark and grey partridge, and brown hare. The biodiversity of the area is under pressure from land use change, development and infrastructure improvements, and demand for resources (especially water). However, there are also opportunities to benefit biodiversity and recreation by creating new green infrastructure. The management and extension of semi-natural habitats within the NCA will bring benefits for biodiversity, soil and water quality, climate regulation and recreation.

- **Geodiversity:** Geodiversity has significantly influenced the landscape character of the NCA and development within the NCA. Oxford Clay has been a major source of material for the brick-making industry since the early 19th century, providing the dominant building material for many of the towns and villages of the NCA. Jurassic limestone from the west of the NCA has also been used as a building stone. The brick pits are particularly noted for their Jurassic marine reptiles and have yielded the most important collections of marine reptiles of this age, many of which are on display at local museums. There are five geological SSSI and 19 Local Geological Sites across the NCA, many of which are found in active and disused clay, sand and gravel workings. This reflects the importance of these extraction sites for accessing and understanding the area's geodiversity, which is otherwise poorly exposed. The restoration of these sites provides opportunities for retaining geodiversity, developing a range of habitats, enhancing landscape character and offering new leisure and recreation opportunities.

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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper¹, Biodiversity 2020² and the European Landscape Convention³, we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra (2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)

³ European Landscape Convention, Council of Europe (2000; URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>)

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Summary

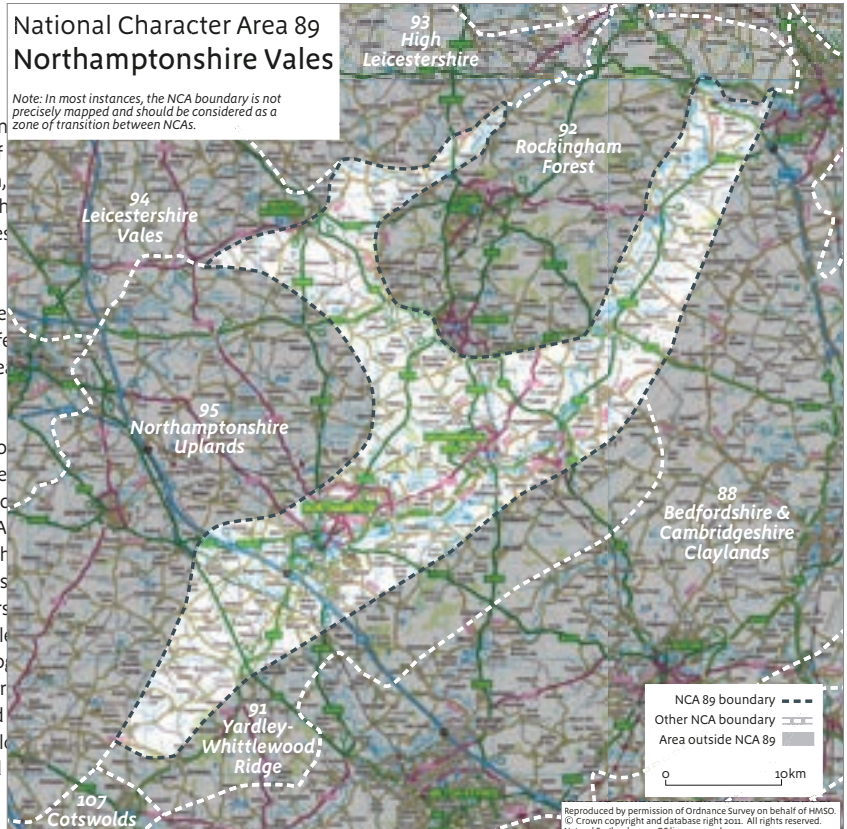
The Northamptonshire Vales National Character Area (NCA) consists of low-lying clay vales and river valleys, including the valleys of the Great Ouse and Welland and their tributaries. The area is 10 per cent urban, and is often visually dominant. Major road networks that traverse the area include the M1, A45, A6 and A5. This area adjoins the Leicestershire Vales to the north-west and has many similar characteristics.

Despite the predominance of built settlements and related levels of tranquillity, this contrasts strongly with a distinctly more rural feel. Levels of tranquillity are particularly high along river corridors and in areas of pastoral farmland.

This area is rich in historic character, with country houses, historic ridge and furrow and open field patterns, especially in the valleys of the Great Ouse, Welland, Isle and Nene. These river valleys are striking features of the landscape, with their riverside meadows and waterside trees and shrubs. Areas of floodplain are the flooded gravel pits and their associated wetlands, which have been the subject of reclamation schemes. These have given rise to some of the most important freshwater wetlands in the Midlands, supporting large numbers of birds and wildfowl, especially over winter. The Upper Nene Valley Gravel Pits were designated as a Special Protection Area in 2011 in recognition of their wetland bird assemblage, which includes non-breeding grey-winged gadwall and European golden plover. The rivers and associated floodplains provide regional ecosystem services such as regulating water flow and availability, as well as providing extensive recreational and leisure resources for the surrounding urban areas.

National Character Area 89 Northamptonshire Vales

Note: In most instances, the NCA boundary is not precisely mapped and should be considered as a zone of transition between NCAs.

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Statements of Environmental Opportunity

SEO 1: Appropriately manage the flood plains of the River Nene and River Welland, their tributaries, and the Upper Nene Valley Gravel Pits Special Protection Area, and deliver the most beneficial restoration of sand and gravel extraction sites, to enhance associated habitats and biodiversity and connections with the farmed environment; to regulate water flow, water quality and water availability; to enhance landscape character; and to increase the opportunities for informal recreation.

SEO 2: Sustainably manage the soils, productive farming, woodlands, coverts and spinneys that contribute to the sense of place, maintaining viable long-term food production and protecting historical and cultural assets such as the ridge-and-furrow sites found in the Nene and Welland valleys, the historic parklands and the variety of field patterns.

SEO 3: Plan ongoing strategic growth and development within the area so that it strengthens the sense of place and increases biodiversity, incorporating extended and restored hedgerow networks, open spaces and the conservation, management and promotion of geological features as part of green infrastructure planning.



The River Nene with a flooded gravel pit in the background. The freshwater wetlands in this NCA, are some of the most important in the Midlands, supporting large numbers of wetland birds and wildfowl.

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Description

Physical and functional links to other National Character Areas

The Northamptonshire Vales National Character Area (NCA) is shaped like an anchor, with the Yardley Whittlewood Ridge and the Bedfordshire and Cambridgeshire Claylands NCAs sharply defining the southern edge. High Leicestershire and the Leicestershire Vales NCAs are to the north. The Welland Valley extends north-eastwards as part of the area, north of Rockingham Forest NCA. The Northamptonshire Vales NCA sweeps between the Northamptonshire Uplands NCA to the south-west and Rockingham Forest NCA to the north-east, the latter forming the northern boundary of the Nene Valley.

This NCA shares many key characteristics with the Leicestershire Vales NCA, including a shared geology with most of the area. Outcrops of the Great Oolite Group along the Nene Valley have more in common with the Rockingham Forest NCA.

The area is dominated by the major rivers of the Welland and Nene, both of which link several NCAs – such as High Leicestershire and The Fens – and drain into The Wash. The River Nene is an important source of water for public water supply, supplying water to fill and maintain both the Pitsford (located in the Northamptonshire Uplands NCA) and the Rutland (located in the Leicestershire and Nottinghamshire Wolds NCA) reservoirs. The Grand Union Canal runs through the area from London to Birmingham with the Northampton Arm linking the canal with the River Nene.

The slightly higher ground around Market Harborough defines the Soar from the Welland catchment. Higher ground on the Northamptonshire Clay Wolds–



The 140 kilometer 'Jurassic Way' long-distance footpath runs through the centre of this area, from Banbury in the south-west to Stamford to the north-east.

Rockingham Forest axis divides the Welland Valley from the Nene Valley, where the extensive northern catchment is fed by large streams and small rivers including the Ise. Expansive views over the vales landscape are afforded from the fringes of the elevated clay wolds. This contrasts with the views along the Nene and Welland, which are much more contained.

The M1 cuts through the western end of this NCA, linking London with the North. The A45, which starts in this NCA at the A14 (Thrapston), runs along the Nene Valley to Northampton and then on through the Northamptonshire Uplands NCA, Dunsmore and Feldon NCA and on into Birmingham, which sits within Arden NCA.

The Northamptonshire Round long-distance footpath links the Northamptonshire Vales NCA with its neighbour the Northamptonshire Uplands. This footpath is approximately 80 km long and circles Northampton. The 140-kilometre Jurassic Way long-distance footpath runs through the centre of the area, from Banbury to the south-west to Stamford to the north-east.

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Key characteristics

- An open landscape of gently undulating clay ridges and valleys with occasional steep scarp slopes. There is an overall visual uniformity to the landscape and settlement pattern.
- Diverse levels of tranquillity, from busy urban areas to some deeply rural parts.
- Mixed agricultural regime of arable and pasture, with arable land tending to be on the broader, flat river terraces and smaller pastures on the slopes of many minor valleys and on more undulating ground.
- Relatively little woodland cover but with a timbered character derived largely from spinneys and copses on the ridges and more undulating land, and from waterside and hedgerow trees and hedgerows, though the density, height and pattern of hedgerows are varied throughout.
- A strong field pattern of predominantly 19th-century and – less frequently – Tudor enclosure.
- Distinctive river valleys of the Welland and the Nene, with flat flood plains and gravel terraces together with their tributaries (including the Ise). Riverside meadows and waterside trees and shrubs are common, along with flooded gravel pits, open areas of winter flooded grassland, and wetland mosaics supporting large numbers of wetland birds and wildfowl.
- Frequent large settlements that dominate the open character of the landscape, such as Northampton and Wellingborough, and associated infrastructure, including major roads, often visually dominant.
- Frequent small towns and large villages often characterised by red brick buildings and attractive stone buildings in older village centres and eastern towns and villages. Frequent imposing spired churches are also characteristic, together with fine examples of individual historic buildings.



Oundle is predominately built of limestone and has retained the older character of a market town.

- Relatively frequent, prominent historic parklands and country houses towards the outer edges and close to more wooded areas. Other characteristics include ridge and furrow and nationally important townships such as Sutton Bassett and Clipston.
- Localised high concentrations of threshing barns and high status timber-framed farm buildings from the 18th century or earlier.

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Northamptonshire Vales today

This is a large, relatively open, uniform landscape composed of low-lying clay vales interrupted by varied river valleys. Its sense of place comes less from its overall landform and more from its visually dominant settlements and views of the surrounding higher ground. The area has many settlements within it, including the major urban area of Northampton, and it abuts the southern edge of the city of Peterborough. Other large- to medium-sized settlements include Market Harborough and Wellingborough, with many attractive towns and villages, buildings and features of historic interest in between. As in the Nene Valley, there are many fine stone buildings built from locally sourced Ketton Stone (oolitic limestone, extracted at Ketton, just north of this NCA) and ironstone extracted from within the NCA.

Despite the predominance of settlements and a general lack of tranquillity, this contrasts strongly with a distinctly rural feel to the landscape, particularly in the southern part of the area, which features a mixture of arable and pastoral farmland. Country houses, historic landscapes, designed parkland, and waterside trees and meadows add further variety.

To the east of the Northamptonshire Clay Wolds, the younger, generally harder rocks of the Inferior Oolite Group extend south-west to north-east through Northampton, juxtaposed with outcrops of the Great Oolite Group (including the Cornbrash) along the Nene.

The area is dominated by the river valleys of the Welland and the Nene which, along with flooded gravel pits and their associated wetlands, which result from reclamation schemes, have given rise to some of the most important freshwater wetlands in the Midlands, supporting large numbers of wetland birds and wildfowl, especially over winter.



Fotheringhay Church dominates the surrounding landscape and displays the fine creamy-grey local limestone.

The Welland Valley is narrow and remote, the main industrial influence being the views of Ketton cement works to the north. The scarp at the edge of Rockingham Forest is a dominant feature and the generally open character is punctuated by waterside trees. On the narrow valley bottom, meadows are frequent but there has been much conversion to arable in recent years and the overall character is remote and rural. As in the Nene Valley, there are many fine stone buildings of Ketton Stone and ironstone. The Nene, a historically navigable river, has well-defined terraces and is fed by numerous tributaries forming side valleys. Much of the flood plain is now dominated by either active gravel working or the lakes formed from former workings. The Upper Nene Gravel Pits, from Northampton to north of Thrapston, are designated a Special Protection Area (SPA) of European significance for wintering birds. The Site of Special Scientific Interest (SSSI)

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designation that also covers this area is for wintering and breeding birds as well as the associated wetland habitats. Land use is both arable and pasture. Valley sides are dominated by the rectilinear pattern of Parliamentary enclosure. The Isle Valley is in part disguised by the settlements of Wellingborough and Kettering and in part, near Newton and Geddington, is designated as an SSSI for nature conservation importance as a good example of meadow and a lowland clay river, with much intact habitat that includes riffles, pools and meanders. It supports several priority species such as white-clawed crayfish, water vole and otter.

Woodlands are not characteristic and are usually small and confined mainly to valley sides and to spinneys and 'fox coverts' on ridges and on more undulating land, particularly in the Isle Valley. There is intermittent woodland cover along the Welland and Nene valleys. Tree cover throughout the area has been substantially affected by Dutch elm disease. A few large wooded areas do exist but these are principally those maintained in parkland estates or for public recreation. Ancient woodland and orchards are scattered and fragmentary; their distribution derives from and reflects the pattern of boundaries and margins of medieval and later open field townships. The landscape contains a considerable variety of field patterns and a strong pattern of enclosure – regular geometric patterns with straight hedgerows and roads among which sit farmsteads – and there are also sizeable areas of less regular non-Parliamentary enclosure dating from the 16th and 17th centuries, such as those along the Brampton Brook and River Isle. There is considerable variety in the distribution, condition, extent and density of hedgerows and tree cover. Hedgerows tend to be low, and hedgerow trees are often in poor condition. There are waterside trees and meadows, but generally the flatter areas are given over to arable, where hedgerows can be particularly low, broken or intermittent, for example at Dingley. The most common hedgerow shrub is hawthorn, but older hedgerows contain a wide variety of species often characteristic of woodland,

including field maple, dogwood and buckthorn. Hedgerow trees such as ash and oak provide additional habitat for birds and bats. Characteristic hedgerow butterfly species include brimstone, orange-tip, gatekeeper and holly blue.

Fragments of ridge and furrow survive under pasture but most important is the survival of open field patterns at Sutton Bassett and Welham (Welland Valley), Great Oxendon and Clipston (Isle Valley).

This is an area of mixed farming where, on the slopes of the many minor valleys and on more undulating ground generally, pasture in small fields, close to settlements, tends to predominate. Seeds from arable weeds are an important food source for many species of farmland bird such as grey partridge, corn bunting and skylark. Habitats associated with arable farming also support butterflies such as the small skipper, gatekeeper and ringlet.

Mineral extraction has transformed the Welland Valley ironstone areas since the late 19th century. In the 20th century extensive areas of the Nene Valley gravel terraces produced modern landscapes of lakes and wetlands, often managed for ecological benefits, particularly for wildfowl, and also for recreation. Riverside meadows and riverside trees continue to experience pressure and loss to gravel extraction and general neglect. Some unimproved grassland and disused railway lines offer further habitat for wildlife and recreational access. Areas such as Irchester and Summer Leys and Stanwick Lakes (within the Upper Nene Valley Gravel Pits SPA) act as important green infrastructure provision associated with the high levels of development growth in the area.

In the village and town centres, and to some extent in the frequent small towns and villages in the eastern part of the area, older buildings and walls are constructed in an attractive range of local stones. These settlements have been subject to less

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20th-century influence, displaying an older character of mellow brick and stone, and fine stone churches. The visual impact of modern development is frequent and prominent on the edges of the larger settlements. Many of the towns and large villages such as Irthlingborough, Raunds, Thrapston and Higham Ferrers industrialised in the 19th and 20th centuries. Church towers and, notably, spires act as historical visual landmarks across the area. Along the Nene Valley, Oundle is largely a limestone town, and the unforgettable and extravagant Fotheringhay church displays the fine creamy grey stone. Extracted from the quarries at Barnack and Collyweston on the edge of the area, Barnack Stone and Collyweston Slates can sometimes be seen in the towns and villages that radiate out from the quarries. To the north-east, Ketton Stone, which is one of the purest oolitic limestones, has been used. Westwards along the Welland, extending down the Nene Valley and into Leicestershire, ironstone can be found and boundary walls are a feature. Brick predominates and varies in colour from orange to deep red, with the use of limestone and render a component both in the older village cores and in the more regimented terraces of the area's industrial towns and villages. Market Harborough and Oundle have retained the older character of market towns and they are linked by a dense network of minor roads.

The area is rich in historic buildings, from the remarkable turriciform Anglo-Saxon tower church of Earls Barton, to the late medieval buildings and many fine manor houses such as Dallington Hall and the groups of estate cottages and estate villages near the large country houses.

There is a relatively high rate of change to urban, with growth focused on Northampton, Wellingborough, Rothwell and Desborough but also occurring throughout, with many new estates appearing. Together with the presence and use of major transport routes, notably the M1 and other major roads such as the A14, A6, A45 and A5, this development is threatening the rural and unspoilt character of much of the area and further urbanising the road corridors.



This is an excellent example of one of the waterside meadows that can be found within this area.

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The landscape through time

The rocks that characterise this NCA were deposited during the Jurassic Period between about 195 million and 160 million years ago, with later Pleistocene glacial sediments and river-formed alluvial deposits being laid down on top of the Jurassic bedrock some time during the last 1 million years. The Jurassic rocks consist of the Lias Group, overlain by the Inferior Oolite Group, the Great Oolite Group and the Ancholme Group (including the Oxford Clay). These Jurassic rocks consist of limestones, mudstones and sandstones, which were deposited in what was a tropical coastline similar to the modern-day Bahamas. The limestones were



The extensive northern catchment of the River Nene is fed by large streams and small rivers including the River Ise.

deposited when the area was submerged under a shallow sea, while in general the mudstones and sands were deposited when sea levels dropped and the area became a swampy coastal plain. The Oxford Clay, however, is rich in marine fossils and was deposited in a marine environment. East of Northampton the River Nene has a very broad valley, which seems out of keeping with the size of the present-day river. This was probably caused by the enormous amount of water that was released by melting ice during the ice ages. Substantial deposits of gravel were laid down in the valley by the glacial river system. These have been exploited for aggregate and other uses for many years and the flooded former workings now provide important habitat for waterfowl and other animals and plants.

The many river valleys were a focus of settlement from at least Neolithic times and had become extensively settled by the Bronze Age. Gravel terraces of the Welland and particularly the Nene were thick with bronze-age occupation and ritual sites, and the valleys have been settled ever since. The route of the prehistoric 'Jurassic Way' (not to be confused with the route of the current Jurassic Way long-distance footpath) ran through the area from Northampton towards Market Harborough and so influenced the distribution and shape of parishes. A total of 17 parishes are bounded to the Jurassic Way along a 14.5-kilometre stretch of its course and this area has a common character, similar to the landscapes that bound the River Nene. By the Iron Age, much of the better land had been cleared and there were major settlement sites along all valleys. Dense occupation of the valleys continued into Roman times. Period pottery manufactured in the Nene Valley was widely used in southern England. Anglo-Saxon influence was over a landscape that was already substantially cleared of woodland, except furthest from the river valleys. The '-tons' and '-hams' still dominate the place names, and parish boundaries in places reflect some 'Saxon' estates. Along the Nene Valley numerous thin, rectilinear parishes extend from the river, each taking a share of riverside, fertile flood meadow, river terrace and slope and the wooded tops of the valley sides

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(in the adjacent NCA). Away from the river valleys, settlement was less dense. As the population expanded, frequent nucleated villages developed, surrounded by open fields. At strategic sites along the valleys, Northampton and Fotheringhay castles marked the major centres. The prosperity of much of the area in the Middle Ages is most obvious in the large, imposing spired churches.

Northampton was a significant Viking settlement, expanding rapidly up to the 14th century. It was often treated as the capital of England throughout the Middle Ages and even into the Tudor period, with Northampton Castle hosting Parliament. Important towns such as Oundle and Market Harborough also owe their origin to the pre-conquest period. From the 15th century onwards there was piecemeal enclosure, but much of the landscape remained unenclosed until much later. With the pastoralisation of the landscape after the 15th century and with the production of cattle, the leather industry grew; it is still evident today, with a few remaining boot and shoe manufacturers. The landscape contains a considerable variety of field systems. The area is notable for the survival of nationally important examples of ridge and furrow under pasture and, importantly, the survival of open field patterns in the nationally important townships of Sutton Bassett and Welham (Welland Valley), Great Oxendon and Clipston (Ise Valley). With the exception of the wooded areas and seasonal wetlands the medieval open field system was extensive throughout this area. Significant enclosure had certainly taken place before 1750, but many open fields remained and the dominant settlement type associated with them was the linear village with farms concentrated within it. Extensive enclosure, some achieved by private agreement but much formalised through Parliamentary Enclosure Acts, took place in the late 18th and 19th centuries. As in the 15th and 16th centuries, enclosure usually meant the conversion of ploughland to pasture. Fossilised cultivation strips, preserved from the last episode of ploughing, were once widespread across the pastoral landscape of this area. Modern arable intensification has dramatically altered



Bede House, Higham Ferrers is a unique building built using layers of brick, local ironstone and limestone.

this picture, and now most of the remaining areas of ridge and furrow are highly fragmented and vulnerable, though sizeable ridge and furrow survives and acts in some parishes as a key historic feature.

Agricultural production developed in relation to the expanding markets of the industrialising towns, focusing heavily on livestock for meat and dairy products. Wealthier farms were those newly created, many with combination barns serving cattle courts. The poorer inheritors of the enclosed landscape clustered in the

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old village farmsteads, which gradually declined. As a result, the area contains a much modified, but still highly significant, medium density of pre-1750 farm buildings within the villages, mostly threshing barns, as well as some larger and high status timber-framed barns, which are 18th century or earlier. Landscaped parks with grand houses developed between the 16th and 19th centuries, when many of the area's fine manor houses were constructed and villages were rebuilt



The woodland cover in this area derives mainly from spinneys, copses, hedgerow trees and hedgerows.

in local stone. The 18th and 19th centuries saw the rapid growth of Northampton as a red brick-dominated residential and manufacturing centre. An iron and steel industry in Northampton and Kettering also played a major part. There was also the continuing growth of boot and shoe making. Textiles, engineering and brickworks transformed settlements in the eastern part of the area, spurred by the development of the Grand Union Canal and later railways. The principal towns acted as stopovers on the Great North Road, later to become the A1 corridor, and as a focus for much 20th-century settlement.

The Grand Union Canal, linking the Nene and Trent rivers, was a substantial stimulus to growth. In the 20th century Northampton continued to expand, absorbing surrounding villages. Wellingborough and Kettering developed as substantial towns and witnessed surrounding large-scale mineral extraction. Ironstone was won in the east of the area, particularly along the edges of Rockingham Forest, and sand and gravel have been extensively excavated, particularly along the Nene, creating a new wetland landscape.

In the mid 1960s Northampton was identified as a 'new town' and a development corporation was set up in 1968. This resulted in a dramatic and rapid expansion of the town, mainly to accommodate 'overspill' from north London, principally in the Eastern District, extending along the Nene Valley towards Wellingborough, and in the Western District, south of the river. Extensive modern-day development remains a major factor in the area, particularly along the main transport routes and especially in the vicinity of the major urban settlements, where out-of-town retail and industrial parks are common and widely visible features. Transport infrastructure developments – M1 widening, the A14/M1/M6 junction, the M1/M69 junction, and the park and ride at Junction 21 – are having an intrusive visual impact which is further urbanising the M1 corridor.

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Ecosystem services

The Northamptonshire Vales NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Northamptonshire Vales NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Water availability:** There are a large number of main rivers in the NCA, including the River Welland, the Eye Brook, the River Nene, Harpers Brook, the River Isle and the River Tove. There are no major aquifers in the NCA. The upper River Welland and its tributaries (which include the Eye Brook) have a Catchment Abstraction Management Strategy (CAMS) 'over-abstracted' status.⁴ The River Nene is an important source of water for public water supply, supplying water to fill and maintain both the Pitsford and the Rutland reservoirs (both located outside this NCA). The River Nene and its main tributaries (the River Isle and Harpers Brook) have an 'over-licensed' CAMS status.⁵

Regulating services (water purification, air quality maintenance and climate regulation)

- **Regulating soil erosion:** The majority of the soils in this NCA are at risk of erosion. The soils in the NCA fall broadly into three categories with regard to erosion characteristics: soils with impeded drainage; freely draining soils; and seasonally wet/flood plain soils. There is also potential for wind erosion on some coarse-textured cultivated variants of the freely draining, slightly acid loamy soils.

⁴The Welland Catchment Abstraction Management Strategy, Environment Agency (April 2007)

⁵The Nene Catchment Abstraction Management Strategy, Environment Agency (March 2005)

- **Regulating water quality:** Water quality in this NCA is in need of improvement. The potential ecological status of the River Isle and the Eye Brook is 'good'; that of Harpers Brook, the Grand Union Canal and the River Tove is 'moderate'; while that of the River Welland is 'poor'. Upstream of Northampton in the NCA the River Nene has a 'moderate' ecological potential status, falling to 'poor' downstream but rising again to 'moderate' downstream of the Nene's confluence with the River Isle.

- **Regulating water flow:** The majority of the NCA is located within the River Nene catchment. The River Nene has a history of flooding. Flood risk in the NCA is generally caused by high rainfall that has led to watercourses and drains being overwhelmed, flood defences overtopped or raised embankments breached.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** Sense of place is provided by a series of low-lying, gentle clay vales and river valleys, including the rivers Nene and Welland and their tributaries, with major sand and gravel deposits. Many of these areas have been extensively excavated, especially along the Nene Valley, resulting in a new wetland landscape that supports a fantastic wildlife resource, especially the bird population. Strong patterns of Tudor and Parliamentary enclosures with hedgerows surround a mix of pasture and arable land. Nevertheless, this is a landscape dominated by the urban areas of Northampton and Wellingborough and their associated urban fringe developments, and the smaller towns of Rushden, Raunds and Oundle, characterised by red brick buildings, with attractive stone buildings common in older villages and in the buildings of larger country estates with their prominent parklands. Settlements are never very far away and the church spires and towers are one of the more prominent features of rural areas.

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- **Sense of history:** The history of the landscape is evident in the area's long history of occupation. Cropmarks and remnant ridge-and-furrow and other earthworks are found alongside historic sites, including the complex of medieval structures at Fotheringhay. Northampton was a significant Viking settlement and strategic site marked by its castle, growing rapidly in the 18th and 19th centuries as a result of the leather industry. Red brick construction, with limestone and use of render, is typical of the area, both in the older village cores and in the more regimented terraces of the area's industrial towns and villages. Other key historic features include a network of Roman roads and the Grand Union Canal, with features dating from the Industrial Revolution onwards. Aspects of history likely to be most evident to the general public include the estates of Castle Ashby, Elton Hall and Milton Hall, as well as the large churches and church spires of the area.

- **Recreation:** Recreation is supported by the area's 1,178-kilometre rights of way network (with a density of 1.3 km per km²) as well as a small area of open access land totalling just over 14 ha (0.01 per cent of the NCA). Stanwick Lakes is a very large wildlife and water-based recreation site that has been recognised as an award-winning green infrastructure development. The Sywell Reservoir and Country Park is also a popular local attraction. Other areas of recreational interest include Ecton Brook Linear Park, which has picnic areas along its length; and East Carlton Country Park. Many of the country parks are formed from the disused gravel extraction sites.

- **Biodiversity:** This NCA is increasing and expanding its wetland habitats through reclaiming gravel pits and working with farmers to restore areas around gravel pits. The Upper Nene Valley Gravel Pits were designated as an SPA in 2011 in recognition of a water bird assemblage that includes non-breeding great bittern, gadwall and European golden plover. The rivers

and associated habitats also provide regional ecosystem services. Work continues through the Nene Valley Nature Improvement Area and other local projects to re-create and re-connect natural areas.



This NCA is increasing and expanding its wetland habitats through the reclamation of gravel pits and restoration of the areas around them.

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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper¹, Biodiversity 2020² and the European Landscape Convention³, we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra

(2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL:

www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)

³ European Landscape Convention, Council of Europe

(2000; URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>)

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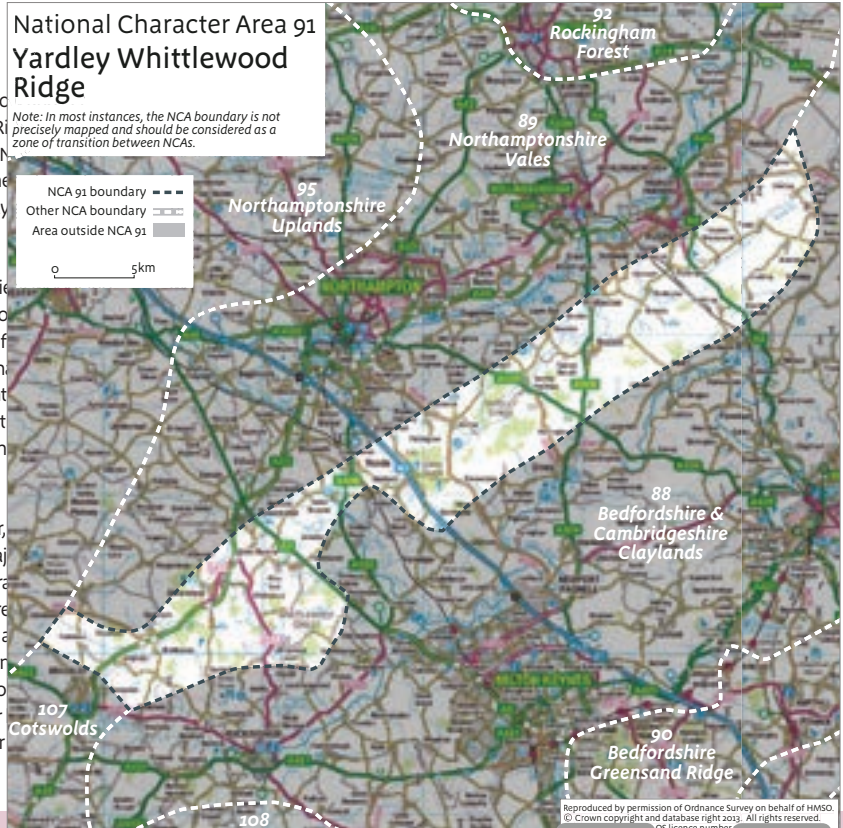
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Summary

The Yardley Whittlewood Ridge National Character Area (NCA) is a low undulating limestone plateau commonly referred to locally as the Ridge, running in a south-west to north-east direction between the nearby towns of Northampton and Milton Keynes. The Ridge is more distinct in the south-west where it meets the adjacent low-lying claylands. From the top, the land slopes away in all directions, giving long views over the surrounding countryside.

The Ridge contains a variety of semi-natural habitats, including ancient woodland pasture and parkland, hedgerows, lowland meadow and floodplain marsh. It is a well-wooded landscape with a historic feel stemming from the former Royal Hunting Forests of the 13th century around Yardley Chase and Whittlewood forests. The Ridge retains a high proportion of ancient woodland of national importance designated as Sites of Special Scientific Interest. It supports a wide range of species, particularly scarce species of butterfly such as the admiral and wood white.

Despite being close to Northampton, Milton Keynes and Towcester, the Ridge retains a rural character due to its sparse population and lack of major roads. A suburban feel is brought to some parts of the NCA by transport infrastructure such as the M1, communication masts on higher ground and formal recreation areas such as Silverstone Circuit and Santa Pod Raceway which have had a negative impact on tranquillity. However, the large number of historic houses, designed landscapes and use of local limestone in village buildings give a strong sense of place and history. The area offers numerous opportunities for quiet recreation, with the parkland and woodland sites in particular providing excellent destinations for local communities and visitors from further afield.

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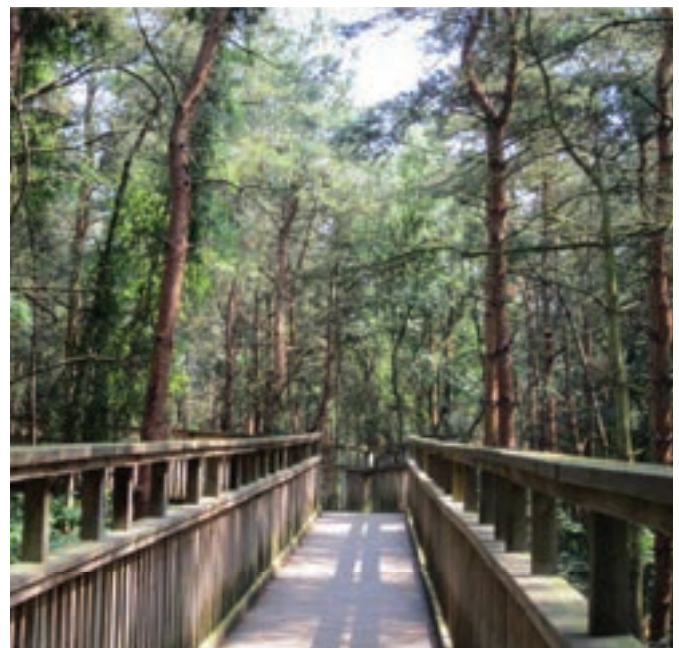
Statements of Environmental Opportunity

SEO 1: Manage, enhance and extend the woodland resource around Salcey, Yardley Chase and Whittlewood, to support a strong sense of place and history, reduce soil erosion and flood risk, improve water quality, benefit biodiversity, support timber and biomass production and aid in climate regulation.

SEO 2: Protect, manage and promote the historic features and designed landscapes, including the registered parks and gardens, remnant Royal Hunting Forest and Grand Union Canal, to ensure that local distinctiveness is preserved, a sense of place and history is maintained and to provide improved interpretation and educational opportunities to increase people's understanding and enjoyment.

SEO 3: Manage and plan for the recreational use of the area's woodlands, parkland and visitor attractions, and conserve the overall tranquillity of the area, including strategic views from the elevated landform of the Ridge over the surrounding landscape. Enhance access connections for people and wildlife by putting in place multi-functional green infrastructure networks, building on existing resources such as the Grand Union Canal and numerous cycle and walking routes to create strong access and ecological networks.

SEO 4: Manage agricultural practices and strengthen semi-natural habitats, particularly those near the Oolite aquifer and along watercourses, to protect and improve soil quality, reduce erosion, regulate water flow and improve water quality both in the aquifer and in watercourses and to help climate regulation.



Salcey Forest Treetop walk: a popular visitor attraction in the area.

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Description

Physical and functional links to other National Character Areas

The Yardley Whittlewood Ridge National Character Area (NCA) is a broad, low and gently undulating limestone plateau that is elevated above the lower lying Bedfordshire and Cambridgeshire Claylands NCA to the south and east, and the Northamptonshire Vales NCA along its north-westerly extent. It abuts the Northamptonshire Uplands and Cotswolds NCAs in the south-west.

The elevated topography creates a physical boundary between the catchments of the River Nene to the north and the River Great Ouse to the south. Water is shed into the main watercourses of the rivers Til, Tove and Kym before reaching the Nene and Great Ouse where it travels through the Northamptonshire Vales, the Bedfordshire and Cambridgeshire Claylands and The Fens NCAs and out into the Wash estuary. The River Great Ouse rises in this NCA, near Brackley, and the River Kym/Til rises near Wymington (Bedfordshire). An aquifer supplying water for public, agricultural, horticultural and industrial use within this and in adjacent NCAs lies under the limestone in the western part of the NCA. The Grand Union Canal cuts through where the River Tove dissects the ridge, functionally linking it to the Northamptonshire Vales and the Bedfordshire and Cambridgeshire Claylands NCAs.

The gently sloping land offers views of both the NCA itself and adjacent NCAs. Good views of the Ridge and its well-wooded character can be seen from the A509 near Olney and in the Tove river valley. The Ridge lies between the major towns of Northampton and Milton Keynes and is crossed by numerous roads.



A well wooded landscape with good views of the surrounding countryside.

Major transport routes run north-south through this NCA, including the M1 and the A5, and the West Coast and Midlands main line railways. The NCA offers numerous recreational opportunities for nearby urban communities, including two National Cycle Routes and an extensive rights-of-way network.

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Key characteristics

- A broad, low and gently undulating limestone plateau, more distinctly elevated in the west, rising above adjacent claylands and more commonly referred to as 'the Ridge' locally.
- Limestone overlain by irregular drifts of boulder clay gives rise to variable soils (free-draining chalky soils to less permeable clay). Deposits of silt, sand and gravel are present in the river valleys.
- Watercourses include short sections of the rivers Til, Tove, Great Ouse and Kym as they flow across and out of the NCA. The Grand Union Canal utilises the valley cut by the River Tove dissecting the ridge at Stoke Bruerne.
- Well wooded with blocks of semi-natural ancient woodland, wood pasture and historic parkland including Royal Hunting Forests around Yardley Chase, Salcey Forest and Whittlewood Forest, although many areas have been supplemented with conifer plantations.
- Fields are medium sized with mature, species-rich hedgerows and numerous hedgerow trees, usually oak or ash. Pasture and mixed farming dominate in the west, giving way to an increasingly arable landscape further east towards the claylands.
- A diverse variety of semi-natural habitats, including ancient and lowland mixed deciduous woodland, wood pasture and parkland, hedgerows, veteran trees, lowland meadow, flood plain grazing marsh, fens and reedbeds which support a range of rare species of butterflies including white admiral and wood white, as well as dormouse, barbastelle and noctule bats, and numerous scarce moths and specialist beetles.
- Rural, tranquil and sparsely populated with a scattering of small nucleated settlements and attractive limestone villages. There are several large well-managed estates with historic country houses and associated parkland and veteran trees providing opportunities for quiet recreation.
- Locally quarried limestone is commonly used as building material in villages, particularly for churches. Thatch, red bricks and pantiles are also used.
- Transport corridors include the M1, A5, West Coast and Midlands main line railways and the Grand Union Canal. Numerous recreational assets include Salcey Forest and its Tree Top Way, Castle Ashby, the Silverstone Circuit, the Santa Pod Raceway (drag racing), Stoke Bruerne Canal Museum and nearby Towcester Racecourse.



Wide species-rich road verges offer opportunities to improve habitat connectivity in the landscape for pollinators.

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Yardley Whittlewood Ridge today

The Yardley Whittlewood Ridge is a limestone plateau, which is more noticeable in the south-west as it rises steadily from the adjacent low-lying claylands. From its gently undulating top, the land slopes away in most directions giving long views over the surrounding countryside. This gives a feeling of being elevated, of openness and expansiveness. The views are frequently interrupted by the large blocks of woodland which are a characteristic and distinctive feature of the area.

The underlying geology and subsequent drifts of boulder clay deposited after the last ice age give rise to soils that are variable and shallow and range from a free-draining chalky till to less permeable clay. The east and west sides of the Ridge have particularly heavy clay soils, mostly neutral but occasionally acidic and more calcareous in nature. The soils in the river valley are generally more waterlogged. Agricultural development has historically been constrained so that much of the area remained wooded and most of the non-arable land is of low quality and supports pasture.

The Ridge is a generally well-wooded landscape throughout with a patchwork of deciduous and coniferous woodland, mature species-rich hedgerows, veteran trees, wood pasture and parkland that stem from the former Royal Hunting Forests of the 13th century. The planting of conifers has formed dense plantations in some areas, but a sense of history is maintained by the still extensive ancient semi-natural broadleaved woodland, which has networks of rides and occasional open grasslands ('forest lawns'), containing typical species such as oak, ash and field maple, with birch and aspen present locally.

The area contains many nationally important sites for nature conservation and Sites of Special Scientific Interest (SSSI), for example Odell Great Wood, Yardley



An arable landscape with medium sized fields bounded by mature hedgerows.

Chase and Salcey Forest. These are designated for their rich ancient woodland flora and species of breeding woodland birds, bats, scarce species of butterfly, such as the white admiral, wood white, purple emperor and white-letter hairstreak, moths such as the four-spotted and specialist deadwood beetles. There are also remaining scattered examples of lowland meadow and flood plain grazing marsh, both reduced and fragmented habitats nationally and locally, such as Yelden Meadows and Dungee Corner Meadow. These support rich assemblages of flora, including green-winged orchids, and are supplemented by other areas of

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unimproved grassland that occur as discrete agricultural fields, along woodland rides, roadside verges and green lanes that are particularly characteristic of north Bedfordshire. The minor roads are bounded by mature hedgerows and wide verges which are often species rich. The hedges themselves are generally species rich with suckering elms and hedgerow trees of mature oak and ash.

This well-wooded, mature landscape is predominantly used for agriculture with a mix of arable, mixed and pastoral farming in medium-sized fields bounded by mature hedgerows. It supports a wide range of farmland birds. Pasture and



Remnant parkland and golf course in Whittlewood Forest.

livestock (cows and sheep) are visible in the west with cereals such as wheat more prevalent in the east.

The Ridge forms a low watershed between the catchments of the River Nene to the north and the River Great Ouse to the south. There is an aquifer supplying water for public, agricultural, horticultural and industrial use under the limestone in the western part of the NCA. The absence of major watercourses along the ridge results in wetland habitats being largely restricted to the river valleys and around the Grand Union Canal. The rivers of the NCA are in their upper reaches, gently meandering and generally of good quality. The upper River Great Ouse and its tributaries the Tove and Til/Kym have a characteristic pool and riffle nature supporting species both of fast flowing water and those of deeper, slower water. Further downstream the River Great Ouse is a typical lowland river, slow flowing and clear. The catchment is known for its flood potential following intense rainfall due to impermeable clay soils.

The Ridge has a high feeling of tranquillity due to its sparse population, a lack of major settlements and the minor roads network which contribute to its rural character. The NCA has a number of Listed Buildings and Scheduled Ancient Monuments that add to its sense of place and history. For example, Yelden (or Yelden) Castle, a motte-and-bailey site, is one of the finest examples in Bedfordshire. The high number of large, well-managed estates with historic country houses and associated parkland landscapes, for example Castle Ashby, Stoke Park and Hinwick House, also give a sense of a well-managed, mature historic landscape. The remaining areas of wood pasture and parkland not only give a sense of place and history, they support specialist species of invertebrates and lower plants that rely on mature and veteran trees. Yardley Chase, for example, has the largest number of veteran oak trees anywhere in Northamptonshire and some of the veteran oaks in Salcey are believed to be over 500 years old.

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The Yardley Whittlewood Ridge NCA is sparsely populated and has relatively few small settlements, mostly along the edges of the Ridge. Towcester, a busy small town, lies on the north-west edge of the area and Brackley, a rapidly expanding town, lies to the west. A strong sense of place is reinforced by the use of locally quarried limestone for local buildings, especially churches. The soft local oolitic limestone, ranging in colour from warm greys to subdued ochres, is frequently used with grey slate or red pantile roofing, resulting in a number of attractive limestone villages with a unified built character. Steep thatched roofs also occur, more frequently towards the east of the NCA, and mixtures of materials are also present including red-brick houses with limestone frontages.

A more suburban feel in parts of the NCA is the result of facilities catering for occasional large numbers of visitors, such as Silverstone and Santa Pod racetracks, as well as other recreational facilities such as golf courses, parks and museums. While the majority of roads are minor, there are major transport routes (both road and rail dissect the area) and communication masts on higher ground, and land use changes around villages to accommodate horse paddocks. All of this has affected the tranquillity of the area.

Quiet recreation is generally associated with historic houses, parkland and woodland sites such as Salcey and Whittlewood forests. There is one National Nature Reserve – Buckingham Thick Copse is privately owned and managed under a nature reserve agreement. Access is by permit only. There is an extensive right-of-way network and two National Cycle Routes (Route 6 connects London to the Lake District and a branch of Route 5 connects Reading to Birmingham via Chester).



The popular Canal Museum at Stoke Bruerne.

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The landscape through time

The underlying geology consists of sedimentary rocks from the Jurassic Period, overlain by drifts of sands, gravels and till (boulder clay) varying in thickness deposited during the ice age (Quaternary Period). The Ridge, formed of limestone from the Great Oolite Group, is tilted gently to the south-east. It is more elevated and distinct in the west, reaching 150 metres, than in the east where it dips to 80 metres. It is approximately 10 km wide at its widest point, 2.5 km at its narrowest. The oldest rocks belong to the Lower Jurassic Lias Group and are comprised of marine clays, limestones and sandstones, exposed where rivers and streams have cut through the overlying limestone, for example near Towcester. Overlying this is limestone and clay from the Middle Jurassic that forms the Inferior and Great Oolite. The clays and sandy limestone of the Great Oolite occur as a broad swathe through the central part of Northamptonshire, creating the elevated undulating landscape. In the east, small areas of Cornbrash Formation (a term used to refer to the upper portion of the Great Oolite) occur, overlain by Kellaways and Oxford Clay formations. The extensive areas of drift material soften the landform and influence soil type.

The soils are variable and shallow, ranging from a free-draining chalky till to less permeable clay. Slowly permeable, slightly acid loamy and clayey soils are dominant in the west, dictating the distribution of arable and pasture. The east and west sides of the Ridge have particularly heavy clay soils. On steeper slopes and in wetter areas bordering streams and rivers, remnant woodland, improved and semi-improved pastures and unimproved species-rich grassland are found. On gently undulating and sloping land, cereal cultivation is notable. The nature of the soils has deterred widespread woodland clearance and constrained agricultural development so that much of the area remains wooded. Where the Ridge is dissected by the River Tove, the river has eroded the boulder clay and



Typical village buildings constructed out of local limestone.

deposited alluvium (clay, silt and sand). Limestone has been quarried locally and used in buildings, especially churches, and where sand and gravel are found, near Bozeat, they are being extracted.

Evidence of prehistoric settlement exists at Salcey Forest where ringworks, possibly of iron-age origin, can be found and there are a number of moated sites also indicating early settlement. Roman influences are linked to major routes

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crossing the Ridge which ran through two Roman settlements to the north of the area. Watling Street (now the A5) ran from London to Towcester and another route passed through Irchester northwards. A Roman villa is thought to exist south-east of Stokegap Lodge near Stoke Bruerne. Early settlement patterns persist through the continued use of these Roman roads and settlement locations.

In the 13th century, the establishment of Royal Forests laid the foundation for the nucleated settlement patterns which survives today. The woodlands of Whittlewood, Salcey and Yardley Chase provided important sources of fuel and



Pasture is still commonplace in the west of the NCA.

building materials as well as hunting grounds for the nobility. Consequently, the area avoided the intensive clearance of woodland seen elsewhere. Small 'forest villages' located on the edge of the forest were established, with residents having limited woodland rights to access the forest for grazing and fuel. Limited fragments of ridge and furrow remain and in many of the woodlands the old woodbanks and ditches are well preserved.

Areas of the Royal Forest were subsequently taken into the estates of the Dukes of Grafton around the 16th century and suffered piecemeal clearance, with some areas removed entirely. Numerous historic houses, estates and associated parklands such as Castle Ashby, Stoke Park and Hinwick House were established and remain to date. Woodland clearance accelerated with the Parliamentary Enclosure Acts in the late 18th century and became more rapid in the early 19th century, particularly in the south-east between Brackley and Whittlewood Forest, and north of Whittlewood between the A5 and the M1. Estate farmsteads, either isolated or adjacent to villages, relate to these later periods of enclosure. References to large forests around Melchbourne, Odell and Knotting are historic, as large-scale woodland clearance resulted in isolated woodland blocks, loss of hedgerows and larger arable fields.

The poet and hymn writer William Cowper lived at Olney in the 18th century. He walked the woods and changed the direction of nature poetry by writing about everyday life and the English countryside. Wordsworth particularly admired his poem 'Yardley Oak', a tribute to a veteran landmark tree on Yardley Chase.

The First and Second World Wars saw forestry production change to create a strategic reserve of timber, with many areas of deciduous woodland replanted or supplemented with conifers. Numerous examples exist, but Yardley Chase in particular had large areas of woodland replanted. It also contains numerous

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redundant concrete military ammunition bunkers surrounded by water-filled moats and earthbanks that were used to store bombs during the Second World War. The ponds are now important for great crested and palmate newts. The site was connected by a branch of the Northampton–Bedford railway line, evidence of which remains. Parts of the site are still used by Army, Navy and Air cadets, as well as the Territorial Army, for training and it is closed to the public.

A shift from pasture to arable since the Second World War has resulted in the loss or fragmentation of lowland meadows. Similarly, areas of flood plain grazing marsh have been drained for agricultural improvement. Semi-improved grasslands show a long-term decline and while there has been some shift from cereals to livestock, implying a less intensively farmed landscape, a growing dominance of arable production has led to some hedgerows being removed to increase field size for modern agricultural equipment. Dutch elm disease resulted in the widespread loss of hedgerow trees, although many now have suckering elm. Areas of dense conifer plantations are undergoing restoration and many areas, especially those owned and managed by the Forestry Commission, are being managed for multiple social, economic and environmental benefits.

Due to its elevation, the Ridge is a chosen location for telecommunications masts with several visible in the landscape. The area's proximity to Northampton and Milton Keynes has led to development pressure in the villages and nearby towns. There has also been an increase in demand for leisure and recreational opportunities. Recreational use of the area, such as walking, cycling and riding in the woodlands, along the Grand Union Canal and at fixed venues such as at Silverstone Circuit and Santa Pod Raceway, is high, and has led to improvements in the road infrastructure (A43 and M1 upgrades) and visitor facilities and to subtle land use changes adjacent to settlements as pasture is converted to paddocks.



Recreational use of the area is high particularly in forested areas.

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Ecosystem services

The Yardley Whittlewood Ridge NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Yardley Whittlewood Ridge NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** The Ridge is predominantly agricultural in character, supporting mixed, pastoral and arable farming. The majority of the agricultural land is classified as Grade 3. Statistics indicate that there has been a decrease in the farmed area, cropping and number of livestock since 2000 and the area under grass shows a long-term decline. The area is locally important for food production and multiple benefits can be gained by maintaining levels of food production, preserving historic character and enhancing biodiversity, but there are pressures on water and soil quality.
- **Timber provision:** Existing woodland cover in the NCA is high; however, the proportion of conifers is low and much of it dates from the First and Second World Wars and is on ancient woodland sites. Conifer removal is likely to produce a one-off timber resource in the short to medium term. As woodland forms a significant component of the landscape in this NCA, the ongoing restoration of replanted ancient woodland sites would be in keeping with its character and help towards a stimulation of local markets in wood products, timber and fuel over the long term.

Regulating services (water purification, air quality maintenance and climate regulation)

- **Climate regulation:** This NCA has a significant role in regulating atmospheric carbon dioxide through its mosaic of semi-natural habitats, extensive woodland cover and other permanent land cover; these are important for the sequestration and storage of carbon, especially where woodland is under active management. Despite the low carbon content of the main soil types in the NCA, there is potential for increasing carbon sequestration by increasing the organic matter inputs and by reducing the frequency and/or areas of cultivation.

Cultural services (inspiration, education and wellbeing)

- **Sense of history:** The NCA has a strong sense of history and place created by its well-wooded character, high number of large, well-managed estates, historic country houses and associated parkland landscapes, its settlement patterns and the use of local limestone in village buildings, especially churches. This attracts many visitors and provides numerous recreational and educational opportunities.
- **Recreation:** Recreation is a significant service in the NCA. It is generally low key and predominantly associated with the parkland and woodland sites such as Salcey and Whittlewood forests. The area has a good network of rights of way and offers a diverse range of recreational opportunities both formal and informal. This attracts visitors from surrounding urban areas and further afield as well as offering local residents opportunities to enjoy green spaces near where they live. Visits support the local economy, help improve people's understanding and appreciation of the NCA's key attributes and promote their health and wellbeing.

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- **Biodiversity:** Although only a small proportion of the NCA is designated as an SSSI for its biodiversity interest, the Ridge contains a diverse range and extensive network of semi-natural habitats of principal importance, including lowland mixed deciduous woodland, wood pasture and parkland, hedgerows, veteran trees, lowland meadow, flood plain grazing marsh, fen and reedbed. These habitats support a range of uncommon and scarce species especially associated with woodland habitats, such as white admiral and wood white butterflies, dormouse, barbastelle and noctule bats, bullfinch, numerous scarce moths and specialist beetles of mature trees.



Mature species-rich hedgerows provide connectivity in the landscape.

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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper,¹ Biodiversity 2020² and the European Landscape Convention,³ we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

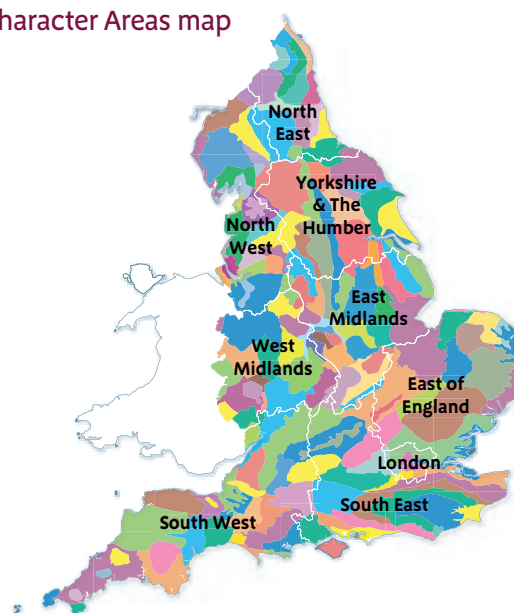
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk.

National Character Areas map



¹ The Natural Choice: Securing the Value of Nature, Defra (2011); URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf

² Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011); URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf

³ European Landscape Convention, Council of Europe (2000); URL: <http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm>

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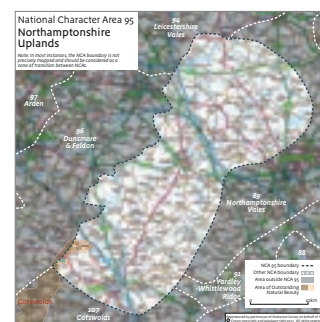
Summary

The Northamptonshire Uplands National Character Area (NCA) is an area of gently rolling, limestone hills and valleys capped by ironstone-bearing sandstone and clay Lias, with many long, low ridgelines. Rivers flow out from the NCA in all directions, including several major rivers – the Cherwell, Avon, Welland, Tove, Ouse, Nene and Ise. While there are areas of differing character, there are strong unifying landscape features across the Northamptonshire Uplands, most importantly the extensive areas of open field systems with ridge and furrow and the earthworks of deserted and shrunken settlements which occur throughout. Other features include the strong, mostly Parliamentary enclosure pattern with high, wide, A-shaped hedgerows bounding the largely rectilinear fields with their frequent mature ash and oak trees; the many country houses and their associated extensive areas of historic and nationally important designed parkland landscapes; the distinctive ironstone, cob and brick nucleated settlements with their large stone churches, often with prominent steeples; the narrow lanes with very wide grassy verges; and the small, scattered but prominent broadleaved woods and coverts. There are also wide, long-distance views from the edges and across the ridgelines throughout the area.

Land is in mixed agricultural use, mostly pasture and arable, and reservoirs are a significant feature. Woodland is sparse, with many scattered, small, broadleaved coverts and copses, some in prominent hill-top positions, dotted across the landscape. The few ancient woodlands, such as Badby, take on a special value and interest in an NCA with few other areas of semi-natural vegetation and relatively limited wildlife interest. Flood plain grazing marsh occurs around Banbury and there are small, scattered pockets of

mire, lowland meadow, calcareous grassland and lowland dry acid grassland throughout the NCA, some designated Sites of Special Scientific Interest for their biodiversity interest. The area is also important for farmland birds.

Around the fringes and two main towns, the area has seen extensive development and construction of major strategic road and rail infrastructure, with associated reductions in levels of tranquillity and loss of rural character, though overall the area retains a strong sense of rural tranquillity. The area is particularly important for delivery of sense of history, sense of place, recreation and water availability and some ecosystem services are under pressure from development and agricultural practice, particularly water availability and water quality, soil erosion, soil quality and tranquillity.



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Statements of Environmental Opportunities:

- **SEO 1:** Protect, manage and promote the historic and archaeological features, designed landscapes and field patterns – including the parkland, battlefield sites, canals, ridge and furrow and settlement sites, and distinctive high hedgerows with their many trees – to ensure that these key features for sense of place and history are conserved, people's enjoyment and understanding is increased, and recreation opportunities are enhanced.
- **SEO 2:** Conserve, enhance, expand and restore the semi-natural and farmed features of the area – including the mix of agricultural production, particularly the pasture and meadows, patches of semi-natural habitats, and veteran and ancient trees – to enhance biodiversity and landscape character and to safeguard the continued sustainable provision of food.
- **SEO 3:** Conserve, manage and enhance the river catchments and reservoirs, improving water quality and flow management and benefiting biodiversity and recreation through managing soils, diffuse pollution and run-off, reconnecting flood plains and extending natural habitats.
- **SEO 4:** Conserve, maintain and promote local building styles and materials and plan strategic growth, infrastructure development and mineral extraction to ensure they protect remaining areas of high tranquillity, strengthen local sense of place and biodiversity, and increase adaptation for climate change through multifunctional green infrastructure networks, building on existing resources such as canals, rivers and access routes, creating strong ecological and recreation networks.



Wide panoramic views are a key feature of the area, here from the Knightley Way, one of many named long-distance paths.

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Description

Physical and functional links to other National Character Areas

The Northamptonshire Uplands National Character Area (NCA) extends north-east from the Cotswolds NCA south of Banbury to border the Northamptonshire Vales NCA and Leicestershire Vales NCA around Market Harborough at its northern extent. In the west it borders Dunsmore and Feldon NCA and it shares most of its eastern boundary with the Northamptonshire Vales NCA. A small area in the south-east abuts the Yardley Whittlewood Ridge NCA. It is part of the wider Jurassic 'wolds' landscapes that include the dip slope of the Cotswolds and extend north to the High Leicestershire NCA and the Leicestershire and Nottinghamshire Wolds NCA. The south-western corner of the NCA is designated as part of the Cotswolds Area of Outstanding Natural Beauty (AONB).

The hills are 'the main watershed of Middle England', with wide, far-reaching views from the edges and across the ridgetops. The area is an important supplier of water to towns in surrounding NCAs with many reservoirs and much abstraction from rivers. The River Cherwell rises in the south near Charwelton and flows south. The Tewkesbury Avon rises on the north-eastern edge near Naseby, and flows west then south-west, while the north-east-flowing Welland rises near Sibbertoft. The rivers Tove and Ouse rise here too and flow south-east. The eastern slopes form the upper catchment of the Nene, with the major tributary of the Ise in the far north-east. Topographically, the Upper Nene divides the Northamptonshire Heights to the north from the Cherwell/Ouse plateau, sometimes known as the 'Ironstone Wolds' in the south.

The NCA is crossed by several nationally important transport corridors. It is effectively divided in two from Rugby to Northampton by the M45, M1, A5, the West Coast Main Line railway and the Grand Union Canal. In the south, the M40, A423 and the Oxford Canal cross through, and further north the A14. Urban areas and large towns include Daventry and Banbury. Close by in neighbouring NCAs are Northampton and Milton Keynes, Kettering, Rugby, Coventry, Leamington Spa and Warwick. The many historic houses, parks and gardens, the Knightley Way, Jurassic Way, Brampton Valley Way, Battlefields Trail and the Grand Union and Oxford canals provide well-used recreation assets for people in surrounding areas.



Fawley Park; extensive areas of parkland are a key feature of the area, here being restored through agri-environment funding and grazed by the once locally common Hereford cattle.

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Key characteristics

- Gently rolling rounded hills and valleys with many long, low ridgelines and great variety of landform. Wide, far-reaching views from the edges and across the ridgetops.
- Dominant Jurassic scarp slope of limestone and Lias clay hills capped locally with ironstone-bearing Marlstone and Northampton Sands. Glacial boulder clay covers the northern and eastern areas, with sands and gravels along river valleys.
- The Upper Nene Valley divides the gently undulating Northamptonshire Heights to the north from the hillier Cherwell/Ouse plateau (the 'Ironstone Wolds') to the south and has been exploited for sand and gravel.
- Rivers rise and flow outwards in all directions, including the rivers Cherwell, Avon, Welland, Tove, Ouse, Nene and Ise, and the area forms the main watershed of Middle England.
- Sparse woodland cover, but with scattered, visually prominent, small, broadleaved woods, copses and coverts, particularly on higher ground.
- Mixed farming dominates with open arable contrasting with permanent pasture.
- Typical 'planned countryside' with largely rectangular, enclosed field patterns surrounded by distinctive, high, often A-shaped hedgerows of predominantly hawthorn and blackthorn, with many mature hedgerow trees, mostly ash and oak. Some ironstone and limestone walls in places and some localised areas of early irregular enclosure.
- Small pockets of semi-natural vegetation with many small scattered broadleaved woodlands, some ancient and often on hill tops, with mires, areas of lowland meadow, calcareous grassland and lowland dry acid grassland in the river valleys. Bluebell woods occur in places.
- Nationally rare, locally abundant and prominent ridge and furrow, with frequent deserted and shrunken settlements. Several large historic country estates such as Cottesbrooke Hall and Althorp and many small country estates, with extensive parkland containing a great many mature, veteran and ancient trees.
- Nucleated villages often on hill tops or at valley heads with low densities of dispersed settlement. Cob, ironstone and limestone in older buildings with some remaining thatch, but mostly pantile and slate roofs. Brick buildings in some villages. Extensive new developments in villages along main transport corridors and in the two main towns.
- A dense network of narrow lanes with wide grassy verges, often following ridges, crossed by many strategic road and rail corridors, including the M1, M40, A14, West Coast Main Line railway, Great Western Railway line and the Oxford and Grand Union canals.
- The many historic houses, parks and gardens open to the public, the reservoirs, long-distance paths (such as the Knightley Way, Jurassic Way and Brampton Valley Way) and the Grand Union and Oxford canals provide well-used recreation assets.

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The Northamptonshire Uplands today

An area of gently rolling, rounded limestone hills and valleys capped by ironstone-bearing sandstone and clay Lias, with many long, low ridgelines and wide, long-distance views across the ridges throughout. It lacks a strong sense of identity, not least because of its very varied landform.

The area forms the 'main watershed of Middle England', with rivers radiating in all directions. At the southern end, the River Cherwell rises near Charwelton and flows south. The Avon rises on the eastern edge near Naseby flowing west and south-west, while the north-east-flowing Welland rises near Sibbertoft. The tributaries of the Tove and Ouse originate in the south-east flanks, flowing south-east. Much of the eastern side of the area forms the upper catchment of the Nene, with its major tributary, the Ise, arising in the north-east. Topographically, the Upper Nene divides the Northamptonshire Heights to the north from the Cherwell/Ouse plateau or 'Ironstone Wolds' to the south.

In the northern half of the NCA, the Northamptonshire Heights have a rolling, gently hilly landform, with long, level views criss-crossed by a regular pattern of high hedgerows with frequent mature trees. Settlement is sparse with some small villages prominently sited on hill tops, and some lying within the small, sheltered valleys, often with large stone churches with prominent steeples. The widely spaced villages and infrequent, isolated farmsteads give the area a remote, empty feel. South of Daventry, the Cherwell/Ouse plateau (known as the 'Ironstone Wolds') is hillier and the undulations are sharper and more frequent. There is less of the glacial boulder clay which dominates the northern area, settlement is more frequent and arable predominates. The two distinctly hilly areas are divided by the low, flat valley of the River Nene and surrounded

to the west, east and north by wide, open, low-lying vale landscapes. The south-western corner of the NCA is designated as part of the Cotswolds AONB.

There are, however, strong unifying landscape elements across the Northamptonshire Uplands. The most historically important of these, found in the remaining pasture fields, are the extensive areas of open field systems with ridge and furrow and the earthworks of deserted and shrunken



Banbury Town Centre.

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settlements. Occurring frequently throughout the NCA, they are prominent and evocative in evenings and winter, when low sun casts long shadows and they seem to dominate the landscape. Other unifying features include the high, wide, A-shaped hedgerows (associated with the strong hunting and steeple chasing traditions of the area) bounding the largely rectilinear fields with their frequent mature ash and oak trees; the many historic country houses and their associated extensive areas of designed parkland landscapes and gardens; the attractive and distinctive ironstone, cob and brick villages; and the small, scattered but prominent broadleaved woods and coverts.



Village cottages are built mostly of local ironstone and brick.

Land is mostly in agricultural use, with a mixture of arable and pasture, though around the edge of the area, reservoirs are a significant element within the landcover, and along the Nene Valley, gravel extraction has occurred. Arable is extensive on the more level ground of the ridgetops, especially south of Daventry where the highest levels of field boundary loss have occurred. Here, hedgerows can be quite sparse and low and hedgerow trees intermittent. Limestone and ironstone walls also occur in some places, such as around Lampport.

Woodland is sparse, with many scattered, small, broadleaved coverts and copses, some in prominent hill-top positions, dotted across the landscape and quite frequent in an arc in the south from Badby to Woodend. The few ancient woodlands and bluebell woods, such as Badby, take on a special value and interest where there are few other areas of semi-natural vegetation and limited wildlife interest. Flood plain grazing marsh occurs around Banbury; there is a concentration of acid grasslands west of Northampton and south of Daventry, and of lowland meadow sites in South Northamptonshire, often associated with other semi-natural features; and there are small, scattered pockets of mire, lowland meadow, calcareous grassland and lowland dry acid grassland throughout, especially along the river valleys, some designated Sites of Special Scientific Interest for their biodiversity interest. The area is also important for farmland birds. The Brampton Valley Way and the Grand Union and Oxford canals provide important wildlife corridors. Upper parts of the River Nene fall within the Nene Valley Nature Improvement Area (NIA), which seeks to improve connectivity of habitats and restore the ecological network in the Nene Valley.

The predominant field pattern, and a strong unifying factor, is Parliamentary enclosure of the 18th and early 19th centuries imposed on an 'up and down' landscape; the rectilinear pattern is frequently strongly visible, though areas

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of earlier piecemeal enclosure are found in places. Straight, narrow enclosure roads with wide, grassy verges, often following ridges, add to a regular, characteristic pattern in the landscape. From the ridges, the essence of the uplands, described by W.G. Hoskins, can be seen: "In this hill country, partly isolated summits and partly high table land in places, the wind blows hard and cold... Up at Naseby next door to Cold Ashby... their voices are louder than anywhere else, they shout at each other to overcome the winter wind."

Settlements are generally small, nucleated villages with distinctive ironstone, cob and red-brick buildings with pantile, clay or thatched roofs, clustered around an ironstone church. Some villages, such as Naseby and the aptly named Cold Ashby,



Estate farmland with typical well managed hedges, many small woods and replanting of boundary trees.

are on prominent hill-top sites but others lie in sheltered situations at the heads of minor valleys, often set within mature treecover, with an enclosed, intimate, sheltered character and a unity resulting from the distinctive local vernacular.

The modest village houses are a strong contrast to the nationally important great country houses with their strong character and extensive designed parklands and estates containing a great many veteran and mature open-grown trees, providing rare habitat for lichens and invertebrates. Cottesbrooke, famed for its gracious proportions and extensive parkland, has enabled the survival of extensive open field systems of ridge and furrow; Canons Ashby is built around a medieval monastery; and Althorp House has the grand Georgian elegance of Henry Holland's design. There are also many fine smaller houses, most in local stone, including Ashby St Ledgers, Stanford and Sulgrave. The estate character of the landscape is emphasised by the uniformity of buildings in the estate villages and lodges.

Around the fringes, along the Cherwell and between Rugby and Daventry, many villages have become significantly enlarged by 20th-century development which does not reflect the distinctive local vernacular. The remoteness of the central undeveloped villages is emphasised by the minor roads that serve them, providing a stark contrast to the busy strategic routes of the West Coast Main Line and Great Western Railway and the M1, M40, M45, A14, A45, A5, A508, A422 and A423 roads which cross the area.

Recreation facilities include the Grand Union Canal and Oxford Canal, Pitsford Reservoir, the many historic houses, parks and gardens open to the public and long-distance routes such as the Knightley Way, Battlefields Trail, Jurassic Way and Brampton Valley Way.

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The landscape through time

The area is mainly underlain by sedimentary strata of the lower and middle Jurassic periods. The muds and limestones of the Lias Group, which outcrop in the west of the area, were laid down in a warm shallow sea which was rich in marine life including many species of ammonites. Many of the limestones and sandstones of the Northampton Sands at the base of the Inferior Oolite Group, overlying the Lias Group, are very rich in iron. They were also laid down in a shallow sea, and subsequent weathering of minerals has resulted in the formation of rocks of distinctive colours. Overlying these, the clays and sandy limestones of the Great Oolite Group outcrop in the east of the NCA, continuing in a broad swathe through the central part of the Northamptonshire Uplands. Collectively, these rocks – which belong to the Rutland Formation, Blisworth Limestone and the Blisworth Clay – were deposited near to the shore of a shallow tropical sea.

Overlying the solid geology in the east and north of the area are thick superficial deposits of Quaternary till (boulder clay), with stretches of alluvium (sands and gravels) in the main river valleys, both dating from the Wolstonian glacial cycle. While the area was not glaciated during the Pleistocene, it was affected by extreme periglacial erosion, which has influenced the drainage of rivers including the Cherwell. Soils are closely related to the underlying geology and superficial deposits; here there are mostly types of loamy and clayey soils, often seasonally wet or with impeded drainage and providing mostly Grade 3 agricultural quality land with pockets of Grade 2, good arable land in places, particularly in the river valleys and in the southern half of the NCA around Banbury.

The area forms part of the Jurassic belt of 'wolds' landscapes that stretch from the Cleveland Hills in Yorkshire to Lyme Regis in Dorset, via the neighbouring

Cotswolds. In this NCA, all of the sharper features of the Jurassic scarp slope have been smoothed away by a long process of denudation. The history of the area is in many ways typical of a 'wolds' landscape. It was originally covered in thick woodland over a soil not very attractive to early cultivation. Much of the area, particularly the clay plateau to the north-east and the Lias uplands of the south-east, was cleared for grazing in the later prehistoric and Roman period. There is scattered evidence for settlement of this period, most evident around the edges of the area within the river valleys.

The early Anglo-Saxon settlements were along the river valleys but the middle Saxon period saw the farmsteads (-tons) spreading up onto higher ground, and the outstanding late 7th-century church at Brixworth in the north-east of the NCA indicates that these were sites of major significance. This is the area where the Vikings and Saxons met and the incidence of place names with suffixes of '-by' and '-thorpe' indicates the influence of the Danes and the Danelaw in this area.

By the 11th century, there was quite frequent settlement although at a lower density than the surrounding more fertile areas and the predominant pattern of nucleated settlement had already developed. Up to the mid 14th century, colonisation proceeded rapidly. Most of the woodland was cleared and nucleated villages, surrounded by a sea of open fields in ridge and furrow cultivation, dominated the landscape. The substantial churches reflect this main period of the area's expansion and colonisation, which went into decline following the disasters of the mid 14th century: the population shrank and settlements were deserted for a variety of reasons including disease, the limited potential for cereal growth and the difficulty of maintaining the fertility of these upland soils. Ambitious landlords like the Spencers were able to accumulate large areas of land for grazing; in 1577, their flocks at

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Wormleighton and Althorp numbered 14,000. Gradually, arable was largely replaced by sheep farming over much of the area and, as a result of the lack of subsequent cultivation, the NCA is now one of the classic locations for deserted settlements, medieval earthworks and shrunken ends of villages, with nationally important survival of ridge and furrow reflecting the former extent of the open field system. As the population shrank in the 14th to early 16th centuries, and monastic lands were added to the estates of the wealthy and the profitability of wool production continued, the great landscape parks and country houses such as Althorp, Canons Ashby, Cottesbrooke and Holdenby were laid out, some by major designers such as Repton and Brown. The strong landlordship that often went with such parks is reflected in the distinctive common architecture of the planned estate villages and lodges. The Elizabethan and Jacobean houses, notably Holdenby, Althorp and Canons Ashby, are particularly associated with the court life of those periods, the poems of Edmund Spenser and the masques of Ben Jonson.

Tenant and freehold graziers tended to maintain or improve village farmsteads, reflected in the many surviving fine stone-built farmhouses, often with threshing barns attached, of the 16th to early 18th centuries. Many of the surviving historic houses within the villages were originally farmhouses, changing function in the 18th and 19th centuries as new, larger steadings with large barns and cattle courts were built on the fringes of settlements and in newly enclosed fields and the remaining open land was enclosed. While there are areas of irregular earlier enclosure, especially in the north, the predominant enclosure pattern in the NCA is regular Parliamentary enclosure dating from the 18th to 19th centuries.

In the 20th century, the main changes to a substantially remote, rural area were the massive loss of elm trees to Dutch elm disease during the 1970s; the building of major road routes including the M1, M40 and A14 which cross it; the

widespread expansion of arable cultivation and the building of modern farm buildings, loss of permanent pasture, improvement of remaining grassland and consequent rationalisation of field boundaries, and loss of boundary trees and ridge and furrow, particularly in the southern half of the NCA; the construction of reservoirs around the edge of the area; and, more recently, the construction of telecommunications masts and large numbers of wind turbines, some within the NCA for example round Yelvertoft, but mostly in the surrounding areas.

In recent times, there has been significant development pressure in towns in surrounding NCAs such as Northampton, Rugby and Kettering as well as within the NCA in Banbury and Daventry, with much commuter-related development in nearby villages with good road and rail links to local towns and to cities such as Birmingham and London. The development and upgrading of the strategic transport road and rail routes which cross the area and subsequent associated warehouse, industrial and 'out-of-town' shopping and housing developments along these transport corridors have had a significant urbanising impact on the landscape and reduced levels of tranquillity in these areas.



The Oxford Canal, once a busy industrial waterway is now a well-used recreation resource.

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Ecosystem services

The Northamptonshire Uplands NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Northamptonshire Uplands NCA is contained in the 'Analysis' section of this document.



Many of the villages shelter within extensive amenity tree planting.

Provisioning services (food, fibre and water supply)

- **Food provision:** The area is predominantly agricultural in character, with a mix of pasture and arable crops on predominantly Grade 3 quality agricultural land. The area is important regionally for food production and the farmed landscape has changed as market conditions have changed. There has been a shift in cropping patterns in recent years, with a loss of dairy farms, a decline in mixed farms and significant reductions in grazing livestock numbers and also in glasshouse production. Arable, however, has increased significantly, especially the area growing stockfeed, reflecting an increase in intensity of remaining stock production. Recently, some miscanthus has been planted for biomass production, which, if it increases significantly, may affect the area available for food production. There are pressures on water and soil quality and issues with diffuse pollution and soil erosion in places.
- **Water availability:** Water resources from the Nene, Cherwell, Ouse and Avon are heavily exploited and are considered to be restricted, ranging from 'no water available' to 'over-abstracted', and measures are in place to monitor abstraction rates. The many reservoirs and rivers form an important part of the water supply network to surrounding large towns and to the Grand Union and Oxford canals. The planned major expansions of nearby towns – both inside and around the NCA, including Northampton, Rugby, Daventry and Banbury – will place additional pressure on local water supplies. Increasing future demand from agriculture for irrigation or stock watering could also increase pressure on supply. Climate change may have an impact on water resources, with low rainfall and drought leading to water shortages, reduced water quality and exacerbating low summer flows in rivers, and could lead to an exacerbation of diffuse pollution.

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Regulating services (water purification, air quality maintenance and climate regulation)

- **Regulating soil erosion:** Around 60 per cent of soils are erosion prone and there are four Defra priority catchments in this NCA – which cover the Upper Cherwell, Upper Avon and River Leam, River Nene and Upper Great Ouse – where soil erosion and management are identified as key issues. Employing soil management measures will improve soil structure and reduce erosion in areas most at risk such as on the ridges and sloping valley sides, and in areas with low soil organic matter levels or compaction. Increasing areas of permanent grassland and wide buffer strips of grassland alongside watercourses in arable areas would reduce erosion risk, especially where such grassland is managed under extensive grazing regimes. An increase in semi-natural habitats would increase the area of land maintained under stable soil conditions, helping to bind soils together, aiding water penetration and reducing erosion, for example through restoring and extending woodland, hedgerows, wetlands and mires.
- **Regulating water quality:** Water quality in the area is in need of improvement, particularly the ecological status, which ranges from good to poor. Pressures include land use change, loss of permanent pasture and parkland, increase in arable production, intensification of agricultural production, and high levels of nitrogen and phosphorus. The planned expansion of settlements in the area could have implications for water quality, particularly from increased phosphate from sewage and road run-off, and there is a need to ensure that sustainable water management is adequately built into urban extensions to prevent deterioration of water quality. Wider application of best practice land management

(catchment sensitive farming techniques) to areas both within and outside the current priority catchment areas would significantly improve water quality. The Upper Nene also lies within the Nene Valley NIA which seeks to improve water quality. Non-native species such as Himalayan balsam and Japanese knotweed pose a threat in some areas.

- **Regulating water flow:** The NCA contains the headwaters of four major rivers – the Avon, Ouse, Nene and Cherwell – some with a history of flooding, especially the Avon around Yelvertoft, the Nene around Weedon Bec and the Cherwell around Banbury. Strategic roads including the M1, M40 and A14 can be affected in these areas. Many soils in the NCA have impeded drainage and there is a very low level of woodland cover and a loss of permanent pasture, contributing to the potential for high levels of run-off. Flood storage areas on the flood plains could reduce risk to settlements downstream and the preferred approach to flood management is to investigate flood storage options, with environmental enhancements to improve the natural state of rivers and their habitats such as the planting of riparian woodland and the restoration of permanent grassland, parkland and hedgerows to intercept water and, with their higher carbon soils, reduce run-off and minimise soil erosion. Good soil management to avoid or reduce soil compaction and increase soil organic matter could aid water infiltration rates and reduce run-off. Plans for extensive new development, particularly in flood plains around Weedon Bec and Banbury, will have an impact on flood risk and need additional management.

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Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** Sense of place is provided by the varied undulating hilly landform and many long, low ridgelines. A sense of inspiration is associated with the rural landscape and its visible historical associations, including the extensive ridge and furrow, open ridgelines affording long views and areas of ancient woodland. These senses are strongest in the characteristic designed parklands and estates that surround the many historic country houses. Distinctive, highly attractive, small, nucleated villages are predominantly constructed of ironstone, cob and brick and linked by straight, narrow enclosure roads with wide grassy verges, alongside strong rectilinear field patterns with tall, A-shaped hedgerows and many mature hedgerow trees. Woodland cover is sparse with coverts and spinneys associated with the area's strong hunting tradition. Navigable canals and reservoirs are an important visual component of the landscape. A small area of the NCA (less than 1 per cent) lies within the Cotswolds AONB, reflecting high levels of natural beauty in the area. Development is changing character in some areas and the open nature of the landscape means that it is vulnerable to large-scale development. Major road infrastructure developments and urban areas associated with Daventry, Banbury and the main road/rail corridors do not reflect the local vernacular character, which is becoming highly diluted in these areas. The extensive areas of parkland are characteristic in this NCA and many are at risk through neglect and lack of management of their designed landscapes and, in some cases, arable conversion.
- **Sense of history:** Sense of history is particularly strong and evident especially in the abundant and prominent ridge and furrow field systems and deserted settlements which are of national importance. There are

many archaeological sites, covering all periods of occupation from the Palaeolithic to the Second World War. Scheduled Ancient Monuments include iron-age hill forts, Roman villas, medieval settlements, ridge



Canons Ashby, one of the fine country houses characteristic of the area.

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and furrow, and open field systems. Large numbers of non-scheduled archaeological sites reflect the long history of settlement and good state of preservation of early features under permanent, unploughed grassland in parkland landscapes of the 18th and 19th and earlier centuries. The many manor houses such as Althorp, Canons Ashby and Cottesbrooke as well as their extensive parklands (some laid out by important designers such as Repton and Brown) are key features, many of national importance. Other important landmarks include Naseby, Edgcote and Cropredy battlefields, the Grand Union and Oxford canals, the high numbers of Listed Buildings and the large stone churches, reflecting the past wool-based wealth of the area. Most archaeological sites are small, with little or no public access, and the majority of the nationally important ridge and furrow and settlement sites have no formal protection. The main threats are from ploughing and neglect. There has been significant loss of ridge and furrow and other features through cultivation, reducing the ability to read the history of the area in the landscape and a significant loss of hedgerows and hedgerow trees and field amalgamation due to the demands of modern agricultural practice.

- **Tranquillity:** Despite a dramatic decline in tranquillity and an increase in disturbance overall, many parts of the NCA still retain a strong feeling of remoteness and tranquillity. The remaining areas of parkland and their historic country houses, the ridge and furrow and other historic features, the remaining rural areas of pastoral farmland, the canals, rivers and reservoirs, woodland and semi-natural habitats all play an important role in delivering health and wellbeing benefits to people in the NCA and surrounding area and should be conserved and enhanced. The sparse settlement pattern, narrow country lanes with their wide

verges, distinctive small, attractive villages and far-reaching views are also often associated with feelings of escapism, spiritual refreshment and inspiration and should be conserved.

- **Recreation:** Rights of way crisscross the rolling landscape, including many long-distance routes offering panoramic views across the NCA and surrounding areas. There is very little publicly accessible land, but the many country houses, gardens and parks which are open to the public are popular recreation destinations, as are Pitsford Reservoir and other reservoirs, the navigable canals and country parks. Ongoing development pressure in the area will lead to further demand and pressure to increase recreation use of the area. There is scope to accommodate this, though careful green infrastructure planning, links and management would be needed to avoid conflicts between users or adverse effects on remaining areas of high tranquillity, biodiversity, archaeological or historic importance, or on soil or water quality. There are also opportunities to increase people's understanding and enjoyment of the special qualities of the area, particularly its strong sense of history.
- **Biodiversity:** There are nationally important sites for winter wildfowl, woodland, parkland and lowland acid, neutral and flood plain meadows present in the NCA as well as areas of importance for farmland birds and arable plants. While current areas important for biodiversity are small in extent, these remaining areas take on an increased significance for permeability in the countryside.

CURRENT LANDSCAPE CHARACTER ASSESSMENT

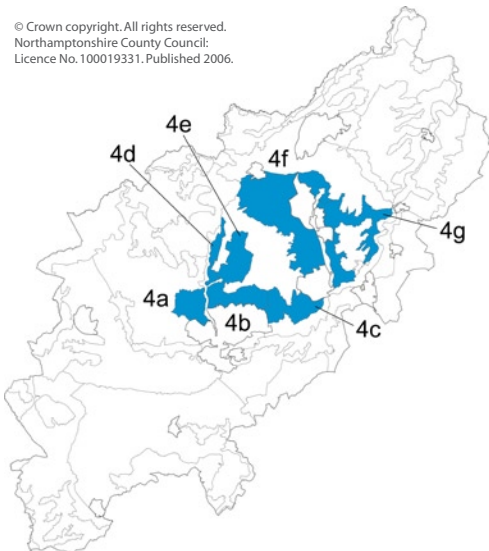


4 ROLLING IRONSTONE VALLEY SLOPES

CHARACTER AREAS

4a	Harlestone Heath and the Bramptons
4b	Moulton Slopes
4c	Ecton and Earls Barton Slopes
4d	Hanging Houghton
4e	Pitsford Water
4f	Kettering and Wellingborough Slopes
4g	Irthlingborough Slopes

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View over Valley slopes

KEY CHARACTERISTICS

- **Broad valley slopes dissected by numerous tributary streams;**
- **Ironstone geology expressed in local vernacular buildings and in rich red soils;**
- **rolling landform, extensive views and sense of exposure on some prominent locations;**
- **steep slopes adjacent to more elevated landscapes;**
- **numerous water bodies including the county's largest reservoir;**
- **productive arable farmland in medium and large scale fields predominates on elevated land although sheep and cattle pastures also prevalent, often in smaller fields adjacent to watercourses;**
- **agricultural practices create a patchwork of contrasting colours and textures extending across valley slopes;**
- **where broadleaved woodlands and mature hedgerow trees combine, these impart a sense of a well treed landscape;**
- **hedgerows generally low and well clipped although intermittent sections show evidence of decline;**
- **well settled with numerous villages and towns;**
- **landscape directly and indirectly influenced by the close proximity of many of the county's urban areas; and**
- **building materials vary although vernacular architecture and churches display the local ironstone.**

4 ROLLING IRONSTONE VALLEY SLOPES

LOCATION AND INTRODUCTION

The Rolling Ironstone Valley Slopes landscape character type occupies the heart of Northamptonshire. It comprises a distinctive landscape of rolling valley slopes bordering the floodplains of the River Nene and its tributaries, the Brampton Valley and the River Ise. The landscape surrounds elevated areas of Clay Plateau where drift deposits overlie and obscure the surface expression of similar solid geology. It also borders the southern fringes of the Wooded Clay Plateau landscape character type and defines the eastern limits of the Undulating Hills and Valleys. A number of urban areas, notably Northampton, Wellingborough and Kettering may be found within and bordering the landscape. Seven landscape character areas have been identified within the overarching Rolling Ironstone Valley Slopes landscape character type, indicating subtle, localised variations in land cover and land use elements

PHYSICAL INFLUENCES

Geology and Soils

Whilst not the most extensive rock type in the landscape, the Inferior Oolite Ironstones of the Northampton Sand Formation are the most prominent and important in terms of the contribution made to landscape character. These deposits, which date to the Middle Jurassic, were once more extensive. They have been eroded by rivers and streams to leave distinctive ridges and hills, forming watersheds between the streams that drain into the main channel of the River Nene and its tributaries. These rocks have been extensively quarried in history, with significant former extraction sites having been identified on a number of hill tops, particularly in the vicinity of Rothwell. The eastern fringes of the Rolling Ironstone Valley Slopes comprise significant deposits of Blisworth Limestone Formation. These rocks form part of the Great Oolite Group and overlie the Ironstones. Together the Ironstones and Limestones extend into the neighbouring plateau landscapes, where significant drift deposits obscure all surface expression of them. The Ironstone overlies softer Lias Group rocks of the Lower Jurassic comprising Whitby Mudstones. This relatively softer rock unit has been more easily weathered and outcrop on the steep slopes that fall into the valleys.

Drift geology across the landscape type is limited to very isolated deposits of glacial till (diamicton) and glacial sand and gravel. These deposits are more extensive on the neighbouring Clay Plateau and Wooded Clay Plateau landscapes. However, isolated patches survive on the most elevated hills and ridge tops where they blur the transition between the Rolling Ironstone Valley Slopes and neighbouring areas of plateau. Alluvial clays and silts are also evident as narrow bands along the floor of tributaries streams of the River Ise and Brampton Valley.

Soils across the Rolling Ironstone Valley Slopes are complex and contain bands of varying types. The most westerly of the valley slopes has the simplest soil cover, comprising well drained brashy fine and coarse loamy ferruginous soils over ironstone, with a small area of slowly permeable calcareous clayey soils. Whilst the Moulton Slopes comprise the same soils, they also include small pockets of well drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy, slowly permeable, seasonally waterlogged, clayey soils with similar fine loamy over clayey soils and an isolated area of deep, well drained coarse loamy and sandy soil. The Ecton and Earls Barton Slopes again have comparable characteristics to the Moulton Slopes; the isolated area of deep, well drained coarse loamy and sandy soil does, however, give way to a larger area of deep, well drained calcareous clayey soils associated with similar but slowly permeable soils. The western edge of the landscape type has relatively simple soil coverage, combining well drained brashy fine and coarse loamy ferruginous soils over ironstone and slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils in generally equal amounts. The Kettering and Wellingborough Slopes offer the most complex soil characteristics, with linear bands of soils evident in an east - west direction. The soils comprise areas of well drained brashy fine and coarse loamy ferruginous soils over ironstone, slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils, fine loamy over clayey and clayey soils with slowly permeable subsoils and slight seasonal waterlogging, slowly permeable calcareous clayey soils, and areas of restored iron workings. To the east, the soil once again has a simple composition, including areas of well drained brashy fine and coarse loamy ferruginous soils over ironstone and well drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy and again in generally equal amounts.

Landform

The complex landform evident in the Rolling Ironstone Valley Slopes landscape character type has arisen from erosion by streams draining the neighbouring upland landscapes into the River Nene and its principal tributaries. Individual watercourses have eroded side valleys, often at right angles to the main tributary channels and course of the Nene. In many cases, the dendritic pattern of tributaries has eroded further and less prominent side valleys, adding to the complexity of landform patterns. The overall pattern, therefore, comprises a principal valley formation dissected by numerous tributaries which themselves create undulations across areas of otherwise smoothly sloping landform. The most elevated areas are formed by hard caps of Ironstone and Limestone, which have formed elevated ridges and hills. These act as watersheds between neighbouring streams. The most elevated landscapes exist to the west of Rothwell, where land rises to 140m ASL. However, Ironstone caps and valley sides can also be observed at much lower elevations, closer to the main channel of the Nene.

4 ROLLING IRONSTONE VALLEY SLOPES

Slopes associated with the ironstone capping are generally shallow, thus creating distinctive broad hills and ridges. Steeper slopes and a rolling landscape are characteristic of areas of Lias Group geology. Here, softer rocks have been eroded to form narrow, steep sided valley systems. However, a wide, shallow sloped valley can be observed to the south of Scaldwell within which the Pitsford reservoir is located.

Hydrology

The River Nene, or perhaps more importantly its tributaries, are the prominent hydrological influences on the landscape. These form a dendritic pattern and have eroded the principal valley slopes to form a rolling landscape that shelves down towards the main channels of the Nene, Brampton Valley and Ise. Tributary streams rarely originate within the landscape. They tend to rise on the neighbouring clay plateau landscapes and flow through the Rolling Ironstone Valleys, where they combine to create increasingly powerful flows and more deeply incised valley formations. Reservoirs are also an important landscape feature. These tend to be located in natural valley formations, where a barrier has been constructed to collect large volumes of river water. The main reservoirs are Sywell, Thorpe Malsor, Cransley and Pitsford. Pitsford Water is by far the largest and is retained by an impressive dam, visible from the A508 into Northampton. All are located on Whitby Mudstone geology and bordered by ironstone hills and ridges. The form of the reservoirs is often dictated to by the presence of the harder ironstone geology.

Land Use and Land Cover

Cereal cultivation predominates, particularly on the Ironstone and Limestone geology that forms more elevated land above the steeper rolling valley slopes. Particularly significant concentrations of cereal production are evident to the east of Barton Seagrave. Numerous arable fields have uncultivated buffer strips running adjacent to hedgerows. These are important wildlife corridors and protect hedgerow habitats from pesticide and fertiliser damage. Whilst cereal cultivation and horticulture is prevalent, improved pastures become more frequent on the valley slopes, particularly where the steepness of slopes precludes the use of farm machinery, and along valley bottoms, which may become seasonally wet. Pasture fields are also more frequent close to farmsteads. On particularly steep slopes, for example along the River Ise to the northwest of Rothwell, neutral and calcareous grasslands become more frequent, indicating that these areas may be marginal and not suitable for improvement. Significant areas surrounding Sywell and Pitsford reservoirs have been designated as Country Parks. Here, land has been taken out of productive agriculture and managed to provide a wide range of wildlife habitats. Set-aside land is also a conspicuous feature of some of the agricultural areas.

Woodland and Trees

Whilst woodlands are not a dominant landscape feature, they nevertheless make an important contribution to landscape character across the Rolling Ironstone Valley Slopes. Small and moderately sized mixed and deciduous woodlands are prevalent and are largely associated with designed parklands, fringing reservoirs or cloaking particularly steep slopes. Linear broadleaved woodlands are also conspicuous along a number of streams. Small broadleaved coverts are also dotted throughout the agricultural landscape. There is a significant area of coniferous planting at Harlestone Heath, and relatively large areas of broadleaved woodland occur at Overstone. Very few woodlands in the landscape are ancient.

Hedged field boundaries often contain ash and oak as mature and semi-mature hedgerow trees. In views up and along rolling valley slopes, hedgerows and perhaps more importantly hedgerow trees, combine with areas of woodland to give the impression of a well wooded landscape. The 'borrowed' effects of woodland from the neighbouring Wooded Clay Plateau landscape character type further contribute to the sense that the Rolling Ironstone Valley Slopes are perhaps more wooded than they actually are.

4 ROLLING IRONSTONE VALLEY SLOPES

HUMAN INFLUENCES



Thatched cottages at Boughton

Buildings and Settlement

The Rolling Ironstone Valley Slopes landscape character type is relatively well settled. Numerous villages, many containing Conservation Area designations, and hamlets occupy sheltered locations on the slopes above rivers and streams. The majority are small, compact villages and tend to be located at the junction of two or more roads. Here, older village properties, typically constructed of local ironstone or limestone, congregate around a prominent church. More recent housing forms linear extensions to a number of settlements or, in a number of instances 'estates', on the periphery of the village. Due to their sheltered locations, many villages are not widely visible from the surrounding countryside. However, church spires often punctuate the horizon and indicate the location of a particular village. New housing can also sometimes be seen extending onto more visually prominent areas of the landscape.

Urban areas have a more significant influence on landscape character, as the Rolling Ironstone Valley Slopes are bordered by seven of the county's fifteen urban areas. The influence is both direct and indirect. Direct influences include views to urban areas and the distinctive orange arc of light that rises above these towns at night. The largest urban area is Northampton, which forms the southern boundary of the Harlestone Heath and Moulton Slopes character areas. Wellingborough, Desborough and Kettering also have a significant influence on the character of the Kettering and Wellingborough Slopes character area. These urban areas occupy entire hillsides and, as a consequence, are visible over wide areas. Rothwell, although a relatively small and compact urban area, also exerts a strong influence on the local landscape. This town occupies a relatively high ridge that rises in the north to 130m ASL. Indirect influences, which become less conspicuous with distance from each urban area, include suburban building styles and materials in otherwise rural areas, and a greater number of 'A' roads, for example the busy dual carriageway that runs to the west of Wellingborough.

Despite these influences, wide areas of the Rolling Ironstone Valley Slopes retain a productive and well managed rural character. Numerous farms and small hamlets are dispersed throughout the landscape. Whilst particular concentrations can be observed around estates and villages, a number occupy relatively remote locations and are only accessible along long tracks.

Heritage Features

This is a long settled landscape, with evidence of occupation stretching back as far as the Neolithic period. Surviving fragments from these times include the Three Hills, a collection of barrows on a hill to the south of Woodford, which are thought to date to the first farmers, and a barrow to the west of the Boughton Estate. Barrows are funerary monuments that elsewhere have been interpreted as territorial markers and may indicate that local populations were exerting a claim over the surrounding landscape by the presence of their ancestors. It is possible that the communities that constructed these monuments were living on the gravel terraces bordering the Nene to the south, and sited them to be visible from their small farming settlements. Whilst infrequent, these monuments are a potent reminder of the landscape's long settlement history. They are likely to have been more widespread; however, development and agriculture have removed all traces of other similar sites.

4 ROLLING IRONSTONE VALLEY SLOPES

The presence of historic houses, parklands and estates within the landscape are a more recent and tangible link to the past. Three historic parks on the English Heritage Register are located on the Rolling Ironstone Valley Slopes landscape, all sited to take advantage of the dramatic landform and panoramic views. The most important is Boughton Park, Listed Grade I. This exerts a strong influence over the surrounding landscape, with avenues of trees, some dating from the late 17th Century stretching as far as Kettering in the west and Geddington Chase. The site of Boughton Hall and Great Harrowden Hall are also important sites. Non-registered gardens are an important element of the landscape with wooded parkland landscapes evident at Ecton, Thorpe Malsor and Cranford St Andrew. The Triangular Lodge is also an important historic landscape feature. The lodge represents an extraordinary piece of symbolic architecture located within the Rushton Estate, which has been the principal seat of the Tresham family from the 15th Century. The monument was built by Sir Thomas Tresham and was designed as a covert declaration of his Catholic faith, with its construction on the basis of an equilateral triangle taken to symbolize the Holy Trinity and the Mass.

Boundaries and Field Patterns

Large, and medium to large fields predominate across the landscape, particularly along the tops of ridges and hills where landform is less steep. Where rolling landform and steeper slopes are prevalent, small and small to medium sized fields are more common. Regular and sub regular fields are common, and there appears to be a tendency for regular fields to occupy the more gently sloping land on ridges and hills. Discontinuous fields, more commonly found on the neighbouring clay plateau landscapes are also evident, although not common. Field patterns tend to follow landform, emphasising the rolling character of the landscape. However, the patterns they create in the landscape are difficult to appreciate, due to the rolling landscape limiting views to wide tracts of the landscape in which the pattern of fields might be identified.

Field hedges are, on the whole, low and well clipped giving the landscape a well maintained and managed character, although overgrown and gappy hedges are also evident. Significant lengths of hedged boundaries contain numerous mature hedgerow trees. This is particularly the case where hedgelines border watercourses. These are an important landscape feature, contributing to the landscape's well treed character.

Communications and Infrastructure

The Rolling Ironstone Valley Slopes contain a number of busy roads. The principal route through the landscape is the A14 between Coventry and Cambridge, which also forms the western boundary of Wellingborough. A number of other busy roads converge on the urban areas located within and bordering the landscape. These principal routes tend to avoid hilly areas and weave along the lower, gentler valley slopes. A dense network of minor roads is also evident across the landscape. Many can be observed to run along the distinctive ironstone ridges then drop, sometimes steeply, down valley slopes into the valleys. Other, routes linking these ridge roads rise and fall with the rolling landform. Together, this network of minor roads gives the landscape a distinctive grain.

Beyond the urban areas, a rural character prevails, with only limited infrastructure development. The main line railways linking Northampton and Kettering to Birmingham, Leicester and Peterborough run through limited stretches of the landscape and have minimal impact on local character. Perhaps more significant are the high voltage transmission lines that run through Kettering and Wellingborough Slopes landscape character area.

Recreation

Despite the close proximity of large urban areas, there are only limited recreational opportunities in the Rolling Ironstone Valleys. Brixworth Country Park, on the fringes of Pitsford Water, and Sywell Country Park bordering Sywell Reservoir are major visitor attractions, offering a range of informal recreational opportunities centred around enjoying wildlife and the countryside. Pitsford Water is also important and offers a range of water based recreation opportunities.

There is a dense network of public rights of way criss-crossing the landscape. The principal routes, however, are the Midshires Way between Harlestone and Church Brampton and a section of the Nene Way that runs along the southern edge of the landscape to the north of Irthlingborough. Historic parks and country houses, and sites including the Triangular Lodge, are also important tourist attractions. A number of golf courses, taking advantage of challenging landform and the close proximity of urban populations, are located within the landscape type.

AESTHETIC AND PERCEPTUAL QUALITIES

Despite urban influences having an impact on the character and perception of wide tracts of the landscape, much retains a quiet rural character. The landscape is perceived as busy, settled and primarily agricultural, with most views encompassing extensive areas of productive arable farmland, with fields defined by well-maintained hedgerows. Where various land uses are evident across valley sides, contrasting colours and textures provide visual interest. Woodlands and hedgerows are important textural elements and add to the visual appeal of the landscape. Where present, woodlands combine with the undulating topography to give visual containment and a more pronounced sense of intimacy. This contrasts with the elevated valley sides, where open views over wide areas have a more open character.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The Ironstone geology is particularly important to the landscape. Whilst significantly more limited in extent than, for example, on the Ironstone Uplands landscape character type, Ironstone caps above Lias Group mudstones have created distinctive hills and ridges, which often dictate the alignment of watercourses and roads giving the landform a distinctive grain. Despite its limited extent, large areas have been quarried in the vicinity of Rothwell and Kettering and the rock finds expression in numerous villages and churches. Rich orange red soils, characteristic of other Ironstone uplands, are also limited in extent. However, where present, such expressions of the underlying geology are important to local character and distinctiveness.

The condition of the landscape is generally good. Hedgerows and woodlands, which represent key landscape features, are on the whole well managed and maintained. Poorly maintained gappy hedgerows, whilst having an impact locally, are not widespread and the Rolling Ironstone Valley Slopes may be regarded as being in a good condition. Settlements and isolated farms are generally well integrated with their surroundings as a consequence of the well treed character of the surrounding landscape. However, larger settlements and urban areas have seen rapid expansion in recent decades, leading sometimes to insensitive development on their fringes, which can have a negative impact on local landscape character.

Whilst individual hills and ridges each have a distinctive profile, few are of sufficient prominence to be regarded as landmarks. Individual landscape elements can, however, be regarded as landmarks. These tend to be prominent vertical elements such as water towers and church spires, which, when sited on hill and ridge tops can be seen across wide areas. Distinctive landscape features such as the Triangular Lodge and Pitsford Water, whilst of limited visual impact, also comprise locally important landmarks.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



4 ROLLING IRONSTONE VALLEY SLOPES



Moulton Slopes

4b Moulton Slopes

The Moulton Slopes Character Area is located to the north of Northampton. It comprises a broad valley, through which flows the Sedge Brook, a tributary of the Brampton Valley, and a smaller watercourse, which flows southwards into Northampton to the west of Overstone. From the upper slopes of the valley, wide views across rolling farmland are possible. From the slopes above Moulton, views southwards to Northampton are largely screened by vegetation and landform. However, tall urban elements such as the Express Lifts Tower are prominent features punctuating the skyline.

The landscape is relatively well settled, with the villages of Boughton, Moulton and Overstone lying along the winding road that runs along the southern slopes of the Sedge Brook valley. Pitsford is also located within the character area. This small village is situated on the watershed between Pitsford Water and the valley of the Sedge Brook.

Land cover is typically arable farmland, although improved and semi improved pastures are more dominant along lower valley slopes and along watercourses. Woodland cover is low, although significant areas of deciduous woodland can be found in the vicinity of Overstone. Cowpasture Spinney is a particularly interesting feature. This is a linear belt of woodland running along the stream to the west of Overstone Park. Large areas of woodland are also features of designed parklands, as at Overstone Park and Boughton.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



4 ROLLING IRONSTONE VALLEY SLOPES



Ecton and Earls Barton Slopes

4c Ecton and Earls Barton Slopes

The Ecton and Earls Barton Character Area occupies the valley slopes to the north of the River Nene between Northampton and Wellingborough. It is a gently rolling landscape. Ironstone slopes running parallel to the Nene have been dissected by valleys draining the adjacent uplands southwards into the Nene. Areas of Oolitic limestone are conspicuous to the east of the area as these form distinctive, if limited plateau areas. The main feature of the landscape is Sywell Reservoir and Country Park. The Edwardian reservoir was constructed across the valley of the Ecton Brook and was originally built to supply water to Higham Ferrers and Rushden. The Country Park dates to the 1970s and is a popular local attraction. The reservoir is fringed by woodlands, belts of poplar trees, sheep grazed pastures and arable farmland. Other areas of recreational interest include Ecton Brook Linear Park and picnic areas along its length.

The rolling landscape beyond the park is characterised by medium to large arable fields and areas of pasture, usually within smaller fields adjacent to watercourses and on the edge of settlements. A significant area of broadleaved woodland is conspicuous to the north of the area and at Ecton, associated with an area of parkland. The eastern half of the area contains no significant areas of woodland, although hedgerow trees provide some cover and shelter. A number of important tree groupings are evident on the skyline from within the area, including The Rookery at Great Doddington and a smaller tree group at Manor Road, Earls Barton.

The landscape is relatively well settled, including the large compact post-war settlement of Earls Barton situated on the southern edge of the character area overlooking the valley of the Nene. Wilby, Great Doddington and Ecton provide smaller linear settlements located on the mid slopes. Beyond this lies a landscape characterised by scattered farms and dwellings. Connecting the settlements of Ecton, Earls Barton and Wilby with the surrounding urban centres of Northampton and Wellingborough is the busy A4500. Other roads are minor and frequently aligned perpendicular to the main valley of the Nene. Although not abundant, public rights of way are scattered across the area, including a limited stretch of the Nene Way around Doddington. Water towers located on the upper valley slopes and plateau areas provide prominent landmarks, along with many church spires in settlements on the valley slopes. One of the most notable church towers is the Saxon Church tower at Earls Barton. Whilst the main body of the church is built from a combination of Northamptonshire ironstone and limestone, the tower is constructed from the Upper Lincolnshire Limestone Barnack Rag stone, infilled with locally found Wellingborough Limestone from the Rutland Formation (former Upper Estuarine Limestone). Every century from the tenth onwards is represented in the fabric and fittings of the building.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



4 ROLLING IRONSTONE VALLEY SLOPES



Hanging Houghton

4d Hanging Haughton

Hanging Haughton Character Area is the most linear character area within the type, is located along the eastern edge of the Brampton Valley and is bordered to the south by a tributary of the main valley. The character area forms the valley slopes rising to the Clay Plateau in the east. From the upper valley slopes, long distant panoramic views are possible over the surrounding landscape, including views over the River Valley Floodplain towards the Undulating Hills and Valleys.

The main settlement is Hanging Houghton, a small linear settlement that has developed on the upper slopes adjacent to the plateau landscape. Beyond this lies a largely rural landscape with scattered dwellings and farmsteads, such as those found on the outskirts of Draughton and Lamport. Whilst a number of farms are located adjacent to minor roads, others are accessed via trackways. Although located beyond the boundary of the Rolling Ironstone Valley Slopes, the settlement of Brixworth remains visually important due to its prominent position on the upper slopes. Significant historic features are contained within the settlement, notably a Saxon church built in 680AD on the northern boundary.

The landscape is characterised by a predominance of arable land, although areas of improved pasture are evident below Brixworth and around Lamport, extending down and along the sloping landform towards the River Valley Floodplain and Hanging Haughton. Defining the fields are a combinations of low, clipped hedgerows and wooden post and rail fences. Whilst woodland in the character area is limited, the small deciduous copses combine with the many hedgerow trees and woodland in the surrounding landscape types to give the impression of a well treed landscape. Clint Hill Fox Covert is a prominent copse of mixed composition descending the slopes of Clint Hill.

Bordering a large proportion of the area to the east is the A508. Whilst this road enters the area in two locations, road access is otherwise limited to three minor roads connecting plateau villages with the surrounding landscape. Pedestrian access is also limited with only occasional rights of way, connecting settlement on the eastern edge of the type with the wider landscape, including the Brampton Valley Way, and Midshires Way, which is located along the length of the Brampton Valley and follows the course of a dismantled railway. There are no other recreational facilities within the area.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



4 ROLLING IRONSTONE VALLEY SLOPES



Pitsford Water

4e Pitsford Water

The Pitsford Water Character Area is largely surrounded by the clay plateau with the exception of the southwestern corner, which is bordered by a tributary of the River Valley Floodplain. It comprises a wide, shallow sloped valley, in which is located the prominent landscape feature of Pitsford Reservoir. Bordering the reservoir, the distinctive ironstone hills and ridges have been formed by tributaries draining from the surrounding Clay Plateau into the reservoir.

Land cover is typically a combination of both arable and improved pastoral land with evidence of unimproved calcareous pasture. A pastoral landscape frequently occurs around villages within the character area and on steeper valley slopes, in particular along the western boundary. Whilst large to medium scale fields predominate, a network of smaller enclosures is apparent to the east of Scaldwell village within the tributary valley that feeds the reservoir. Woodland cover is typical of the landscape type. Surrounding Pitsford Reservoir are a number of woodland blocks, primarily with a coniferous composition, although mixed and broadleaved copses are apparent. Willow Carr is also developing around the periphery of the nature reserve. Small spinneys and linear copses can also be found within the area along with parkland trees, and planting at Moulton Grange. Frequent hedgerow trees and tree lined stream boundaries combine with woodlands to create a well wooded landscape in localised areas.

The landscape is moderately settled, with the villages of Old and Scaldwell lying along winding roads descending the valley landscape. Whilst the village of Old has developed in a compact form around a road junction with a prominent church lying close to its centre, the Ironstone village of Scaldwell, although also compact, has a more pronounced linear form. The outer edges of Holcot are also evident, again with a prominent church spire, although a large proportion of the village lies within the adjacent Clay Plateau landscape type. Beyond this, scattered farms and dwellings predominate, generally accessed via a minor track from the main road. Minor roads within the area can be busy, for example the Holcot Road that crosses over the reservoir and provides access to surrounding settlements such as Brixworth, and busy 'A' roads beyond the area.

Although not always prominent in views from the character area, the Pitsford Reservoir provides an important landmark feature. It is the largest reservoir within the landscape type, and indeed the county, and is retained by an impressive dam on the southwestern edge of the area, visible from the A508 that forms the western boundary. The reservoir, edged by sandbanks, provides not only a valuable recreational resource for fishing, boating, sailing, bird watching and picnics, but also an important wildlife habitat, in particular for bird life and waterfowl. Located on the western edge of the reservoir, Brixworth Country Park provides cycle hire, a residential centre and visitor centre, and is one of the most recently developed country parks in Northamptonshire. The rights of way network within the area is also extensive, criss-crossing the rolling valley landscape.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



4 ROLLING IRONSTONE VALLEY SLOPES

4f Kettering and Wellingborough Slopes

The Kettering and Wellingborough Slopes Character Area is the largest character area within the Rolling Ironstone Valley Slopes landscape type, extending from the northern edge of Wellingborough in the south to the southern limits of Desborough in the north. Kettering urban area forms part of the eastern boundary with Rothwell in the northwest of the area. The character area comprises a gently rolling landscape of ridges and valleys orientated in a northeast to southwest direction. The area is bordered by the River Ise to the east, Sywell Plateau to the west, along with a small section of the Cottesbrooke and Arthingworth Undulating Hills and Valleys and the Geddington Chase Wooded Clay Plateau to the north. From the upper slopes of the valleys, wide views are possible across surrounding landscapes, although woodland blocks intervene in a number of views, in particular to the north towards the Wooded Clay Plateau. From lower slopes, views along the valleys are more channelled and contained, for example, along the valley of the Ise, south of Desborough.



Urban Edge and the A14



Orlingbury

The landscape is relatively well settled, with the larger settlement of Boughton and villages of Weekley, Rushton, Thorpe Malsor, Loddington, Pytchley, Isham, Orlingbury and Little Harrowden occupying, in the majority of cases, the upper valley slopes. The settlements are generally compact in form and have developed around the junction of two or more roads, many with prominent church towers such as the square towers at Orlingbury, Pytchley and Rushden. The village of Loddington is an exception, however, as it has developed in a distinctive circular form. The southwestern edge of Geddington is also visible on the edge of the valley slopes, although the majority of the village is set within the adjacent Wooded Clay Plateau landscape type. Hamlets can also be found scattered throughout the landscape, again occupying the upper valley slopes, including Thorpe Underwood and Orton. Urban influences from Wellingborough, Kettering, Rothwell and Desborough are significant in the character area. Due to their location on rising landform and ridgelines, with descending development evident on the valley sides, views of the urban areas are prominent. Surrounding and connecting the urban areas are a number of busy 'A' roads including the A43(T), A14(T), A6(T) and A6003 that cut through the landscape. Glimpsed views are possible of these elements from many locations, creating intrusive urban elements in a predominantly rural setting. The railway line positioned on a prominent embankment north of Kettering, along with high voltage pylons criss-crossing the landscape, create further evidence of the close proximity of large urban centres. Other minor roads ensure that the area is relatively accessible, and whilst the majority are quiet rural roads, others appear to have a busy character, for example between Desborough and Rushton.

4 ROLLING IRONSTONE VALLEY SLOPES

Land cover typically comprises large to medium scale arable fields interspersed with semi improved pasture, often smaller in scale and largely grazed by sheep. Small and medium scale fields also frequently occur in the northwestern section of the area. In general, pastoral fields are located in close proximity to settlements and individual farmsteads. Evidence of 'horsiculture' is also prominent on the edge of settlements with an abundance of temporary fencing, often creating an untidy appearance to the landscape in what, in some cases is an edge already degraded by sprawling urban form. Woodland cover is typical of the landscape type, including small to moderately sized broadleaved woodlands largely associated with parkland landscapes such as Boughton Park and Orlingbury Hall. Woodland is also closely associated with many village settlements including Rushton and Great Cransley. Wooded streams and spinneys surrounding Thorpe Malsor and Cransley reservoirs contribute to the overall woodland cover within the landscape resulting in many valleys having a well treed character. The most significant woodland planting occurs around Weekley Hall Wood, south of Geddington, where deciduous woodland, areas of new woodland planting, coniferous strips and limited felled and mixed woodlands combine to create a well-wooded character north of Kettering.

Recreational opportunities within the area are limited, despite the close proximity of large urban centres. Boughton House and Park provide the main attraction, comprising a 500 year old Tudor Monastic building, gradually enlarged until the French style addition in 1695. The extensive parkland landscape contains historic tree avenues, woodlands, lakes and riverside walks. Numerous rights of way pass through the character area and a golf course can be found on the southwestern boundary of Kettering.



Irthlingborough Slopes

4g Irthlingborough Slopes

The Irthlingborough Slopes Character Area represents the easternmost of the character areas, bordered to the west by the River Ise Floodplain, the River Nene to the south and east, and Geddington Chase Wooded Clay Plateau to the north. Central to the area is Burton Wold Clay Plateau, which is surrounded by the Irthlingborough Slopes. Burton Latimer and Irthlingborough comprise two urban areas adjacent to the character area. Defining the area is a series of valleys and slopes generally orientated in a northeast, southwest direction. This is particularly prominent where tributaries on the eastern side of the area, draining from the surrounding plateau landscape, descend into the valley of the Nene. From the upper slopes wide, uninterrupted, open views are possible over the surrounding landscape, including views to surrounding urban areas often prominent on rising landform and ridgelines.

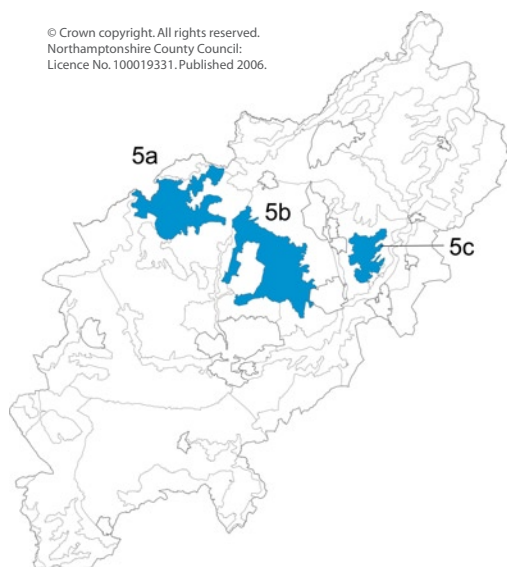
CURRENT LANDSCAPE CHARACTER ASSESSMENT



5 CLAY PLATEAU

CHARACTER AREAS

5a	Naseby Plateau
5b	Sywell Plateau
5c	Burton Wold



Clay Plateau

KEY CHARACTERISTICS

- **Boulder Clay deposits overlie almost the entire landscape, obscuring variations in the underlying solid geology and giving a unity of character;**
- **broad, elevated undulating plateau dissected and drained by numerous valleys with convex profile valley sides;**
- **expansive, long distance and panoramic views across open areas of plateau;**
- **sense of exposure on some prominent locations;**
- **limited woodland / tree cover comprising broadleaved woodlands and mature hedgerow trees;**
- **where trees, woodlands and undulating landform combine, they limit or define views and create a more intimate character in places;**
- **numerous water bodies including small reservoirs on the Naseby Plateau;**
- **productive arable farmland within medium and large scale fields predominates on elevated land although sheep and cattle pastures also prevalent, often in smaller fields adjacent to watercourses;**
- **hedgerows are often low and well clipped, although intermittent sections show evidence of decline, and emphasise the undulating character of the landscape;**
- **sparsely settled with small villages and isolated farms prevalent; and**
- **monuments and landscape features associated with the Battle of Naseby are distinctive elements of the local landscape.**

5 CLAY PLATEAU

LOCATION AND INTRODUCTION

Northamptonshire's Clay Plateau landscapes occupy a central position in the county. They form the higher ground to the north of the Nene Valley, and are surrounded by a complex system of valleys. The plateau areas would have at one time been much more extensive, but dissection by rivers and streams has left isolated elevated flat landscapes surrounded on all sides by sloping land and low lying areas. The underlying solid geology is exposed on the slopes below the plateaux, but elsewhere has been cloaked in thick deposits of glacial till. These deposits are almost continuous across the whole of the plateau landscapes and are of sufficient thickness to obscure all traces of the rock strata beneath.

The plateau landscapes are similar in many respects to the Wooded Clay Plateau to the north. However, a greater degree of woodland cover has created a strikingly different landscape character. These elevated, agricultural landscapes are sparsely settled, and principally limited to farmsteads scattered across the undulating topography. They retain a distinctly isolated character, despite being intensively farmed.

The principal clay plateau area lies above the Rolling Ironstone valley slopes bordering the Bampton Brook and the River Ise. It lies on a northwest - southeast orientation, although fingers of the plateau can be seen to 'wrap around' the valley occupied by Pitsford Water. A second, more elevated plateau lies to the northwest and overlooks the Welland Vale. A third area of plateau lies to the north of Irthlingborough. This area of plateau is at a much lower elevation but retains many of the characteristics of the more elevated plateau areas.

PHYSICAL INFLUENCES

Geology and Soils

Beneath a mantle of superficial deposits, the plateaux are underlain by varying rock types. The easternmost area of plateau, the Naseby Plateau, lies on Whitby Mudstones. Its more elevated eastern flank, however, is formed from the ironstone rich Northamptonshire Sands Formation. By contrast, the lower western area is formed from Dyrham Formation Siltstones. The lower, westernmost plateau, Burton Wold, lies on Blisworth Formation Limestone. The central plateau area represents a combination of these principal rock units.

Whilst influencing elevation and the main landform features, variations in the underlying solid geology has little surface expression due to the thick mantle of glacial till or boulder clay that overlies them. This superficial covering was deposited by glacial ice and formed from unlithified rocks, sands and clays that have their origins as far north as Derbyshire and Lincolnshire. The mantle has been removed in a few isolated areas. These principally border the streams that drain the plateau where, in the past, they have been of sufficient power to wash the drift geology into the river systems below.

The thick mantle of drift deposits is of a sufficient depth to limit the economic viability of quarrying of the underlying strata. The Ironstones on the valley slopes surrounding the plateau have been extensively mined. On the plateau, however, there is a notable absence of active or former quarry sites.

Soils throughout the landscape are characteristically stony and contain a wide range of pebbles and rock fragments, although they vary across the landscape type. The western area of the clay plateau is characterised by a predominance of slowly permeable, seasonally waterlogged, fine loamy over clayey soils and similar soils with only slight seasonal waterlogging. Some calcareous clayey soils are particularly evident on steeper slopes. The eastern section of the Naseby Plateau is characterised, however, by areas of slowly permeable calcareous clayey soils and slowly permeable, seasonally waterlogged clayey soils with similar fine loamy over clayey soils. The remaining areas of clay plateau are dominated by slowly permeable calcareous clayey soils with a large section of the Sywell Plateau characterised by slowly permeable, seasonally waterlogged clayey and fine loamy over clayey soils.

Landform

Glacial deposits are of sufficient thickness to create a smooth, undulating landscape. Whilst wide, flat areas are limited in extent, the landscape shelves over large distances to the steeper valley slopes that surround them, giving wide expansive views and the sense of continuity of the undulating plateau landscape. Steeper landform is principally confined to slopes bordering streams, where the overlying drift deposits have been eroded. The Naseby Plateau is the most elevated of the three character areas, rising to 190m ASL to the east of the village of Naseby. Sywell Plateau, by contrast, has a general elevation of approximately 130m ASL although it rises at one location to 160m ASL. The lowest area of plateau is Burton Wold, rising to just 90m ASL.

5 CLAY PLATEAU

Hydrology

Numerous streams originate on the plateau and form a network of watercourses draining the elevated landscapes in a radial pattern into the surrounding valleys. The influence of these valleys on landscape character is significant, the streams having eroded broad, gentle, convex sloped valleys that are responsible, in part, for creating the undulating landform. At the edges of the plateau, the streams are of sufficient power to have removed all traces of the overlying mantle of drift deposits. Human intervention on the hydrological characteristics of the landscape is evident. Reservoirs, although not extensive, are a feature of the Naseby Plateau and straight drainage channels appear to have been established on Burton Wold. Watercourses and other hydrological features are often difficult to discern in the landscape. Streams tend to be small, and views to them are often obscured by landform, streamside vegetation and hedge lines. Broadleaved woodland almost entirely encircles the reservoirs.

Land Use and Land Cover

Cereal cultivation predominates across the undulating clay plateau with large, monochromatic fields dominating the wide panoramas that are obtained from elevated positions. Although cereal cultivation and horticulture is prevalent, improved pastures become more frequent surrounding villages and on steeper landform bordering streams. Here, field patterns are more intricate and the wider variations in colour, texture and land use pattern contrast with the simpler and more expensive character associated with the plateau tops. Unimproved calcareous grasslands are also evident but are by no means extensive. Particularly significant areas may be identified around the fringes of the reservoirs on the Naseby Plateau and adjacent to larger woodlands to the north of Sywell at the Sywell Aerodrome.

Woodland and Trees

Woodlands are not a dominant feature of the Clay Plateau landscape although some large areas of broadleaved woodland may be identified bordering reservoirs and on steeper sloping land adjacent to some watercourses. Geometric broadleaved coverts are also an important landscape feature. These are often sited in otherwise open areas of agricultural land. They provide both cover and limit long distance views, thus reducing the sense of exposure and openness locally. A number of these are ancient in origin, and may indicate small remnants of once much larger woodlands. Large areas of ancient replanted woodlands are evident at Hardwick Wood and Sywell Wood to the north of the Sywell Aerodrome. These are dominated by coniferous species, however, thus reducing their nature conservation value.

Woodlands are often visible on distant horizons forming a dark backdrop to agricultural landscapes that fill the foreground. They are an important means by which distances can be judged, and serve to emphasise the relative openness of the agricultural landscapes.

Hedged field boundaries often contain ash and oak as mature and semi mature hedgerow trees. The scale of the fields, and therefore distance between hedgerows, ensures that they have only limited impact on reducing the open character of the plateau. Where present they are important in filtering long distance views and therefore reduce the apparent openness and scale of the landscape.

HUMAN INFLUENCES

Buildings and Settlement

Settlement across the Clay Plateau landscapes is limited to a small number of villages and isolated farmsteads. The pattern of villages varies on each of the three plateau character areas. On the Naseby Plateau, small compact and nucleated villages are characteristically sited on elevated areas of plateau, at the intersection of two or more country roads that criss-cross the landscape. By contrast, villages on the Sywell Plateau generally adopt a linear form, and are orientated along the roads that run along the interfluvies between streams draining the uplands. Burton Wold is conspicuous for having no villages or hamlets within it. A number of settlement including Naseby, Great Oxendon and Brixworth retain cob buildings and where present add to local historic character.

The wider landscape beyond the villages is sparsely settled with isolated houses and farmsteads occupying roadside positions or a more secluded location at the end of a short access track off the main route. Where roadside developments are not numerous, and farmhouses do not fall into wide panoramic views, the landscape has an uninhabited or 'vacant' character, particularly where long distance views over agricultural land are possible. However, some areas are affected by views to large scale distribution 'sheds' which are prominent landscape features, particularly where these fringe the plateau landscape as is the case on the western perimeters of Wellingborough.

5 CLAY PLATEAU



Naseby Monument

Heritage Features

Churches, older stone properties, and field patterns within and immediately surrounding villages are indicative of former periods of occupation and activity stretching back to the medieval period. In the wider landscape, however, few visible features indicate this to be a landscape with a long settlement history. This is particularly true of Burton Wold, which contains no villages and only very limited areas of ridge and furrow. It is possible that this clay plateau was marginal land up until the Enclosures and only became settled and farmed at some point in the 18th or 19th Century. By contrast, Naseby is richer in heritage features with widespread ridge and furrow evident. This character area is also notable for the presence of the site of Old Sulby village, preserved as earthworks beneath pasture fields and Naseby Field, the site of a Civil War battle in 1645. On the Sywell Plateau, only limited areas of ridge and furrow survive. This possibly indicates loss resulting from widespread intensive arable farming in the post medieval and modern period.

Boundaries and Field Patterns

Large and medium to large fields predominate across the landscape, particularly on the more elevated, flatter areas of plateau. Where rolling landform and steeper slopes are prevalent, and indeed in the vicinity of villages, small and small to medium sized fields are more common. Discontinuous fields occupy significant portions of the Sywell Plateau, representing one of the largest concentrations in the county. Elsewhere regular fields are more common, particularly on Burton Wold where this is the dominant field pattern.

Field hedges are, on the whole, low and well clipped giving the landscape a well maintained and managed character. Where hedges border large fields, the pattern of fields is hard to discern in the landscape, although they emphasise the undulating landform. Where hedgerows are gappy, post and wire fencing is used to reinforce field boundaries, particularly where pasture is the current land use, and along road verges. In places, metal parkland fencing, often showing signs of decline, is used to mark field boundaries.

Hedgerows characteristically contain hedgerow oaks and ash. These are important landscape elements and filter long distance views to limit the large-scale character of the landscape, and provide some shelter.

Communications and Infrastructure

Roads through the plateau landscape tend to follow elevated interfluvies to avoid river valleys, emphasising the natural grain of the landscape and often influencing the alignments of field boundaries. This relationship between landform grain and road patterns is also reflected in the settlement pattern. On the Sywell Plateau, for example, the southwest grain of the landscape is reinforced by linear villages that lie on the minor roads that cross over the interfluvies and emerge at right angles off the main routes across the plateau. Those that run along its spine are likely to have once been part of a single, main route across the plateau. On the Naseby Plateau a more complex landform is echoed in the arrangement of roads through the landscape. Here again, roads follow more elevated land, avoiding undulations and stream systems. Burton Wold by contrast contains few routes through it, possibly indicating its more recent settlement history.

5 CLAY PLATEAU

Urban areas and associated infrastructure have limited impact across the plateau landscapes. However, the high voltage transmission lines that pass across Sywell Plateau and Burton Wold to large towns along the Nene Valley, such as Northampton and Irthlingborough, form prominent vertical elements on the otherwise open, undulating agricultural landscapes.

Recreation

Despite the close proximity of large urban areas, there are only limited recreational opportunities across the Clay Plateau landscape. Fishing is popular on each of the reservoirs located on the Naseby Plateau. However, perhaps the most important attractions are Naseby Field, the site of the Civil War battle and the Jurassic Way footpath, which runs along the eastern fringes of the Naseby Plateau character area between Welford and Great Oxendon.

AESTHETIC AND PERCEPTUAL QUALITIES

Despite being a productive agricultural landscape, the absence of buildings and indeed people in wide panoramic views, imparts a distinct but subtly remote character to some areas. Where particularly long distance views are possible, a sense of exposure and openness prevails. This is particularly the case where landform and vegetation do not obstruct views. However, areas that are more intimate in scale do exist, particularly along the broad valleys where narrow woodlands and overgrown hedges limit views. Where present, woodlands combine with the undulating topography to give visual containment and a more pronounced sense of intimacy. Generally, colours and textures are simple, as a result of arable farming occupying much of the undulating landscape. Trees, woodlands and pastoral land uses offer some important contrast.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The Clay Plateau landscape retains a productive rural character. On the whole, it is well maintained and appears intensively managed, however, strength of character diminishes where field boundaries become gappy or overgrown. At a county scale, the landscape is generally unremarkable although wide panoramic views and a sense of remoteness and exposure are important to local distinctiveness and character. Perhaps the most important and distinctive landscapes and landscape features are associated with Naseby Field on the Naseby Plateau. The landscape retains a number of features directly related to the important Civil War battle that took place here. For example, the Sulby Hedges remain very much as they did at the time of the battle. Two monuments, an obelisk and Battlefield monument denote that the site was an important battlefield.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



5 CLAY PLATEAU

There is a wealth of heritage features on Naseby Plateau with ridge and furrow found in many fields surrounding villages. The area is also notable for the presence of the site of Old Sulby and Little Oxendon Villages, both preserved as earthworks beneath pasture fields, and the earthworks around Sulby Abbey. Naseby Field, the site of a Civil War battle (1645) is also an important heritage landmark feature. A number of landscape features remain from the time of the battle and represent a tangible link to the area's past. The famous Sulby Hedges remain very much as they did at the time of the battle when Colonel Okey's dragoons fired upon Prince Rupert's cavalry as they made their initial charge. Lining the hedge, they fired away across the green fields of Sibbertoft beyond. Two monuments are also indicate that the site was an important battlefield. The first is an obelisk erected in 1823 by the then lord of the manor. It lies on the mound where Naseby windmill stood at the time of the battle, more than a mile from the actual battlefield although it is close to where the parliament army probably rendezvoused on the morning of the battle. The Battlefield monument, erected in 1936 by Mr C. H. Reich, was designed by Gotch. It lies where the front rank of the parliamentary infantry stood and not, as the inscription says, the point from which Cromwell led the cavalry.

Although quarry sites are generally absent on the plateau, an old gravel pit is located to the west of Naseby Reservoir. It is now used as a landfill site and creates a prominent landscape feature.



Sywell Plateau to new development at Mawsley

5b Sywell Plateau

Sywell Plateau Character Area is located in the heart of Northamptonshire. It is the most extensive of the Clay Plateaux and almost completely surrounded by the Rolling Ironstone Valley Slopes, with the exception of a small area of Undulating Hills and Valleys located to the northwest, and the urban centre of Wellingborough to the southeast. The plateau rises at one point to a height of 160m ASL, although it generally has an almost consistent elevation of around 130m ASL. The gently undulating landform across the plateau has been formed by a series of small watercourses. Stream action has resulted in the local erosion of the glacial till that otherwise covers the plateau area.

The area is characterised by a predominance of large to medium to large scale arable fields generally regular or sub regular in shape, although their size decreases to the western side of the A43(T) from Walgrave to the southern boundary, where fields of improved grassland become more frequent. Improved pastures are also evident surrounding village settlements and on steeper landform adjacent to streams. The area occupied by Northampton (Sywell) Airport represents a significant area of unimproved calcareous grassland whilst the disused airfield to the north of the area is under arable cultivation. Woodland cover is typically low, comprising small to moderately sized often geometric broadleaved woodlands, although significant areas of coniferous planting can be found around Sywell Airport, including Hardwick Wood, Hardwick Short Wood and Sywell Wood; these all comprise ancient woodland. Other ancient woodlands in the area include Covert, Fraxton Corner, Mawsley Wood, Short Wood, Badsaddle Wood, Withmale Park Wood and Bush Walk, representing areas that are likely to have once formed part of more extensive woodlands. Well treed stream sides and occasional mature and semi-mature oak and ash in hedgerows also contribute to the overall woodland cover. Although views are generally extensive from the plateau areas, in places woodland cover contains views, resulting in a more intimate character.

5 CLAY PLATEAU

Many of the village settlements display a compact, linear form, such as the village of Harrington, and this comprises the principal settlement pattern. There are exceptions, however. Brixworth, the largest settlement in the area is a compact village with an historic core and warm, pale orange ironstone evident in many buildings, and post war expansions to the south. Holcot, on the edge of the character area, is also a compact village that has developed around a number of road junctions. Of particular note in Brixworth is All Saints Church, one of the finest Anglo-Saxon churches in England, and is still in use. Beyond this, scattered farms and dwellings predominate, frequently located adjacent to minor country roads that criss cross the landscape, generally following the main southwest grain of the plateau and located on interfluvies between watercourses. The most prominent main road in the area is the A43(T), from which minor roads emerge at right angles. This runs along the spine of the plateau and is intrusive in a number of views, along with high voltage pylons that cross the landscape. Church spires and towers are also prominent within the landscape, including the spire at Walgrave and square tower at Broughton, though this is beyond the area boundary. Water towers can also be seen on the horizon in a number of locations.

There are a limited number of heritage features on the Sywell Plateau. The most notable include limited areas of ridge and furrow; the site of the medieval village of Faxton, and Lamport Hall, a Grade I listed house that was the home of the Isham family from 1560 to 1976.



Burton Plateau to Finedon

5c Burton Wold

Burton Wold Character Area is the smallest and eastern occurrence of the Clay Plateau landscape types. It is also the least elevated of the plateau landscapes averaging a height of 90m ASL. Surrounding the area are the Rolling Ironstone Valley Slopes, and Irthlingborough on its southeastern perimeter.

Land cover is typically large and medium to large scale arable farmland, although improved pastures, generally smaller in scale are present on the southeastern boundary around Irthlingborough. Hawthorn hedgerows defining field boundaries are of varying condition and range from low, gappy and broken in some areas to significantly overgrown in others. Woodland cover is extremely low, with very occasional broadleaved copses and areas of young tree cover. Finedon Poplars is the largest broadleaved woodland within the area. Hedgerow trees are also limited.

The landscape is extremely sparsely settled with settlement confined to isolated farmsteads and dwellings. Whilst a large number are located at the end of tracks at right angles to the main arterial road, others are situated adjacent to the roadside. A limited number of roads provide access to the settlement and plateau landscape, including a minor country road to the northeast. The A510 passes through the centre of the area from Finedon and the A6(T) in the southeast. Pedestrian access is also relatively limited with only a number of minor rights of way.

Prominent along the western edge of Burton Wold is a line of high voltage pylons intruding into the rural character of the landscape. A water tower in the northeast around Woodford is also a prominent vertical feature on the horizon.

CURRENT LANDSCAPE CHARACTER ASSESSMENT

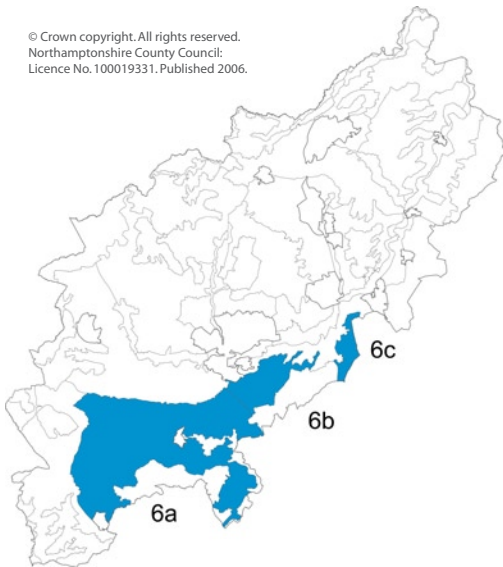


6 UNDULATING CLAYLANDS

CHARACTER AREAS

- 6a The Tove Catchment
- 6b Hackleton Claylands
- 6c Bozeat Claylands

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Undulating Claylands

KEY CHARACTERISTICS

- **Boulder Clay deposits overlie almost the entire landscape, revealing little surface expression of the varying underlying solid geology;**
- **alluvium conspicuous along the tributaries and upper reaches of rivers that drain the area;**
- **broad, elevated undulating landscape that is more elevated to the west shelving eastwards and drained by numerous broad, gentle convex sloped valleys;**
- **wide panoramic views across elevated areas, though the undulating landform creates more contained and intimate areas;**
- **a productive rural landscape with an equal balance of arable and pastoral farming with the former predominating on more elevated land and often larger in scale, although arable land can be found along valley bottoms where sand and gravel deposits are located;**
- **improved and semi improved pastures located along narrow floodplains and sloping land bordering them, often more intricate and smaller in scale;**
- **large woodlands are not a characteristic feature, although woodland in surrounding landscape types, small deciduous copses and hedgerow trees can together create the sense of a well-wooded character;**
- **concentrations of small woodlands apparent around designed parklands;**
- **hedgerows are often low and well clipped emphasising the undulating character of the landscape with scattered hedgerow oak and ash trees;**
- **post and wire fencing frequently reinforces gappy hedgerows, in particular where pasture is the current land use;**
- **numerous villages located throughout the landscape with varying morphology;**

6 UNDULATING CLAYLANDS

- **settlement beyond the villages include scattered Enclosure age farmsteads and isolated dwellings, located at the end of short access tracks and adjacent to the roadside;**
- **a long settled landscape with evidence dating back to the Bronze Age and evidence of Roman occupation;**
- **many historic remnants evocative of the medieval period, including rural villages, moated sites, and extensive areas of ridge and furrow;**
- **historic parklands provide important landscape features along with remnants of the industrial age, including disused railways and canals;**
- **minor roads located on interfluvies avoiding river valleys and emphasising the natural grain of the landscape; main routes take a direct course from the northwest to southeast; and**
- **recreational opportunities are diverse, including listed manors and parkland estates, canal trips, llama trekking and numerous national trails.**

LOCATION AND INTRODUCTION

The Undulating Claylands are located in the south of the county stretching from Brackley in the south, northeastwards to Irchester. This landscape type covers a significant area and appears as a wide belt of rolling countryside that becomes less extensive as it extends eastwards. It borders the distinctive Low Wooded Clay Ridge landscapes to the south, and is bounded to the north by the Undulating Hills and Valleys landscape character type.

This landscape character type is similar in many respects to the Undulating Hills and Valleys to the north. However, a thick mantle of boulder clay has created a soft, undulating landscape where the influence of the underlying solid geology has been obscured. The landscape is deeply rural and sparsely settled, with small villages and farmsteads scattered throughout the undulating topography.

The principal area of the Undulating Claylands lies to the north of the Whittlewood Plateau and Low Wooded Clay Ridge. It forms the catchment of the Tove, which originates to the north of Sulgrave. The river is fed by numerous tributaries and becomes a significant landscape feature east of Towcester. From here it forms part of the River Valley Floodplain landscape character type. As the fringes of this character area drain into the River Cherwell and River Great Ouse it cannot be regarded as a true river catchment. In the context of the county assessment, however, it forms a separate physiographical unit related to the Tove catchment area. To the east of the M1 a second character area has been identified, comprising the Hackleton Claylands. This character area is adjacent to the Tove catchment. However, it drains into the Nene and as such has been assessed as being a distinct character area. A third area of the Undulating Claylands is located to the south of the Nene around Bozeat. Physically, the area shares many characteristics with the Salcey Forest and Yardley Chase character area. Due to the marked absence of woodland, however, it has not been included as being a part of the Low Wooded Clay Ridge landscape character type.

PHYSICAL INFLUENCES

Geology and Soils

Beneath a mantle of boulder clay, the Undulating Claylands are underlain by various geological formations, including Blisworth Limestone and Northampton Sand Formation. These rock units tend to form the more elevated areas, with Whitby Mudstone Formation of the Lower Jurassic being more extensive in low-lying areas. Whilst the underlying solid geology has influenced the main landform features and patterns of drainage, it has little surface expression due to the thick mantle of boulder clay. This superficial covering was deposited by glacial ice and formed from un lithified rocks, sands and clays that have their origins as far north as Derbyshire and Lincolnshire. The mantle has been removed in a few isolated areas, principally bordering streams draining the plateau, where, in the past, water flows have been of sufficient power to wash the drift geology off the hills and valley slopes downstream to be sorted and re-deposited as river terrace gravels and alluvium. Indeed, limited areas of river terrace gravels are conspicuous along many river channels. Where glacial deposits are absent, small former quarrying sites are conspicuous, particularly on limestone and on thin bands of ironstone. This is evident around the upper reaches of the Tove near Sulgrave.

Alluvium is conspicuous along the upper reaches of the Tove, and its numerous tributaries, where it forms a narrow band bordering watercourses. To the east of Towcester, the floodplain becomes wider and a more significant feature of the landscape, and has been classified in the county's River Valley Floodplain landscape character type.

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Soils throughout the landscape are characteristically stony and contain a wide range of pebbles and rock fragments. Characterising the western section of the landscape type is a predominance of slowly permeable, seasonally waterlogged clayey and fine loamy over clayey soils with smaller pockets also showing evidence of fine silty over clayey and clayey soils. Occasional isolated areas of well drained brashy fine and coarse loamy ferruginous soils over ironstone are also apparent. To the east of the landscape type, slowly permeable calcareous clayey soils become more predominant with a large area of fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging, associated with similar but wetter soils to the northeast. Small pockets of shallow, locally brashy well drained calcareous fine loamy soils over limestone are evident throughout the eastern section of the landscape type, along with small areas of slowly permeable, seasonally waterlogged clayey and fine loamy over clayey soils.

Landform

Glacial deposits are of sufficient thickness to have formed a soft, undulating landscape. However, the underlying landform is influenced more directly by the underlying solid geology. The general pattern is that more elevated landscapes are located on the western limits of the landscape type. Here, Ironstone interfluvies around the headwaters of numerous streams to the north of Canons Ashby and Maidford rise to 180m ASL. To the south, Ironstone and limestone geology has formed an arc of high ground rising to 170m ASL. This forms the boundary of the landscape type and the watershed between the Tove and Cherwell catchments. The landscape slopes eastwards from these high points. Rivers and streams have dissected this general pattern to create a dendritic pattern of narrow valleys draining through the landscape to the main rivers of the Tove and Nene. As the streams are of limited scale the subtle form of the many undulations do not 'read' in the landscape as river valleys. This leads to the landscape appearing as a complex series of interlocking undulations. The scale of the undulations varies and, therefore, influences the sense of intimacy and enclosure locally; indeed on some upland areas where undulations are gentle, and woodland sparse, wide panoramic views are possible giving the landscape an open, plateau like character. The lowest areas of the landscape occur bordering the Nene and Tove River Valley Floodplains. From these locations, undulating landform creates a more intimate landscape where views are restricted to the middle distance.

Hydrology

Streams originating on the uplands drain the majority of the Undulating Claylands to the Tove, a tributary of the River Great Ouse, which runs eastwards through the centre of the Tove Catchment landscape character area. The river originates to the north of Sulgrave and is fed from the north and south by a dendritic pattern of streams. Character areas to the east both drain northwards into the Nene through neighbouring areas of the Undulating Hills and Valleys landscape character type. Gently flowing streams have eroded broad, gentle, convex sloped valleys that are responsible for creating the landscape's undulating landform. The lower reaches of the Tove and a number of its tributaries have narrow belts of alluvium along the floor of the valley. However, the course of the rivers and streams is difficult to discern in the landscape. Streams tend to be small, and landform, streamside vegetation and hedge lines often obscure views to them. It is often only possible to trace the course of a stream by identifying linear belts of riparian habitat and tree species such as alder and willow. To the east of Towcester, floodplains become wider and a more significant landscape feature.

Land Use and Land Cover

Across much of the landscape, there is a roughly equal balance of arable and pasture farming. Improved and semi improved pastures tend to be located along the narrow floodplains of streams and rivers but are also evident on sloping land bordering them and in close proximity to the numerous small villages that are located throughout the landscape. Here, field patterns are more intricate and variations in colour, texture and land use pattern ensure that local character is more intimate than elsewhere. These verdant fields are interspersed with small areas of calcareous and neutral unimproved grasslands. Unimproved pastures are not prominent in views due to their being located along valleys that are not often visible from roads travelling through the landscape. Arable farming tends to be located on the more elevated interfluvies but can also be found along valleys, particularly on sand and gravel deposits. Due to the nature of landform, most views across the landscape encompass wide areas of arable farming and cereal cultivation appears, therefore, to be the predominant land use. Indeed where large, monochromatic fields fill wide panoramas, the landscape resembles the Clay Plateau landscape to the north.

Woodland and Trees

Whilst large wooded areas are not characteristic of the Undulating Claylands, the landscape can sometimes appear well-wooded. This occurs where woodlands on the neighbouring Low Wooded Clay Ridges, and the small belts of deciduous woodland, coalesce with the occurrence of hedgerow trees and shelterbelts surrounding farms and houses. Where present, woodlands tend to be narrow belts of deciduous trees, often following contours and thus emphasising landform. Concentrations of small woodland belts can be observed in designed parklands such as Easton Neston Park, Stoke Bruerne Park and Courteen Hall to the north of Roade. Whilst the majority of woodlands are contained within the parkland boundary, the surrounding countryside is often more heavily wooded, reflecting the strong influence county estates had on wide tracts of the landscape. Few woodlands are ancient in origin. Where present, many appear to comprise mixed or coniferous tree species, indicating that significant replanting has taken place. The Forestry Commission own and manage a number of these.

6 UNDULATING CLAYLANDS

Woodlands are often visible on the southern horizons forming a dark backdrop to agricultural landscapes that 'fill' the foreground. They are an important means by which distances can be judged and also serve to emphasise the relative openness of some areas of the Undulating Claylands.

Hedged field boundaries often contain ash and oak as mature and semi-mature hedgerow trees. Where present, they are important in filtering long distance views and, therefore, help to reduce the openness and scale of the landscape where woodlands are not significant.

HUMAN INFLUENCES

Buildings and Settlement

Numerous villages are located throughout the landscape. They tend to be small, with settlements often sited on elevated areas above watercourses. Village morphology varies. Linear settlements are aligned along roads passing through the landscape. Nucleated settlements tend to occur at the junction of numerous roads, with the junction often marked by a church, around which sit the settlement's oldest dwellings. A number of nucleated villages have expanded since the post war period, and the outskirts are now marked with post war housing.

Beyond the villages the landscape is well settled, with numerous enclosure age farms located throughout the hills and valleys. The position of farms varies. Some are located along roadsides, whereas others occur at the end of tracks at right angles to the main route through the area.

Heritage Features

This is a long settled landscape, with visual evidence for occupation stretching as far back as the Bronze Age. To the north of Sulgrave is an oval-shaped mound known as Barrow Hill. This is the remains of a Bronze Age bowl barrow, built as a funerary monument some 3 – 4,000 years ago. Large exposed stones on the west side hint at internal burial chambers. The barrow is mostly intact, although the ditch that would have surrounded the mound has been lost. Wide views over the surrounding landscape are possible from this location and offer an opportunity to observe the landscape as a territory for which the monument was probably constructed to demarcate. Later evidence for occupation can be found in the form of Watling Street, which runs through the Tove Catchment character area. This Roman Road is a significant landscape feature and was built to link London to the port in Holyhead and continues in use to this day as a major route through the county.

Beyond these specific sites, many rural villages and areas of countryside are evocative of the medieval period. The rural landscape contains numerous small villages, often containing an old stone church and vernacular stone buildings. Many are designated as Conservation Areas on account of the fine architectural heritage they contain. A number of villages are closely bordered by a Manor Farm or moated site indicative of the settlements medieval past. This is echoed in the large areas of ridge and furrow that can be observed in fields around many of the villages. Indeed some boundary hedges that define the outer limits of fields containing ridge and furrow, such as the one along the parish boundary to the south of Sulgrave, pre-date many of the surrounding hedges. By analysing the number of species present in the hedge it is believed to be over five hundred years old. A significant area of ridge and furrow may be identified on the outskirts of Weedon Lois beneath areas of permanent pasture. Here, a manor house and fish ponds are also evidence of occupation during the medieval period. A prominent mound next to the village green was the site of the Norman Noble, Gilo de Pinkney's castle, itself sited on the 'hill with the temple' from where the village's Saxon name is believed to originate. A similar castle is thought to have also been built by Gilo on his lands at Sulgrave.

Historic parklands and gardens are also an important feature. Easton Neston is perhaps the most prominent, its influence extending beyond the boundary of the early 18th Century park in to the surrounding landscape in the form of long avenues of trees. Long avenues running south from Castle Ashby are also evident in the landscape, within the countryside to the east of Denton.

Industrial age sites are also an important landscape feature in places. Numerous sections of disused railways criss-cross through the landscape and are often visible as raised linear embankments, often cloaked in hawthorn and scrub. The Blisworth Tunnel is also a prominent feature, if limited in its visual influence. This was constructed through the Undulating Claylands between Stoke Bruerne and Blisworth in the late 18th and early 19th Century and links London Canals to those in Birmingham.

Boundaries and Field Patterns

Large and medium to large fields predominate across the Undulating Claylands, particularly on the more elevated areas, although this is not always the case. These fields are often used for arable production. Small and small to medium sized fields are more common where rolling landform and steeper slopes are prevalent, and also in the vicinity of villages. Sub regular field shapes are prevalent across the landscape. Discontinuous fields are significant in some areas, notably on the Ironstone to the north of Canons Ashby and the limestone around Piddington.

6 UNDULATING CLAYLANDS

Communications and Infrastructure

Field hedges tend to be low and well clipped and give the landscape a well-maintained and managed character. Field boundaries are often aligned to follow landform and thus emphasise the undulating character of the landscape. Where hedgerows are gappy, post and wire fencing is used to reinforce field boundaries, particularly where pasture is the current land use, and along road verges. Hedgerows characteristically contain hedgerow oaks and ash. These are important landscape elements and filter long distance views to limit the large-scale character of the landscape and provide some shelter where woodlands are not prominent landscape features.

Roads through the Undulating Claylands tend to follow elevated interfluvies to avoid river valleys and the pattern of roads therefore mirror that of rivers and streams, further emphasising the natural grain of the landscape. Field boundaries similarly follow this alignment, and the general grain dictated by landform and associated road alignment. Settlements are also influenced by the road patterns with numerous ancient villages sited at the junction of two or more roads, or simply along them where roads do not intersect. The main routes through the landscape do not follow this pattern, however, and take a direct course from the northwest to the southeast. The A5 Watling Street is perhaps the most interesting. Although forming a linear route across the landscape, typical of Roman Road construction, the alignment has influenced the subsequent pattern of fields that occur along its route. By contrast the M1, and the mainline railway between Milton Keynes and Northampton, are much more of a recent imposition on the landscape and whilst sharing their alignment with the A5 they do not have the same relationship with boundary features that about it. The orientation of these routes through the Undulating Claylands has less to do with local landform and more to do with the proximity of London and the arrangement of key destinations in the Midlands and the northwest.

Recreation

Urban areas, although on the edge of the landscape type and relatively limited in scale, are visible and have an impact on this rural, yet well settled landscape. High voltage pylons passing over the Undulating Claylands also provide prominent vertical elements in this relatively open landscape.

Recreational opportunities vary across the landscape type to include manor houses and parkland landscapes open to the public, such as the National Trust's Canons Ashby Manor and woodlands managed by the Forestry Commission that are open for public enjoyment. Access across the landscape is relatively extensive, with the Macmillan Way, Knightley Way, Grafton Way, Grand Union Canal Walk and Midshires Way crossing the landscape type. A number of minor footpaths and bridleways also provide access to areas that would otherwise remain inaccessible. From the village of Stoke Bruerne canal trips are possible along the Grand Union Canal and Llama Trekking is available at Weston. Heritage features such as Barrow Hill also provide areas of interest.

AESTHETIC AND PERCEPTUAL QUALITIES

Re-occurring land cover within the landscape type creates a strong angular pattern imposed on an undulating, curved landform. Hedgerows containing the fields rolling over the landscape emphasise its undulating form. From elevated areas where particularly long distance, panoramic views are possible, a sense of openness prevails. A more intimate character exists, however, where views are limited by woodland in surrounding landscape types. Woodlands within the Undulating Claylands, where present, also combine with the undulating topography to contain longer distance views. This is a simple, and in places colourful landscape, with texture provided by hedgerow and streamside trees and occasional woodland blocks punctuating the landscape. A sense of unity prevails over the landscape due to the continuity of land cover. In places, gappy hedgerows and stag headed trees provide a sense of fragmentation.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

On the whole the Undulating Claylands are a well maintained and managed landscape of moderate scenic quality. Local variations in condition are apparent, however, and frequently depend on the extent to which hedgerows are managed. Across the landscape type, a number have become gappy and seen the introduction of post and wire fences. A number of trees have also become stag headed. The introduction of water towers has created prominent vertical elements across the landscape along with new infrastructure elements and associated facilities, such as the M1, lighting and signage. At a county scale the landscape is generally unremarkable although occasional estate houses and associated parkland are of note and the wooded horizon of the surrounding Low Wooded Clay Ridge are distinctive from the landscape type. Despite the open and expansive character from more elevated areas of land, the landscape overall has a relatively sheltered character due to the undulating landform and intervening vegetation.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



6 UNDULATING CLAYLANDS

The landscape is relatively well settled with numerous villages scattered throughout the area. Whilst the majority are relatively small in size, Blisworth, Roade and Greens Norton are slightly larger with evidence of post war development on the edge of the settlements. Village morphology varies greatly within the area. Villages such as Moreton Pinkney have a linear form, whilst Blakesley has developed around road junctions. Prominent within many villages are church spires, providing local landmarks throughout the area and punctuating the horizon. Spires at Blisworth, Stoke Bruerne, Tiffield, Green Norton, Wappenham and Weedon Lois are particularly notable. The landscape beyond the villages is generally well settled with numerous farms and dwellings, although some areas are devoid of any development and often have an unoccupied character. Communication routes are extensive in the area, including the A43, A5 and A508. Glimpsed views are also possible towards the M1 on the northeastern edge of the character area.

Various features of heritage interest are scattered across the Tove Catchment. Areas of ridge and furrow are in evidence and may generally be found in close proximity to villages. However, isolated patches can also be observed throughout the rural landscape. As well as the three registered parks and gardens, Canons Ashby village located along the western boundary is home to Canons Ashby House. Owned by the National Trust, the Elizabethan manor has remained largely unaltered since around 1710 and the formal gardens created by Edward Dryden provide panoramic views of the surrounding parkland and church, which is all that remains of the Augustinian priory. Sulgrave Manor also provides an important heritage feature within the landscape. It is a modest manor house from the Shakespearean period, and was home to the ancestors of George Washington. The site of two medieval villages, Kirby and Radstone can also be identified in the landscape by various earthworks overlain by pastoral grazing land. Recreational opportunities in the character area include sections of the Grand Union Canal Walk, Midshires Way, Knightley Way, Grafton Way, canal trips at Stoke Bruerne and Llama Trekking.



View to Piddington

6b Hackleton Claylands

The Hackleton Claylands Character Area, located on the northeastern edge of the Tove Catchment, comprises a number of tributary streams draining into the River Nene, which have created the landscape's undulating landform. Land cover across much of the area is characterised by a general predominance of arable land in large fields. Areas of improved pasture are, however, located around village settlements, including Denton and Quinton. These are frequently smaller in scale. Pockets of calcareous grassland are also evident, in particular adjacent to the stream northeast of Quinton and along the line of the dismantled railway. Woodland cover within the character is generally limited. Small broadleaved woodlands dominate, including High Covert, The Oaks and streamside woodlands northwest of Quinton. Preston Wood is also of a broadleaved composition and the only ancient woodland in the character area. The woodlands in the surrounding area, including Salcey Forest and Yardley Chase, have a significant influence on the area, limiting views south and southeast. Wide panoramic views are otherwise possible over the undulating landscape.

6 UNDULATING CLAYLANDS

The landscape is moderately well settled, the villages of Denton, Brafield-on-the-Green, Hackleton, Piddington and Quinton generally lying on the mid valley slopes above streamlines. The village of Denton, however, descends the valley slopes with dwellings located immediately adjacent to the watercourse. Hackleton, also situated on the lower slopes, remains at a distance from the stream. Beyond the villages are a number of farmsteads and dwellings, frequently accessed via a track from the main road. Whilst many individual dwellings are situated on the mid to upper slopes, they sit in a nestled position within the landscape. Although not within the area, the urban edge of Wootton is prominent to the northwest. A limited number of roads connect the settlements within and beyond the area although large areas remain inaccessible, in particular north of Hackleton. Bordering the area to the southwest is the M1, of which there are glimpsed views. Other prominent landmarks in the character area comprise Piddington's prominent church spire and a water tower south of Brafield-on-the-Green.

Features of historic interest are extremely limited. Scattered areas of ridge and furrow are evident, often in close proximity to settlement, and also close to streams. The remains of a manor house are located in the village of Quinton, and to the northeast of the area, an old avenue forming part of Yardley Chase is a distinctive feature within the landscape.



Bozeat Claylands

6c Bozeat Claylands

The Bozeat Claylands Character Area is the most eastern character area and the smallest area of Undulating Claylands. This rural landscape is characterised by a general predominance of arable land in large-scale fields, interspersed with smaller fields of improved pasture with grazing cattle, frequently surrounding settlements. A number of larger pastoral fields are present, however, generally with post and wire fencing sub-dividing them. Whilst the shape of fields varies considerably across the area, regularly shaped fields are often found surrounding villages with other fields combining both a sub regular and discontinuous form. Woodland cover is extremely low, the broadleaved geometric Bozeat Wood providing the only cover within the area. Mature oak and ash scattered along hedgerows and a number of well treed streams provide the only other tree cover in the character area, creating texture in an otherwise smooth landscape. Woodlands associated with Yardley Chase provide a wooded horizon to the southeast, however, forming a backdrop to the undulating agricultural landscape.

Settlement is extremely limited, with isolated farmsteads and dwellings located along minor roads and at the end of tracks positioned at right angles along the minor road network. In general, these are located on the upper slopes and higher elevated areas of land. On the edge of the character area the settlements of Bozeat, Wollaston and Irchester that lie within the surrounding Undulating Hills and Valleys landscape type, provide village settlements within close proximity. Distant views are possible of the outer edges of Wellingborough. Access to the Bozeat Claylands is limited, with only a few minor roads passing through the landscape. The larger A509, however, provides access along the western edge of the area, linking to the villages within the surrounding landscape type.

Heritage features are confined to scattered areas of ridge and furrow, evident in pastoral fields. Generally, these are located around settlements, most notably on the edge of Bozeat. Landmark features are limited to the water tower northeast of Wollaston, providing a prominent vertical element in the landscape, and church spires located in surrounding villages.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



6 UNDULATING CLAYLANDS

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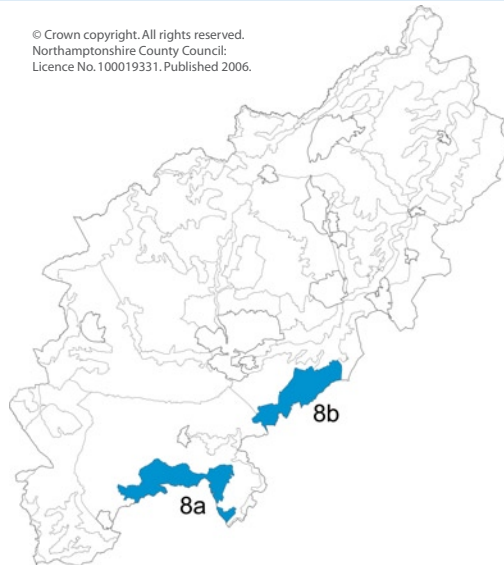
CURRENT LANDSCAPE CHARACTER ASSESSMENT



8 LOW WOODED CLAY RIDGE

CHARACTER AREAS

- 8a Whittlewood Plateau
- 8b Salcey Forest and Yardley Chase



Whittlewood Plateau

KEY CHARACTERISTICS

- **Boulder Clay deposits overlie almost the entire landscape, obscuring variations in the underlying solid geology;**
- **broad, elevated plateau with shallow soils, elevated above adjacent lowland landscapes;**
- **extensive areas of ancient woodland form a backdrop to a foreground of farmland;**
- **strong historic character derived from the landscape's ancient woodlands and Forest villages;**
- **mixed land use of pasture and arable farmland extending between wooded areas;**
- **medium sized fields defined by full hedges containing numerous hedgerow trees; and**
- **low density of settlement and sparse road patterns.**

8 LOW WOODED CLAY RIDGE

LOCATION AND INTRODUCTION

The Low Wooded Clay Ridge landscapes define the southern boundary of the county where they rise gently from the lowlands of neighbouring Buckinghamshire to the south and east. Despite reaching only a maximum of 150m ASL, this character type is physically distinct from the adjacent low lying landscapes. To the north the landscape becomes more undulating before falling gently to the floodplain of the River Nene. The landscape character type is limited in extent within the county but forms part of the low watershed between the Nene to the north and the Great Ouse to the south. The Tove drains the Undulating Claylands to the north of the ridge and breaches the ridge at Grafton Regis before continuing southwards into the Great Ouse.

The area has a strong agricultural character with a mix of arable and pastoral farming evident. Pastoral farming is predominant in the west, leading to more open, arable landscapes as the land dips to the east. However, the thin and variable soils have historically been a constraint to agriculture to the extent that the area has been heavily wooded since at least the 13th Century. Farmland and woodland form simple harmonious combinations, with wooded areas often forming a dark backdrop to stretches of pasture or arable farmland.

Woodlands are an integral part of the landscape and add much to the area's visual appeal and character. Most are predominantly mixed oak woods and contain some trees planted in the early 18th Century. More recent conifer plantations form dense, dark blocks of woodland that can often be seen forming impenetrable backdrops to foreground landscapes, and offer a strong contrast to surrounding deciduous woodlands, particularly in Autumn and Winter.

Despite relatively low elevations, long views over the surrounding lowland landscapes are possible. This makes the landscape feel open and expansive. These views are often blocked by intervening woodlands, however, which are frequent along the ridges. The elevation of the landscape has made it suitable for telecommunications masts and historically for airfields, one of which has been converted to its current use as the Silverstone Race Circuit. This has a significant influence on the local landscape.

Roads crossing the ridges are infrequent. Many are bounded by wide, herb rich verges bordered by hedges. These, and the hedgerows defining fields, are generally substantial and species rich. Many contain mature hedgerow oak and ash, although young saplings offer potential new hedgerow trees.

PHYSICAL INFLUENCES

Geology and Soils

Beneath an extensive mantle of Boulder Clay deposits, the Low Wooded Clay Ridges are underlain principally by the Blisworth Limestone Formation of the Great Oolite Group. These tend to form the most elevated areas. Extensive areas of Blisworth Clay Formation mudstones are also evident, however, particularly at lower elevations where the overlying limestone cap has been eroded. To the east, the low-lying areas of the Salcey Forest and Yardley Chase ridge are underlain by a succession of Cornbrash, and Kellaways and Oxford Clay Formation mudstones. These rock formations, all of which date to the Jurassic, run in a southwest to northeast alignment.

Subsequent glacial activity has smoothed over this low outcrop and deposited extensive drifts of boulder clay and isolated patches of glacio-fluvial sand and gravel. These latter deposits are particularly extensive on the Whittlewood Plateau in the vicinity of Syresham and Whittlebury.

Soils on the ridges are patchy and varied, ranging from free draining stony till to less permeable clays. In isolated areas, where drift deposits have been washed away by streams draining the ridge, small limestone quarries were established to supply stone for local buildings. The soils mainly comprise slowly permeable, seasonally waterlogged, clayey soils, and fine loamy over clayey soils. Some slowly permeable calcareous clayey soils are evident, particularly on steeper slopes. Located along the northern edge of Salcey Forest and Yardley Chase character area is a limited area of slowly permeable calcareous clayey soil.

Landform

The Low Wooded Clay Ridge landscapes are generally smooth, and plateau like in places and gently undulating around the fringes. These landscapes represent a low but significant watershed between two major river catchments and thus appear as a relatively prominent landform feature from adjacent lowlands, despite only rising to a maximum elevation of 150m ASL. The Salcey Forest and Yardley Chase Character Area is lower and reaches a maximum elevation of just 130m ASL to the east of Hartwell, with an average altitude of between 90 and 100m ASL.

Despite their low elevation, these landscapes appear as a relatively prominent ridge and backdrop to lowland landscapes in the foreground. Elevated landform is emphasised by large, dark masses of deciduous woodland and ensures that when viewed from the neighbouring vales, the landscape is read as a prominent wooded ridge line, and backdrop to foreground agricultural land.

The ridges are dissected by numerous streams. These create undulating landform along the northern fringes of the ridge, with plateau areas forming the interfluvies between individual river catchments.

8 LOW WOODED CLAY RIDGE

Hydrology

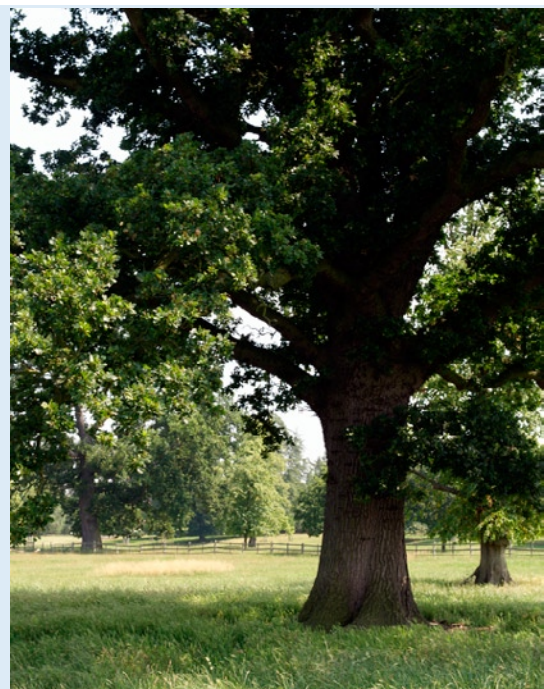
The Wooded Clay Ridges form a major watershed between the catchment areas of the Rivers Nene and Great Ouse, with streams originating on the ridge flowing northwards to the Nene and southwards to the Great Ouse. The Tove drains the lowlands to the north of the ridges, its course changing to southeasterly at Towcester before cutting through the ridge at Grafton Regis. It then continues southeastwards and then southwestwards beyond the county to its confluence with the River Great Ouse.

Gently flowing watercourses occupy broad, convex sloped valleys and create a gently undulating landform across the ridges. Where streams have cut through the mantle of boulder clay that cloaks the underlying solid geology, narrow bands of alluvium extend along the valley bottoms. These areas predominantly support improved pastures although some areas of unimproved grassland are also evident.

Land Use and Land Cover

Permanent pasture, leys and arable land supporting cereals are all in evidence across the landscape, as well as areas of unimproved calcareous grasslands, which are often found in close association with areas of improved pasture, areas of woodland and bordering streams.

Pasture is dominant on the more elevated western ridge, and in particular to the east of Whittlebury. Arable cropping is more dominant on the lower, less undulating land to the east, particularly along the Salcey Forest and Yardley Chase landscape character area where pasture is extremely limited. Horse paddocks and associated 'horsiculture' features are evident on the fringes of settlements across the ridges.



Oak trees in the parkland at Castle Ashby

Woodland and Trees

The woodland cover across the landscape type is an important element in defining the character of these landscapes. The high woodland cover (up to 15% on Yardley Chase) marks the line of the ridge and makes it a clearly recognisable area of landscape when viewed from the surrounding lowlands. Woodlands tend to be large, and many are managed by the Forestry Commission. The majority of the woodlands comprise deciduous species, notably oak and ash standards with coppiced oak. Understorey plants include birch, hazel, alder and willow. In contrast to the woodlands to the north, a secondary tree layer is seldom present within the woodlands on the glacial clays of the ridges. The ground flora is similar, except that many of the lime tolerant plants (calcicoles) are not present. Calcifuge plants are also to be found, such as foxgloves, golden rod, orpine and ling. In addition to the ancient oak woodland, more recent coniferous plantations are also present.

Woodlands are generally amorphous and irregular in shape, and tend to follow and emphasise landform features. The intricate shapes and patterns they create with surrounding fields indicates that woodlands were once more extensive and areas have been cleared for agriculture at some time in the past, rather than imposed as geometric blocks onto the landscape framework. As a result, the woodland forms an intricate relationship with the landscape resulting in a 'semi-natural' character.

8 LOW WOODED CLAY RIDGE

Surviving woodlands are an important indicator of the landscape's past and many of the areas of ancient woodlands have remained forested since the 13th Century when many areas of forest were appropriated along the ridge as Royal Forest. The woods of Whittlewood and Salcey were passed to the Dukes of Grafton. Whittlewood comprised 6,000 acres of which 4,500 acres were woodland in 1608. Salcey Forest, which includes Yardley Chase, covered 1,200 acres almost all of which was managed as coppice. It has the largest number of ancient (veteran) oak trees anywhere in Northamptonshire. Notable oaks that have survived include The Salcey Oak and Milking Oak, both of which are situated on the Forest lawn, and The Piddington Oak and The Church Path Oak, which are to be seen in the Forest. The Church Path Oak was situated on one side of the church path through the forest. A plaque attached to this tree read: "Salcey Forest Church Path Oak William Henry Sixth Duke of Grafton was accustomed to rest under this tree on his way to and from Piddington Church".

Hedged field boundaries are often rambling, species rich and substantial, and frequently contain elm suckers. They also contain hedgerow trees, mostly comprising oak and ash and which are often mature and stag headed. Where present hedges add to the landscape's wooded character, often coalescing in views up to the ridge to create a well wooded character.

HUMAN INFLUENCES

Buildings and Settlement

During the medieval period, when many of the county's villages were becoming established or consolidated, the areas around Salcey and Whittlewood were some of the most sparsely settled landscapes in the county. The ridges continue to have low populations and the settlements tend to be small and located at the edges of ridges.

Many of the villages on the ridge were Forest Villages surrounded by open fields. Until the time of the enclosures village residents would have had rights over the Forest lands. Hartwell, for example, was a village of the Forest of Salcey. As with much of the county, village populations declined as a result of the black death and the rural depopulation that resulted from the enclosure period, although this latter event was of probably less impact here than elsewhere in the county.

The largest villages are Silverstone, Whittlebury, and Yardley Hastings and despite significant expansion in recent times, settlements often retain a rural character. Building materials vary with red brick and soft local Oolitic limestone, ranging from warm greys to subdued ochres, frequently used with either blue/grey slate or red pantile roofing. Mixtures of materials are also in evidence, as at Whittlebury where an eclectic mix of buildings styles are present, including red brick houses with limestone frontages.

The landscape is also significant for containing few farms. These are widely dispersed through the landscape, indicating that perhaps woodland cover was once much more extensive and that the few farms that are present have retained land following clearance of woodlands.

8 LOW WOODED CLAY RIDGE



Castle Ashby Great House from the avenue

Heritage Features

Despite evidence of some pre Roman settlement, and the area's obvious attraction to early settlers as a result of its elevation above the wetter lowland landscapes, there is limited evidence of early occupation and activity on the ridges.

During the Saxon period, woodland was cleared and settlements established. The main influence on the landscape, that is still evident today, was the appropriation of extensive areas of woodland by the crown during the 13th Century. The woods of Whittlewood and Salcey provided a source of fuel and building materials as well as hunting grounds for the nobility. Its appropriation ensured that the landscape avoided the more intensive clearance of woodland, drainage and settlement that occurred in the adjacent lowlands.

The structure of widespread forest, interspersed with 'lawns' for pasture and nucleated Forest villages surrounded by open fields, continued until the early 17th Century. During the time of the enclosures, however, woodlands were cleared at an accelerated rate, particularly during the Parliamentary Enclosures in the late 18th and 19th Centuries.

Historic parks have a limited influence on the landscape. Only one registered park, Horton Hall, is located within this landscape type. The southern extent of the avenues, emanating from Castle Ashby Park, also encroach a short distance onto Yardley Chase.

Boundaries and Field Patterns

Sub regular field patterns are most common on the ridge, although regular fields are also present indicating areas where Parliamentary Enclosure was prevalent. Field size varies with small, medium to large, and large fields forming an intricate pattern across the ridge. Large, discontinuous fields are also evident and are particularly noticeable in the east of the landscape where arable farming predominates.

Field hedges are tall and rambling adding to the landscape's wooded character. These often contain mature hedgerow trees, which filter views and contribute to the landscape's intimate, human scale.

Communications and Infrastructure

Routes tend to cut across the ridge rather than follow it. Most share a northwest to southeast orientation as illustrated in the course of the A5 (Watling Street) which runs for a short distance across the ridge to the north of Potterspury. A notable exception is the A43 Silverstone bypass, which runs along the ridge between Whitfield and Silverstone. The general orientation of roads is mirrored in the alignment of a disused railway and high voltage transmission lines that run through Yardley Chase.

Recreation

Originally used as a wartime airfield, the Silverstone Circuit was converted to racing in 1948 when a track using a combination of runways and perimeter road was created. Two Grand Prix were held on that configuration before the runway was abandoned. It is now the country's only Grand Prix circuit, and attracts huge volumes of visitors on major race days. Small industrial units and miscellaneous industries in the vicinity of the track can lead to an untidy and cluttered landscape. Beyond, and containing this prime visitor attraction, are extensive woodlands. The Forestry Commission manages some of the largest woodlands in this landscape including Buttockspire Wood, Hazelborough Wood and The Royal Forest of Salcey. This latter site is a magnificent ancient woodland offering opportunities to view a range of wildlife. The forest is a remnant of the medieval Royal Hunting Forest and the many miles of ancient woodbanks, building remains, and ancient trees that are still present, are reminders of the past. The 'druids' or veteran oaks in Salcey are a rare and important wildlife habitat and some of the old oaks are believed to be over 500 years old.

8 LOW WOODED CLAY RIDGE

AESTHETIC AND PERCEPTUAL QUALITIES

Despite wide views being possible from elevated exposed areas, the Low Wooded Clay Ridges retain an intimate character and human scale. Productive arable farmland and pastures cloak the landscape. These lie between significant areas of ancient woodland, which are amorphous in shape and well integrated with their surroundings. This leads to an intricate patchwork landscape of contrasting colours and textures. Colours change with the seasons and the autumn colours of many woodlands are a striking feature of the landscape. Hedgerows and trees are also important textural elements and link with woodlands providing green networks between areas of woodland and a perception that the landscape is even more wooded than it actually is.

The area is a remnant of a much larger area of Royal Hunting Forest, and features of the landscape are evocative of this. Historic associations with the Royal Hunting Forest are strong and add to the landscape's appeal. This is strengthened by the nature conservation value of many areas across the landscape.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The elevated landform, emphasised by woodland on higher ground, makes this landscape character type a distinctive part of the southern boundary of the county and an orientation point when navigating through the adjacent undulating lowlands. The landscape is generally in good condition, with productive farmland and well-managed areas of woodland interspersed with small rural settlements. In the vicinity of Silverstone, however, modern development and road improvements have diminished the area's rural character.

Agricultural intensification, and in particular a shift from pastoral / mixed farming to arable, has resulted in an increase in field size, loss of hedgerows and fragmentation or loss of semi-natural habitats. In some areas of arable farming, some hedges are over trimmed. The planting of conifers and the introduction of non-native species into ancient woodland sites has also had an impact on local character and nature conservation interest.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



8 LOW WOODED CLAY RIDGE



Salcey Forest and Yardley Chase

8b Salcey Forest and Yardley Chase

To the southeast of Northampton, and extending up to the southeastern boundary of the county is the Salcey Forest and Yardley Chase Character Area. The area is characterised by a predominance of arable cereals and horticulture, although scattered fields of improved pasture, often with grazing sheep, occur around the northwestern woodlands of Yardley Chase, around the edge of Yardley Hastings and Easton Maudit. Large and medium to large-scale fields under arable cultivation sweep over the landscape. In contrast, pastoral fields are generally smaller. Occasional small-scale fields of calcareous grassland are evident around the settlement of Hartwell, along the course of the dismantled railway northeast of Salcey Forest, and the northwestern woodlands of Yardley Chase. Woodland cover is extensive, comprising mainly broadleaved woodlands with smaller areas of coniferous plantation and scattered sections of mixed woodland and felled areas. The majority of woodland cover is ancient having once formed part of the medieval Royal Hunting Forest of Salcey and Yardley Chase. There are many reminders of the past still evident in Salcey Forest, including many miles of ancient woodbanks, building remains and ancient trees. The 'druids' or veteran oaks in Salcey are rare, with some of the old oaks believed to be over 500 years old. The forest, managed by the Forestry Commission also provides a valuable recreational resource with a number of car parks located in grassy open glades and numerous rights of way passing through the woodland, including the Midshires Way, Swan's Way and Milton Keynes Boundary Walk. By contrast, the woodlands of Yardley Chase have limited access and rights of way passing through them. The Milton Keynes Boundary Walk passes along the southern edge, however, in the 1900s, the forest was extensively utilised for the storage of weapons, ammunition and bombs during World War II. Around the woodland, and the area used for training, are bunkers with surrounding moats that were used to store the munitions. Tracks cutting through the chase led to the bunkers and once formed part of the rail network. The bunkers were built both in open ground and wooded areas to ensure they would not all be spotted from the air, and are a considerable distance apart in case one was to be attacked or exploded. Surrounding the whole of the area is an eight-foot high fence that at one point would have been patrolled by guards and dogs. The northwestern woodlands of Yardley Chase also form part of the extensive gardens of Castle Ashby, located in the Undulating Hills and Valleys landscape type. Connecting the main house and parkland at Castle Ashby is a mile long avenue of trees, dating back to 1695. It extends into the Low Wooded Clay Ridge and then encompasses significant areas of ancient woodland. Horton Hall is also of historic importance within the character area. The associated structures of The Green Bridge, Ice House, New Temple, The Menagerie and The Arches are all Grade II listed. The surrounding 115 acre parkland landscape was mainly laid out in the mid 18th Century, although earthworks dating to an earlier period are still visible.

The village of Yardley Hastings and the edges of Horton and Hartwell are located in the Salcey Forest and Yardley Chase character area. Located along the northwestern edge of the character area, each of the villages has developed in a linear form along a number of roads, although Hartwell has increased in width with the development of post-war dwellings. Otherwise, the landscape is sparsely settled with isolated farms and dwellings, often of varying character, style, detailing and materials and frequently set back from the roadside along a minor track. Although the M1, A428(T), B526 and B5388 pass through the landscape connecting villages and the wider landscape, large tracts remain inaccessible, unless on foot.

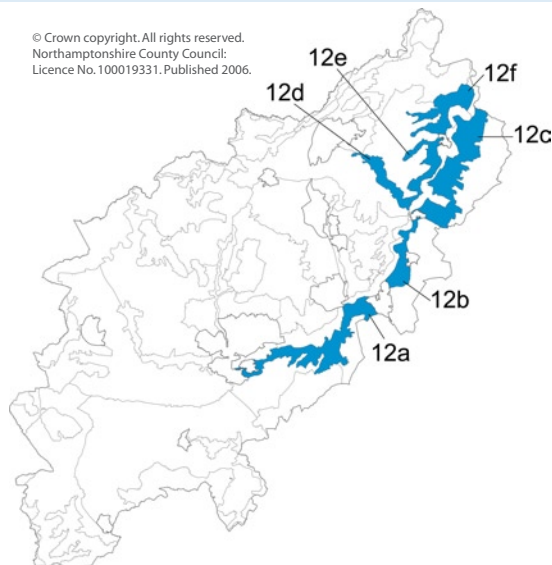
CURRENT LANDSCAPE CHARACTER ASSESSMENT



12 LIMESTONE VALLEY SLOPES

CHARACTER AREAS

- 12a Wollaston to Irchester
- 12b Higham Ferrers to Thrapston
- 12c Thrapston to Warmington
- 12d Harper's Brook
- 12e Aldwincle to Oundle
- 12f Oundle to Nassington



Limestone Valley Slopes

KEY CHARACTERISTICS

- **Transitional landscape displaying characteristics of surrounding landscape character types;**
- **limestone geology evident in local buildings;**
- **gently undulating farmed slopes bordering the Nene and its principal tributaries;**
- **expansive long distance views and wide panoramas across the valley to neighbouring landscapes;**
- **predominance of arable land with isolated areas of improved and semi improved pasture and setaside land;**
- **very sparse woodland cover comprising small deciduous and occasionally coniferous shelterbelts limiting the sense of exposure locally;**
- **fields predominantly large, and medium to large;**
- **small to medium sized pasture fields conspicuous surrounding villages;**
- **fields generally enclosed by hedgerows with intermittent mature hedgerow trees, often showing signs of decline;**
- **numerous villages display close relationship to landform in their morphology and orientation; and**
- **communication routes principally limited to direct roads parallel to the course of the main river channel, minor roads connecting small settlements and individual dwellings running along tributaries at right angles to the main route.**

12 LIMESTONE VALLEY SLOPES

LOCATION AND INTRODUCTION

The Limestone Valley Slopes mark the transition between the low, flat and predominantly pastoral landscapes of the Nene floodplain and the varied and more elevated landscapes that are to the east and west, principally comprising the Wooded Limestone Hills and Valleys, the Wooded Clay Plateau, Undulating Claylands and the Farmed Claylands. Limestone and mudstone geology predominates although is present in varying amounts on the valley sides.

The Limestone Valley Slopes border the Nene to the east of Northampton and extend northwards to the county boundary at Elton to the east of the Nene, and Nassington to the west. The Limestone Valley Slopes also encompass tributary valleys, the most prominent of which is the Harper's Brook valley, which joins the Nene to the north of Islip, together with other minor tributaries that enter the main river channel at Oundle, Cotterstock and Perio Mill.

The valleys slopes are relatively well settled, with numerous linear villages occupying sheltered positions. A number of larger settlements are also present, overlooking the Nene and often extending onto neighbouring landscape types. These are classified as 'Urban' in the landscape character assessment.

PHYSICAL INFLUENCES

Geology and Soils

The Nene, and its tributary Harper's Brook, have both carved gentle valley sides along which a succession of Jurassic rocks have been exposed. The youngest rocks, comprising the Oxford Clay Formation and Kellaways Beds, occupy the upper section of the Nene Valley, followed by the progressively older Cornbrash, Blisworth Clay Formation and the Blisworth Limestone Formation, which forms a notable linear outcrop along the middle slopes of the Nene Valley. To the north, where the Nene has cut deeper into the underlying bedrock, Rutland Formation and Grantham Formation rocks have been exposed although these are often cloaked in river terrace gravels. Drift deposits are not characteristic, however, tending to be present on the plateau landscapes above the valley slopes and along the floodplain of the Nene. Despite this, a narrow band of glacial till may be observed on the upper slopes of the valley sides where they border the Wooded Clay Plateau, Undulating Claylands and Farmed Claylands landscape character types.

Soils across the landscape type vary, and whilst a number of character areas offer simple soil coverage, others display a much more complex range of soil types. Soils within the most southerly character area are particularly variable. The area supports well drained calcareous clayey and fine loamy soils over limestone, which in places are shallow and brashy. Other soil types comprise slowly permeable, seasonally waterlogged fine loamy over clayey; fine silty over clayey and clayey soils, fine loamy over clayey and clayey soils with slowly permeable subsoils and slight seasonal waterlogging, and well drained brashy fine and coarse loamy ferruginous soils over ironstone. By contrast, the Higham Ferrers to Thrapston Limestone Valley Slopes is overlain entirely by well-drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy. Moving further north and west towards the Thrapston to Warmington Slopes and Harper's Brook, this dominance of a single soil type gives way to areas of fine loamy over clayey, and clayey soils with slowly permeable subsoils and slight seasonal waterlogging; slowly permeable calcareous clayey soils, and isolated pockets of shallow, well drained brashy calcareous fine loamy soils over limestone. The Aldwinckle to Oundle character area is dominated by well drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy with smaller areas of slowly permeable, seasonally waterlogged clayey, with similar fine loamy over clayey soils. The most northerly edge of the landscape type has a relatively complex soil coverage, including soils found throughout other areas of the landscape type, as well as areas of stoneless clayey soils, in places calcareous, and variably affected by groundwater; and well drained and in places shallow, fine and coarse loamy soils, locally calcareous, and overlying limestone gravel.

Landform

The valley sides have been carved by the action of the Nene and its tributaries and are typically broad and gentle, rising to a maximum elevation of 100m ASL from the valley floor, which is generally between 10 and 20m ASL. Steeper sections are limited but do exist, most notably marking the break of slope fringing the western limits of the Farmed Claylands, and along the valley of the Harper's Brook. The sloping landform defines the limits of neighbouring plateau landscapes and marks the edge of the extent of the Broad River Valley Floodplain Landscape.

Hydrology

The limestone slopes bordering the Nene are dissected by numerous tributary streams that drain the neighbouring plateau landscapes and lowlands. The Nene itself defines the main axis of the landscape. However, the series of tributary streams that flow at right angles into the main channel have created an undulating landscape along the slopes that fall to the river valley. The impact of the tributaries on local landscape character is limited although the principal tributaries of Harper's Brook and Willow Brook, which flow off the Wooded Clay Plateau and the Wooded Limestone Hills and Valleys, respectively, are significant landscape features. Beyond these main tributaries and to the east of the Nene, tributaries are shorter and rise at the fringes of the valley sides, beyond which watercourses tend to flow eastwards to the River Great Ouse.

12 LIMESTONE VALLEY SLOPES

Land Use and Land Cover

Streams have been dammed in the vicinity of Castle Ashby to form lakes, which are an important component contributing to local landscape character. There are few other hydrological features of note in the landscape. A small number of ponds are evident, although their impact on local landscape character is limited. Although some appear to be natural others, such as the water bodies to the south of Old Sulehay Forest, appear to have been established in former quarry workings.

To the east of the Nene arable farming predominates, with large fields of crops extending off the Undulating Claylands and the intensively farmed Farmed Claylands down the valley sides. Localised variations are evident, however, with small pockets of semi improved and improved pasture on land bordering villages, for example at Wollaston, Grendon, Titchmarsh, Achurch, Barnwell and Armston. To the west of the Nene, land cover patterns are more intricate with linear belts of semi improved and improved pastures on steeper slopes and on land bordering watercourses. Arable land remains the predominant land use, particularly to the north of Oundle, where patterns mirror those on the Limestone Hills and Valleys.

Woodland and Trees

In contrast to landscapes to the west, namely the Wooded Limestone Hills and Valleys, and the Wooded Clay Plateau, the Limestone Valley Slopes contain few sizable or noteworthy areas of woodland, wide areas having been cleared for farmland. The majority of woodlands are located to the north of Thorpe Waterville, and comprise small broadleaved copses and moderately sized mixed plantations. A large area of new planting is also evident to the south of Brackmills Industrial Estate. Woodlands in the landscape are not ancient in origin. The only area of ancient woodland remaining is Siley Coppice, an area of semi natural woodland bordering the road that runs parallel to Lyveden Brook.

Hedgerow trees and small areas of tree planting surrounding farmsteads are important locally as they often represent the only strong vertical elements in these agricultural landscapes. However, many hedgerows are neat, low and well clipped and do not contain trees. Many fields are also large and the landscape therefore retains an open character. Poplar shelterbelts are also a strong visual element, but not frequent in the landscape.

HUMAN INFLUENCES

Buildings and Settlement

The Limestone Valley Slopes are strongly influenced by five of the county's fifteen urban areas. It is likely that these settlements were strategically located at crossing points over the Nene, beyond the maximum extent of the floodplain and expanded up onto the valley slopes as populations grew. This is likely to be the case with Oundle, where the historic core of the town is sited on a sloping spur of land which projects into a meander in the course of the Nene. In recent centuries, housing has been built further up the slope. Northampton has also expanded from its historic core on the Rolling Ironstone Valley Slopes across the Nene where new industrial estates have been established on and bordering the Limestone Valley Slopes.

The wider landscape is relatively well settled with numerous villages and hamlets. To the south of Thrapston east of the Nene, these tend to be compact settlements centred around a junction of two or more roads, as at Bozeat, Wollaston, Irchester, Stanwick, Ringstead and Denford. More typical, however, are linear villages such as Great Houghton, Brigstock and Sudborough in the valley of Harper's Brook. The morphology and orientation of these linear settlements is dictated by landform patterns. For example, Wadenhoe is located on the slopes bordering the main channel of the Nene and is therefore orientated north-south. By contrast, Woodnewton and Southwick fringe tributaries flowing eastwards off the neighbouring hills into the Nene and are therefore orientated east-west.

Heritage Features

There are few visible historic monuments or features evident on the Limestone Valley Slopes. However, areas of ridge and furrow are more common than on the neighbouring Clay Plateau, Wooded Limestone Hills and Broad River Valley Floodplain landscape character types, with particular concentrations around Titchmarsh, Aldwincle and Wadenhoe. Clifford Hill is also an important and imposing site. The Motte marks the site of a once imposing castle and is one of the largest of its type of medieval fortification in England. The cores of a number of villages are also important features of the historic landscape, many containing old stone churches and attractive stone cottages. Perhaps the most striking is at Fotheringhay. Here, the church, village and remains of a once impressive castle dominate the banks overlooking the river at an old bridging point. The church is a particularly striking landscape feature, begun in 1434 as an addition to the now removed chancel and collegiate buildings. It lies adjacent to the castle, the birthplace of Richard III and the site of Mary Queen of Scots' trial and beheading. The castle was demolished in 1635 and its stones were used in the construction of many of the houses in the village.

In the wider landscape a noteworthy heritage feature is the course of a Roman Road. This runs along the lower and middle slopes of the Limestone Valley Sides parallel to the course of the Nene. Between Thrapston and Barnwell its course is marked by the A605. North of Barnwell, the route is preserved as minor roads and footpaths, notably the course of the Nene Way, which follows the route for a short distance.

12 LIMESTONE VALLEY SLOPES

Historic country houses and their landscapes, grounds and gardens also represent an important heritage resource but are not frequent in this landscape character type. Castle Ashby is a notable site, however, and here, Grade I registered gardens contain remnant areas of ridge and furrow. The Park was enclosed soon after Conquest and landscaped from 1761 onwards by Capability Brown. It retains late 17th Century features, a particularly notable feature is a mile long avenue, which extends across the Undulating Claylands onto the Low Wooded Clay Ridge.

Boundaries and Field Patterns

Large, regular and sub regular fields are characteristic of the Limestone Valley Slopes, particularly in areas under arable cultivation. Within the areas surrounding villages, where improved and semi improved pastures are most frequent, a more intricate pattern of small and medium size regular fields is evident.

Field boundaries are generally defined by low, well-trimmed hedgerows. Where arable farming predominates, these are sometimes gappy and show signs of decline. Significant stretches of hedgerow contain few hedgerow trees, which in places are stag headed and showing signs of die back. In the absence of significant woodland this leads to an open character.

Communications and Infrastructure

In order to avoid the seasonally wet floodplain bordering the Nene, direct arterial routes tend to run along the boundary of or along the Limestone Valley Slopes parallel to the main river channel. It is likely that this has been the nature of routes through the landscape for thousands of years. Indeed, the Roman Road from Thrapston to the Roman town of DVROBRIVAE (Water Newton) runs along the Limestone Valley Slopes and parts of its course are now occupied by the A605. To the west of the Nene, minor country roads predominate, although the grain of the landscape dictated by the course of the river is again mirrored in the alignment of roads along the lower and mid slope. On both sides of the river, numerous minor roads run at right angles to the Nene and link villages and the wider landscape beyond the valley to the river. Many of these secondary routes run alongside tributaries, with linear villages bordering them in many instances, further reinforcing the strong grain of the landscape.

Major infrastructure developments are not evident in the landscape although overhead transmission lines are conspicuous in the valley of the Harper's Brook, in the tributary of the Nene that flows through Glapthorn, and in the vicinity of the electricity sub station at Grendon.

Recreation

Brigstock and Irchester Country Parks represent the principal recreational resources in the landscape. Brigstock Country Park (situated on glacial deposits and formerly worked for sand), has been developed to include trails with links to surrounding Fermyn Wood and picnic meadows. Irchester Park has been developed within a former ironstone quarry, and contains an interpretation centre. Fotheringhay church and castle are also popular visitor attractions.

The Nene Way diverts from its course through the Broad River Valley Floodplain at Achurch and traverses the Limestone Valley Slopes northwards to Warmington. In the wider landscape, public rights of way offer a limited network that is generally confined to the periphery of larger villages and towns, and tend to radiate out into surrounding landscape types.

AESTHETIC AND PERCEPTUAL QUALITIES

The landscape is characterised by gently undulating, productive farmland. Land shelves gently to the Nene. From elevated areas, wide views are possible over the landscape to the course of the valley, and beyond into neighbouring landscape types. Here, the landscape is perceived as relatively open and elevated, an absence of woodland and hedgerow trees increasing the frequency of long distance viewing opportunities. By contrast, on the lower slopes of the valley towards the Nene and along stretches of the more significant tributaries to the west of the Nene, views are more limited and a more intimate and human scale character is experienced.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The landscape marks the transition between the flat riverine landscapes of the Broad River Valley Floodplain and contrasting agricultural and wooded landscapes, comprising the Farmed Claylands, the Wooded Clay Plateau and the Clay Plateau beyond the valley. As a result, the Limestone Valley Slopes display characteristics of each and are distinctive for this reason.

The predominance of arable farming has resulted in the reduced need for well-maintained boundaries and consequently hedgerows are showing signs of decline. In many areas, however, low, neat and well-maintained hedges are in evidence and give the landscape a productive and managed character. The absence of woodlands indicates that widespread clearance for agriculture has taken place, and indeed the proximity to the heart of Rockingham Forest to the west of the Nene suggests that prior to intensive agriculture practices, the landscape would have been more heavily wooded.

The expansion of urban areas in recent years has resulted in the despoiling of some areas of the landscape on the urban fringes of settlements, although the impact is relatively localised. Elsewhere, attractive villages, such as Fotheringhay, have retained their historic character. They make a significant contribution to local landscape character and distinctiveness.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



12 LIMESTONE VALLEY SLOPES



Wollaston to Irchester

12a Wollaston to Irchester

The Wollaston to Irchester Character Area extends from Northampton to Rushden. Bordered by the River Nene Broad River Valley Floodplain to the north and Undulating Claylands and Low Wooded Clay Ridge to the south, the character area generally slopes towards the floodplain from more elevated land to the south.

The area is characterised by a predominance of large scale fields of arable cereals and horticulture cloaking the gently undulating landform. Smaller improved pastures with grazing sheep and cattle are frequent, however, around settlements such as Little Houghton, Cogenhoe, Castle Ashby, Grendon, Bozeat and Wollaston. 'Horsiculture' is also frequent in such areas, conspicuous in the landscape through the use of white ribbon temporary fencing. Within many areas of improved pasture, small pockets of calcareous grassland are evident with larger areas of neutral grassland located around Irchester Country Park. Boundaries across the area vary, including low hawthorn hedgerows, both clipped and overgrown, and post and wire fencing. Although overgrown, scrubby hawthorn is evident along boundary lines, but hedgerows trees are infrequent.

Woodland in the character area is relatively varied although, as is typical of the landscape type, it is limited. South of industrial development at Brackmills, significant areas of young tree planting have been established on the north facing slopes with smaller areas of broadleaved woodland located within the central section of the area, including Coney Green Plantation and woodland surrounding Castle Ashby. Mixed woodlands are evident around Castle Ashby, with a significant area at The Firs and Irchester Country Park, with coniferous planting also found around the latter two areas. Although woodland within the character area is limited, woodland in surrounding landscape types of the Undulating Clay Plateau and Low Wooded Clay Ridge forms horizon features and a wooded backdrop to the area.

The character area is reasonably well settled, with a number of villages of varying morphology extending across the undulating landform. Church spires are prominent in a number of the villages, including those found at Irchester, Wollaston, Bozeat, Easton Maudit, Grendon, Whiston and Little Houghton. Beyond the area boundary, east of Wollaston, a water tower also creates a prominent vertical feature. Beyond the villages are isolated farms and dwellings. Minor roads as well as more major routes connect the settlements in the area, of which a number are prominent in views, and also create areas of localised noise intrusion. The A509 and B570 are such examples. Also intrusive in views are high voltage pylons crossing the landscape, extending into the area from the adjacent Nene Valley. The permitted sand and gravel extraction site northwest of Bozeat is notable within the character area. The quarry occupies sloping land to the west of the A509.

12 LIMESTONE VALLEY SLOPES

Heritage features are limited in the area, with Castle Ashby providing the main area of interest. Located within the woodland and mature parkland setting is an Elizabethan/Jacobean house with a serpentine park and Victorian garden. The park, designed by Capability Brown after 1761, contains a ha-ha and a series of ponds. In the 1860s, a terrace garden was made and the old kitchen garden was transformed into an elaborate Italian garden with parterres. The Grade I listed park and garden occupies a significant area with a tree avenue extending southwards into the surrounding landscape types. Isolated fields of ridge and furrow can be found along the northern slopes of the character area. Also located along the northern edge are the outer limits of Chester House, a Scheduled Ancient Monument. Avenues of trees are also an important element of the landscape and extend southwards from the core of the gardens onto Yardley Chase.

There is evidence of former quarrying activity within the character area, with remnants of quarries in infilled and restored ground to the south of the Gipsy Lane (B570), west of Irchester and north of Wollaston. The former ironstone quarry that is now occupied by Irchester Country Park is of particular note. Located on the northern section of the character area, it provides the main recreational opportunity. The 200 acres of woodland and meadow within the Country Park are accessible to the public through a network of footpaths, with parking and picnic facilities available. The woodland comprises larch, Scots pine, oak, ash, cherry, hazel and beech. A number of rights away criss cross the landscape, with stretches of the Nene Way extending into the area from the surrounding Broad River Valley Floodplain.



View to Raunds

12b Higham Ferrers to Thrapston

Extending from Higham Ferrers to Thrapston, this area of the Limestone Valley Slopes is the most southern of the sequence of character areas. It is bordered by the River Nene Broad River Valley Floodplain to the west, and Chelveston and Caldecott Farmed Claylands to the east. The area rises gently from the broad, flat floodplain of the River Nene to the surrounding Farmed Claylands.

The Higham Ferrers to Thrapston Character Area is characterised by a predominance of arable cereals interspersed with fields of arable horticulture, generally large, and medium to large in size, and regular in shape, emphasising the subtle undulations of the area. Small pockets of improved pastures and calcareous grassland are evident, however, around settlements, including Denford, Ringstead, Stanwick, the northeastern edge of Higham Ferrers, and on the western edge of the character area adjacent to the site of the medieval village of Mallows Cotton. Fields in close proximity to settlements are also generally smaller in size.

As is typical of the type, woodland cover is limited to scattered broadleaved copses and areas of young tree planting in the northern section of the character area, north of Denford, and scattered hedgerow trees, including ash and stag headed ash. Distant views towards scattered woodlands within the Farmed Claylands create a greater sense of cover, however, despite the overall lack of woodland.

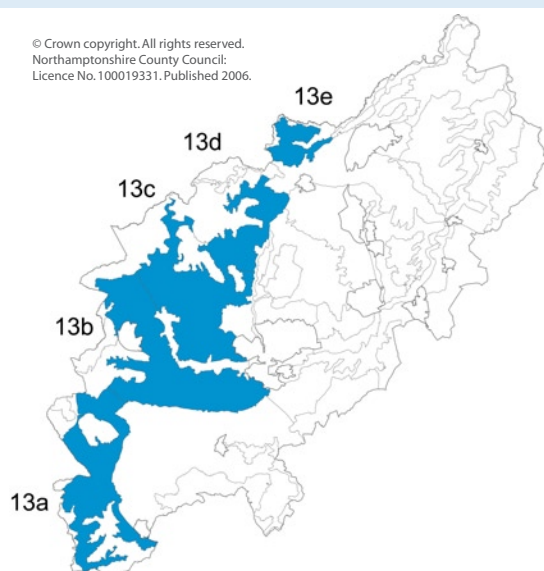
CURRENT LANDSCAPE CHARACTER ASSESSMENT



13 UNDULATING HILLS AND VALLEYS

CHARACTER AREAS

- 13a Middleton Cheney and Woodford Halse
- 13b Bugbrooke and Daventry
- 13c Long Buckby
- 13d Cottesbrooke and Arthingworth
- 13e Stoke Albany and Ashley



Undulating Hills and Valleys

KEY CHARACTERISTICS

- **Extensive undulating and productive rural landscape stretching across the west of the county;**
- **cohesive and recognisable unity of character despite scale and extent;**
- **variations in the underlying geology influence local landform;**
- **watercourses form part of three principal river catchments of the Cherwell, Nene and Welland;**
- **reservoirs and man made lakes are conspicuous features in the local landscape displaying a wide range of size, function and age;**
- **navigable canals are an important visual component of the landscape and linear wildlife and recreational asset;**
- **mixed farming predominates across the landscape although local land use and field patterns are strongly influenced by changes in landform;**
- **numerous small deciduous woodlands, copses and shelterbelts punctuate the rural landscape;**
- **hedgerow trees, within the strong hedgerow network, contribute to the perception of a well treed landscape and combine with other landscape and landform features to create an intimate, human scale landscape;**
- **strong historic character underlies this deeply rural landscape;**
- **numerous villages linked by winding country lanes contribute to rural character; and**
- **communication routes and urban influences and infrastructure have, where present, eroded local rural landscape character where present.**

13 UNDULATING HILLS AND VALLEYS

LOCATION AND INTRODUCTION

The Undulating Hills and Valleys represent an extensive and complex rural landscape character type that occupies almost a third of the county. It is found along the western fringes of Northamptonshire and stretches in a broad arc around the source of the Nene from Croughton in the south to Ashley in the north, overlooking the broad floodplain of the Welland.

The landscape is formed from a range of geological formations ranging from a predominance of limestone in the south to areas of mudstone and ironstone in the north, overlain by intermittent deposits of glacial till and glaciofluvial sand and gravel. Landform is equally complex and a range of landform features are evident ranging from elevated hills and ridges rising to 180m ASL on ironstone geology and rolling lowlands bordering rivers and streams. The unity of character within this landscape type is derived from a consistent pattern of mixed agricultural land use and land cover and rural settlement, tied together by an intricate network of hedgerows and small copses and shelterbelts.

PHYSICAL INFLUENCES

Geology and Soils

A complex series of geological formations are exposed across the Undulating Hills and Valleys, influencing localised patterns of landform, land cover and agricultural land use. In the south of the area, bordering the Croughton, Aynho and Farthinghoe Limestone Plateau, a succession of Lias Group rocks outcrop with the oldest Charmouth Mudstone Formation progressively overlain by Dyrham Siltstone, followed by the relatively more resistant Marlstone Rock, and finally the Whitby Mudstone Formation. These are exposed on the sides of westward flowing tributary valleys.

Although mudstones and siltstones predominate, localised capping of Northampton Sand Formation Ironstone has left distinctive elevated ridges and hills, which rise to a maximum elevation of 180m ASL to the east of West Haddon, and echo the more extensive and dramatic hills of the Ironstone Uplands landscape character type.

Drift geology is not as widespread as in the eastern and southeastern part of the county, and deposits tend to be localised and restricted to elevated hills, and the fringing landscape character types on which drift geology is a significant component, such as the Undulating Claylands and the Clay Plateau. Significant areas of drift geology are evident bordering the main river channels, which themselves are floored by alluvial deposits. Glacial till is the predominant form of drift geology across the landscape, although glaciofluvial sand and gravel are also extensive particularly along the upper reaches of the Nene and its westernmost tributaries between Nether Heyford and Daventry.

Soil cover across the landscape type is particularly complex with the most southerly area comprising slowly permeable, seasonally waterlogged clayey soils, with similar fine loamy, over clayey soils; well drained brashy fine and coarse loamy ferruginous soils over ironstone; seasonally waterlogged fine loamy over clayey soils; and fine silty over clayey, and clayey soils. Whilst soils further north have a similar composition, soils with only slight seasonal waterlogging are all evident. Smaller pockets of slowly permeable calcareous clayey soils are also present together with deep, well drained coarse loamy and sandy soils, locally over gravel, and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging, associated with similar but wetter soils.

Landform

Landform features are closely linked to the underlying solid geology. High, often steep sided hills tend to be formed from ironstone deposits, with other lower gentler hills being formed from various other rock types, principally mudstone and siltstone. The higher areas of landform act as watersheds between numerous streams and rivers, which have carved a complex drainage pattern and created a soft undulating landscape of interlocking hills between watercourses. The most elevated areas of landform occupy the ironstone ridge between West Haddon and Long Buckby, which in many respects resembles the Guilsborough Ironstone Uplands to the north.

Hydrology

Streams flowing through and originating in the Undulating Hills and Valleys form part of the region's three main river catchments: the Cherwell, the Nene and the Welland. In the south of the landscape type, rivers drain westwards off the Limestone Plateau watershed to the Cherwell, which flows southwards alongside the M40. To the north and within the Bugbrook and Daventry character area, Ironstone hills form a high watershed between the Cherwell and Nene catchments. Streams originating on these hills flow generally eastwards where they form the upper reaches of the Nene. Indeed the source of the Nene may be found in woods surrounded by hills to the south of Staverton. Further to the north rise two of the Nene's principal tributaries, the Brampton and the Ise. In the Stoke Albany and Ashley landscape character area, streams flow northwards eventually to join the Welland.

13 UNDULATING HILLS AND VALLEYS

Man made reservoirs and lakes are also conspicuous, although widely spaced across this expansive undulating landscape. Reservoirs at Hollowell, Ravensthorpe, Drayton and Daventry are all sited in the upper reaches of streams that drain ultimately into the Nene. Smaller water bodies have also been created and are often sited in historic parklands such as Kelmarsh, Cottesbrooke Park and Fawsley Hall. Many water bodies were created prior to the landscape movement of the 18th and 19th Centuries, with numerous medieval fishpond sites also evident. Natural water bodies are also apparent in the landscape, such as the linear ponds located in tributaries of the Cherwell to the north and south of Aynho.

Navigable canals are a key component of the landscape. The Grand Union Canal forms the boundary of the landscape character type between North Kilworth, Mill Farm and Crick, entering the Undulating Hills and Valleys via the Crick Tunnel from where it winds between the undulations to Buckby Wharf. Here, a second arm of the canal joins the main route and links the Grand Union Canal to the Oxford Canal. After a running for a short distance through the Broad River Floodplain of the Nene and its western most tributaries, the canal extends southwards past Bugbrooke to Blisworth.

Land Use and Land Cover

Mixed farming predominates across the landscape. Arable and pasture farming is evident in equal measure with their distribution closely linked to patterns of landform. On steeper slopes and wetter areas bordering streams, improved and semi improved pasture are more prevalent often interspersed with areas of neutral and calcareous grasslands. On more elevated, drier and gently sloping land, however, cereal cultivation and arable horticulture are more widespread. Fields tend to be defined by moderately tall hedgerows and often contain many hedgerow trees. This creates an intricate and attractive patchwork landscape.

Woodland and Trees

The undulating agricultural landscape is punctuated with numerous small deciduous woodlands, copses and shelterbelts. These are distributed evenly across the landscape and tend to be located on steeper areas of land and bordering watercourses. Few are ancient in origin. Those identified as ancient woodlands tend to be larger and congregate along the rolling north facing slopes between Preston Capes and Church Stowe and to the east of Little Brington.

Hedgerow trees and small areas of tree planting surrounding farmsteads are important locally and contribute significantly to local landscape character and to the perception that this is a well treed landscape. Trees and woodlands also limit views and combine with landform to add to the perception of a human scale, intimate landscape.

HUMAN INFLUENCES

Buildings and Settlement

The principal settlements in and bordering the Undulating Hills and Valleys are the urban areas of Daventry and Brackley. The western fringes of Northampton are also dominant in views from landscapes in the vicinity, and urban influences are evident along its fringes, particularly in close proximity to the M1 to the north of Rothersthorpe where numerous transportation routes converge.

Beyond these urban areas and their zone of influence, the landscape is deeply rural with villages and towns interspersed with small farms and hamlets. Village morphology varies with compact and linear types evident. The density of villages and rural settlement also displays variations, with villages being more frequent in the three southernmost character areas, and becoming smaller and more widespread to the north. Cob buildings are notable in a number of villages, adding to the historic character of settlements where they occur. Indeed, all but the southernmost of the character areas within the type contain a wide distribution of villages containing cob buildings and interestingly their distribution tends to be towards where the landscape type borders pronounced elevated areas, such as the Ironstone Uplands or broad river floodplains of the Upper Nene and the vale farmlands east of Rugby.

A dense network of narrow winding lanes often bordered by tall hedgerows links villages and hamlets together, beyond which may be found isolated farms at the end of narrow lanes. When travelling on these undulating routes, and where landform and intervening vegetation allow, villages are often visible on distant hilltops. Church towers occur more frequently than spires in this landscape type, and these are often the first element into enter the view, followed by the entire village fringe, which is often surrounded by hedged pastures, trees and small areas of woodland.

Heritage Features

This is a long settled landscape, and in many areas has a strong historic character. Many villages have retained medieval buildings and street patterns, and occupy landscapes that are rich in remnant areas of ridge and furrow. The wider landscape also contains numerous earthworks attaining to the medieval period including motte and bailey castles and numerous manor sites. Examples are Steane Park where fish ponds, moated sites and a manor house are visible, and Harrington where manorial garden earthworks are an important landscape feature.

Interspersed in the landscape are a number of sites of great antiquity including three defensive structures from the Iron Age, Castle Dykes, Arbury Banks and Borough Hill, which is one of the largest sites of its type in the country. The course of Watling Street, the principal Roman Road between London and Holyhead, is also a significant feature of the historic landscape. It enters the landscape adjacent to the M1 between Crick and Kilsby, with its course now marked by the alignment of the A5, and takes a direct route across the rolling landscape to Towcester and beyond.

13 UNDULATING HILLS AND VALLEYS

Historic country houses and designed parklands are also an important heritage resource. These are located throughout the landscape, although the principal sites are Holdenby House and Althorp. Holdenby House was built by Sir Christopher Hatton to entertain Elizabeth I, and became the Palace of James I and the prison of his son, Charles I. Its gardens, whilst limited in extent are of national importance and contain earthwork remains of early formal gardens laid out from 1579 to c.1587 and a deer park. Althorp is also significant. Its gardens contain traces of an early formal layout. The park dates from 1512, although has since been extended, with date stones recording planting between 1567 and 1901. Traces of avenues are ascribed to Le Notre.

Boundaries and Field Patterns

Field sizes and shapes vary considerably across the landscape, reflecting localised variations in landform and land cover. As a general rule, larger fields tend to be located on more elevated land with gentle gradients, and are principally used for arable cultivation. Medium to large fields are extensive, with smaller fields creating more intricate patterns surrounding villages where improved pastures are common.

Field boundaries are generally defined by healthy well managed hedgerows. Many are rambling and species rich, and contains numerous hedgerow trees, principally oak. Hedgerows are an important feature of the landscape, containing and limiting many views from elevated locations, thus contributing the landscape's intimate, human scale. Hedgerows also follow landform features and therefore emphasise the undulating character of the landscape.

Communications and Infrastructure

The landscape predominantly comprises a dense network of narrow winding country lanes, linking villages and towns. These tend to be enclosed by hedgerows, which often limit views. Roads tend to cross tributary streams rather than follow them and as such their course dips and rises along with the undulating landscape.

The principal and most heavily trafficked route in the landscape, however, is the M1. Its alignment mirrors the course of the route taken by the Roman Watling Street and runs parallel to the A5 between Crick and Flore before diverting eastwards and crossing the Nene to the east of Nether Heyford. This busy route is a prominent landscape feature and introduces noise and movement to otherwise rural landscapes. The course of the A5 (Watling Street) and M1 is also mirrored by two other regionally important transport routes, the mainline railway between Rugby and Milton Keynes and the Grand Union Canal. These important routes combine to make the landscape at the boundary of the Buckby and Daventry and Long Buckby landscape character areas one of the busiest in the county. All four routes, canal, railway, M1 and A5 are running together through the Watford Gap. This demonstrates the choice made by engineers surveying their routes north from London since Roman times.

Overhead transmission lines are the most prominent infrastructure development visible in the landscape, especially where pylon lines extend across the more elevated areas of the landscape. The main alignment of transmission lines runs through the landscape between Winwick and Eastcote although other significant stretches can be observed between Crick and Daventry and to the north of Middleton Cheney and Marston St Lawrence.

Whilst not a significant element of the wider landscape, transportation routes in tunnels are another conspicuous local landscape element, their construction necessitated by the undulating character of the landscape. The most significant stretches of tunnel, the Crick Tunnel and Braunston Tunnel, take two arms of the Grand Union Canal beneath areas of elevated ironstone hills. The alignment of the Crick Tunnel is visible above ground by tracing a line of wooded mounds, each marking the site of an airshaft. The Kilsby Tunnel is also important and takes the mainline railway from Rugby beneath the Ironstone Hills to the east of Kilsby. The airshafts here are impressive castellated brick structures that dominate the local landscape and act as locally prominent landscape features.

Another significant infrastructure element in the landscape is the tall telecommunications mast on top of Borough Hill. This is clustered with minor transmitters for mobile phones and is the last remaining mast on the hill that once formed a distinctive silhouette above Daventry, prior to their removal.

Recreation

Daventry Country Park is the principal recreational resource in the landscape. The park is based around the feeder reservoir, which supplies water for the nearby Grand Union Canal. The reservoir dam was begun in 1796 when a stone faced earth dam was constructed across the stream running through the valley to retain water. It was completed in 1804. Various informal recreational activities are catered for, including walking and bird watching. There is also a picnic area and adventure playground.

A dense network of footpaths criss cross the landscape. These are particularly dense around villages, from where they often radiate out into the surrounding countryside. A number of promoted paths run through the landscape, providing an important recreational facility. The principal route is the Grand Union Way, which runs through the undulating landscape alongside the canal from where it enters the county to the north of Downtown Hill to Blisworth. Here the canal continues southwards through the Undulating Claylands.

13 UNDULATING HILLS AND VALLEYS

The Macmillan Way is also an important promoted walk through the landscape on its route from Boston in Lincolnshire to Abbotsbury on the Dorset coast. This route runs from the north of the character type from Weston by Welland southeastwards to Chipping Warden where it passes just to the north of Arbury Banks.

Significant stretches of four other promoted walks wind through the rural landscapes of the Undulating Hills and Valleys. These comprise the Midshires Way, the Jurassic Way, the Nene Way and the Knightley Way.

AESTHETIC AND PERCEPTUAL QUALITIES

The landscape is characterised by undulating, productive mixed farmland interspersed with small villages and often remote farmsteads. It retains a strong rural character, which is eroded in places by modern incursions such as major transportation routes and large urban areas. Whilst wide views over the landscape are possible from elevated areas, the Undulating Hills and Valleys generally have an intimate, human scale, reinforced by landform, small woodlands and hedges screening long distance views and creating enclosure. Even where wide open views are possible, villages, or more often church towers, offer focal points on the horizon and therefore reduce the perceived scale of the landscape.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The Undulating Hills and Valleys are widespread and occupy a significant portion of the west of the county. Local variations in landform, geology, soils and land use history, have an impact on local landscape character. However, the landscape is perceived as a unified, if extensive, landscape character type.

The mixed farming economy has necessitated the retention and maintenance of the hedgerow network and as such field boundaries are generally in a good condition and add much to the perceived intactness and good condition of the landscape. These are an integral part of the landscape, as they limit views and add to the well treed character of the rural scene and the sense of intimacy and human scale of the landscape. Hedgerow patterns also follow landform features and emphasise its undulating character.

The expansion of urban areas in recent years is also responsible for despoiling areas of the landscape on the urban fringe, often in the form of poorly designed and sited housing, a standardisation of road and street furniture, and increased insensitive lighting. The impact is often relatively localised, although wide areas have been influenced by the cumulative effects. The landscape bordering major transportation networks, for example the M1, is also showing signs of decline and standardisation, ensuring that when travelling along major roads, no sense of local character is evident.

13 UNDULATING HILLS AND VALLEYS



Small fields, intimate character



Marston St Lawrence

13a Middleton Cheney and Woodford Halse

The Middleton Cheney and Woodford Halse Character Area extends from Charwelton on the western edge of Northamptonshire to the southern county boundary. A number of prominent hills are located within the undulating landscape, including Hinton Hill and Thenford Hill, and creating height and a sense of elevation within the landscape. Although broad, sweeping undulations are evident, in areas the undulations become more frequent and narrow, for example around Culworth, resulting in a more intimate character. Whilst views are expansive from more elevated areas of land, landform and vegetation confines views in places. Watercourses located along many undulations are visible in the landscape as lines of vegetation and are often mistaken as boundary lines.

The area is characterised by a combination of both arable and pastoral farmland often grazed by sheep, with pasture predominating around settlement, and also frequently occurring on both steeper slopes, and gentle slopes adjacent to watercourses. 'Horsiculture' is also frequent around settlements. The resultant landscape has a diverse and colourful character. Small, predominantly broadleaved woodlands are relatively sparsely scattered throughout the area with limited areas of young tree planting. Whilst woodlands occur along the course of streams, they are also evident on sloping valley sides, and combine in places to create a reasonably well wooded character and provide texture to the otherwise smooth and undulating agricultural landscape. Hedgerow trees are frequent in a number of places resulting in occasional well treed boundaries. Central to the character area, north of Thorpe Mandeville, is a dismantled railway that is well treed, with species including oak, ash and willow.

The landscape is relatively well settled with a number of significantly sized settlements, including Byfield, Hinton and Middleton Cheney and a number of large villages such as King's Sutton and Woodford Halse. Prominent urbanising features within the area include an industrial site south of Aston le Walls and larger industrial units on the edge of larger settlements, such as those found around Hinton and Woodford Halse. Beyond this, large sections of the character area remain sparsely settled with scattered farmsteads and isolated dwellings, frequently set back from the roadside. Prominent church spires are located within many villages, including those at Middleton Cheney and Marston. Additional landmark features include the telecommunication masts at Thenford Hill, and north of Hinton, and a water tower, also north of Hinton.

Recreational facilities are limited in the area, including public rights of way scattered across the landscape, and the Jurassic Way footpath. South of Thenford is Farthinghoe Nature Reserve. The site includes a former landfill site that has been capped, and is now a mosaic of woodland and open grass with an old meadow once used as a stock-pen for animals going to Banbury market. A pond is located at the eastern end of the reserve, constructed in 1988.

Areas of heritage interest in the character area include occasional fields of ridge and furrow with a more significant concentration between Middleton Cheney and Greatworth, and around Byfield and Hinton. Three sites of medieval villages are evident, including the villages of Charwelton, Appleton and Trafford. Edgecote, located close to the Oxfordshire border, is also the site of a major battle of the Wars of the Roses. Here, in 1469, Edward IV rallied an army to put down an uprising in Yorkshire, but was intercepted by a Lancastrian force and swiftly defeated.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



13 UNDULATING HILLS AND VALLEYS

Country houses of historic interest are characteristic of the area and often viewed from a distance as well wooded areas in the landscape. Althorp House and Park, listed Grade I is located on the eastern boundary and includes a late 18th Century house set within a landscaped park with traces of an earlier formal layout and later gardens. The park dates from 1512, although it has since been extended, with date stones recording planting between 1567 and 1901. Traces of avenues are also evident and are ascribed to Le Notre. In recent years, the house and gardens have become increasingly well known, providing the final resting place for Diana, Princess of Wales. Located north of Althorp is Holdenby House and gardens, Listed Grade II* on the register of historic parks and gardens and occupying around 250 hectares. Earthwork remains are evident of earlier formal gardens and a deer park laid out between 1579 and 1587. A falconry centre is also located at the house. To the east of the character area, adjacent to the River Nene, is Brockhall Park. The landscaped park was developed around 1800 and laid out to replace formal gardens developed in the 1720s. Also of interest in the area are remnants of the industrial revolution, the most notable being the Grand Union Canal. On the western edge of the character area, the canal passes through the Crick Tunnel. Constructed in 1815, the tunnel was built to allow two boats to pass without touching the sides. Running for a length of 1,518 yards, the tunnel is visible by a series of mounds in the landscape, although a number have been planted with trees. Located on the northeastern area boundary, Ravensthorpe Reservoir is a notable landscape feature. This is the oldest reservoir in the county, having 'appeared' in 1890, and covers an area of 46 hectares. The reservoir is one of the oldest water treatment plants in the region and is also a valuable habitat for many wintering birds and summer breeding birds, as well as providing an important local recreational resource. Fishing is also available on the reservoir. Other recreational facilities include numerous minor rights of way and sections of the Macmillan Way, Midshires Way and Jurassic Way.



Arthingworth

13d Cottesbrooke and Arthingworth

The Cottesbrooke and Arthingworth Character Area, located to the north of Northampton, is drained by a number of tributaries along the base of undulations flowing into the Brampton Valley from the southern section of the character area, and the River Ise from the northern section, north of Maidwell.

Land cover in the area is a combination of both arable cereals horticulture and improved pastures. Land under arable cultivation predominates in the southern section of the character with improved pastures concentrated around the settlement and parkland landscape of Cottesbrooke Hall, and around Haselbech and Maidwell. A significant area of setaside land is evident around Haselbech Hill. Although arable and pastoral farmland occur in roughly equal proportions in the northern section of the area, and again generally surround settled areas, there is a greater concentration of fields under pastoral use with areas of calcareous grassland around Arthingworth.

13 UNDULATING HILLS AND VALLEYS

Woodland in the character area is more extensive than in other areas of the Undulating Hills and Valleys landscape type. Broadleaved copses predominate with significant concentrations around Cottesbrooke Park, and although small in size, they combine to create a well wooded area. Broadleaved woodlands are also found around Haselbech, including Purser's Hill and other hilltop locations north of Cottesbrooke, around Kelmarsh, Far Hill and Warren Hill, northeast of Kelmarsh. Despite many copses having a geometric form, a number are more organic and often seen capping hill tops within the area, including Rickleboro Hill Spinney and Cott Hill Spinney. Dale Wood, a significant linear broadleaved woodland, is also evident along the course of the stream in Maidwell Dale. Smaller areas of mixed and coniferous composition are evident across the landscape, with the latter predominating around Hollowell Reservoir.

Although moderately settled, villages in the character area are sparser and generally on a smaller scale compared to other areas of the Undulating Hills and Valleys. Clipston, Arthingworth, Kelmarsh, Maidwell, Cottesbrooke and the outer edges of Harrington and Haselbech form the main villages in the area. In general, they have a linear form. Clipston, however, has a nucleated core from which development has extended along minor roads leading from the village centre. Beyond this lies a rural landscape of isolated farms and dwellings. Although there are no significant settlements within or adjacent to the area, glimpsed views of Desborough are possible from elevated parts of the landform. A network of minor roads connect settlement within the area with only limited stretches of the A14(T), A508 and A5199. Large areas remain inaccessible, however, even on foot. In other areas, rights of way cross the undulating landscape including the Brampton Valley Way, Midshires Way, Macmillan Way and a section of the Jurassic Way. Both the Brampton Valley Way and Midshires Way run along the course of a former railway line.

Features of heritage interest are numerous in the character area. Cottesbrooke Hall and Park, located close to the southern boundary of the character area, includes formal gardens with traces of early formal layout set within a landscaped park. The gardens were laid out in the early 18th Century, although altered in the late 18th Century and again in the 1930s, and are now Grade II listed. Leading to the hall from surrounding areas are tree lined roads bordered by large arable fields and a parkland landscape of mature parkland trees. The site of a Manor House at Harrington is located on the eastern boundary. Here, the remains of an early formal garden can be found, extending to the south and east of the manor house. The garden is thought to date from the late 16th or 17th Century and is Grade II* listed. Other features of value include Kelmarsh Hall, a Palladian house built around 1728 and surrounded by landscaped gardens, grazed parkland and a working estate of around 3,500 acres. Hollowell Reservoir is also of note. Occupying almost an entire valley on the southwestern edge of the character area, the reservoir covers an area of around 53 hectares. It provides a valuable habitat for a number of duck and wildfowl species and is also favourable for coarse fishing and is home to a local sailing club.

CURRENT LANDSCAPE CHARACTER ASSESSMENT

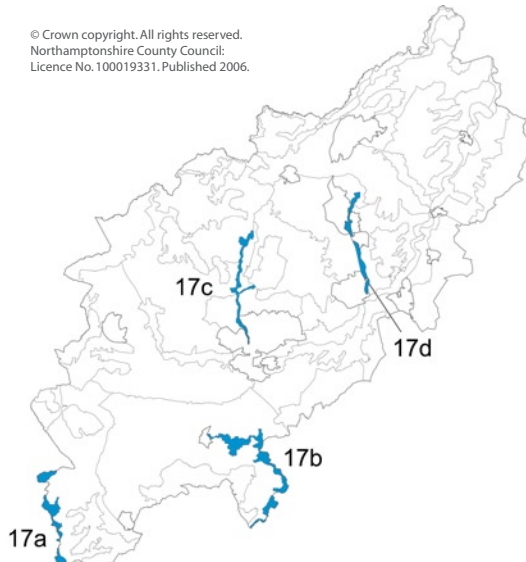


17 RIVER VALLEY FLOODPLAIN

CHARACTER AREAS

- 17a River Cherwell Floodplain
- 17b River Tove Floodplain
- 17c Brampton Valley Floodplain
- 17d River Ise Floodplain

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River Valley Floodplain, Ridge and Furrow at Chacombe

KEY CHARACTERISTICS

- Valleys principally underlain by Lias Group mudstone geology, with alluvium along tributaries that drain each of the floodplains, together with areas of sand and gravel;
- rivers follow a central course within the floodplain landscape;
- flat floodplain landscapes that vary in width, surrounded by gently rising valley sides;
- wide views over the predominantly open floodplain, contained by woodland and rising landform of surrounding landscape types;
- a productive agricultural landscape with varying cover of both arable and pastoral land, with a predominance of arable in the valleys of the Cherwell and Tove;
- Areas of neutral and calcareous grassland evident, often closely associated with areas of improved pasture;
- woodland cover is generally sparse, although limited small linear copses are evident along the course of rivers, railways and canals;
- concentrations of small woodlands and large parkland trees apparent around designed parklands;
- hedgerows often gappy and grown out, with reinforcing post and wire fences frequent, in particular around pastoral fields;
- limited semi-mature and mature hedgerow and river edge trees provide important vertical elements;
- settlement extremely limited within the floodplain, confined to small village settlements and isolated farms and dwellings;
- significant urban influences on floodplain landscapes from surrounding large scale settlements and associated infrastructure elements;

17 RIVER VALLEY FLOODPLAIN

- **few heritage features evident, confined primarily to fields of ridge and furrow. The outer edges of parkland landscapes are evident in many valleys;**
- **roads across the floodplains vary from minor country lanes crossing the floodplain to busier 'A' roads, and on occasions motorways; and**
- **recreational opportunities confined mainly to a network of footpaths, including numerous sections of national trails and leisure parks such as Wicksteed Park and Cosgrove Park.**

LOCATION AND INTRODUCTION

There are four separate sections of River Valley Floodplains within the county with the most southern representation of this landscape type occurring along the southwestern section of the county boundary, and the most northern area extending from the eastern edge of Kettering to the eastern edge of Wellingborough. This landscape type covers a relatively limited area, with each area having a linear form. A number of landscape types border the River Valley Floodplain, including large areas of the Undulating Hills and Valleys, Undulating Claylands and Rolling Ironstone Valley Slopes.

The floodplain of the River Cherwell forms most southern area of River Valley Floodplain landscape type, and extends beyond the county boundary to the west. The River Tove is located on the southeastern boundary, the river itself forming part of the county boundary for a section. Beyond the river channel, the landscape type extends in an easterly direction beyond the county boundary. The two remaining areas of narrow, linear River Valley Floodplain are located within a central position in the county, within the Brampton Valley to the north of Northamptonshire, and the Ise Valley between the settlements of Wellingborough and Kettering.

PHYSICAL INFLUENCES

Geology and Soils

The River Valley Floodplains are principally underlain by Lias Group mudstones. These are generally Whitby Mudstone Formation rocks although in the west of the county, the Cherwell Valley is underlain by the Charmouth Mudstone Formation. Isolated patches of other rock types are also present, generally at the fringes of the floodplain where landform rises gently to the surrounding landscapes.

Drift geology in each of the valleys varies with only limited areas of silty clay evident in the Cherwell Valley, a combination of sand and gravel, sand, silt and clay and diamicton along the course of the Tove, and clay and silt evident along both the Brampton Valley and River Ise Floodplain. In all cases, these deposits are responsible for forming flat floodplains bordering the river channel. Areas of sand and gravel can also be found along the course of the Ise where they form river terraces above the floodplain.

Stoneless clayey soils dominate the floor of all the River Valley Floodplains. In places these are calcareous, and affected by groundwater. Soils on the lower valley slopes are variable. Within the River Cherwell Floodplain the lower valley slopes comprise slowly permeable, seasonally waterlogged fine loamy over clayey, and fine silty over clayey and clayey soils. This is in contrast to the River Tove Floodplain where as well as containing the above, also has evidence of fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging, associated with similar but wetter soils. The lower valley slopes of the Brampton Valley Floodplain, along with the northern section of the valley, are dominated by slowly permeable, seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Soils on the lower slopes and northern section of the Ise Valley mainly comprise well drained brashy fine and coarse loamy ferruginous soils over ironstone, and fine loamy over clayey and clayey soils with slowly permeable subsoils, and slight seasonal waterlogging.

Landform

The river valley floodplains vary in width, with wider sections evident in the valleys of the Cherwell and Tove, whilst the Brampton Valley and valley of the Ise remain narrow either side of the main river channel. Deep alluvial beds have been deposited within the valley bottoms, and are bordered by deposits of sand and gravel in a mainly flat floodplain landscape, with only minor undulations. Rising gently to the surrounding landscape types are the shallow valley slopes. The valleys rise from a low point of around 45m ASL in the valley of the Ise to around 100m ASL in the Cherwell Valley.

17 RIVER VALLEY FLOODPLAIN



Valley floodplain at Stony Stratford

Hydrology

The river channels of the River Valley Floodplain are intrinsic to the character of this landscape type. For the majority of their course, the rivers appear to be slow flowing, with a variable depth and height of surrounding banks. Vegetation surrounding the rivers varies, with some stretches forming boundary features and therefore surrounded by dense, hedgerow vegetation. By contrast, other areas are surrounded by flag irises, rushes and overgrown weeds and can be open to surrounding pastures or enclosed by post and wire fences. Hawthorn, willows and ash are frequent species occurring along the riverbank, and in some areas provide the only means of identifying the river in the landscape.

Land Use and Land Cover

Across the landscape type, there is roughly an equal balance of both pastoral fields and fields under arable cultivation, although in some valleys, a predominance of arable fields is evident in places, including in the valley of the Cherwell and Tove. Areas of calcareous and neutral grassland also occur across the landscape, and in places are closely associated with areas of improved pasture, frequently grazed by sheep and cattle. Where river valleys are in close proximity to urban areas, horsiculture influences in the landscape are frequent, including temporary white ribbon fencing and jumps. In limited areas, such as the village of Passenheim, a strong pattern of river meadow systems is apparent with pollarded willows. However, such areas are generally infrequent within the River Valley Floodplains.

Woodland and Trees

Woodland cover in the River Valley Floodplains is generally sparse, confined mainly to linear copses along the line of both active and dismantled railways, along canals passing through the landscape, and scattered along the course of rivers and their tributaries. The majority of woodlands have a deciduous composition, with species including willow, alder, hawthorn, oak and ash, with areas also dominated by young tree planting. Beyond the linear woodlands, only occasional copses occur. Parkland landscapes, with their established parkland trees and other associated vegetation, contribute distinctive tree cover within the landscape type where they occur. Wicksteed Park and Boughton Park are notable examples. Woodland in the surrounding landscape types also creates the impression that the landscape is more wooded than it actually is, including further parkland landscapes such as those at Easton Neston Park and Stoke Bruerne Park. Where apparent, woodland along with surrounding rising landform, can create a sense of enclosure in this otherwise generally open landscape.

Occasional mature and semi-mature oak and ash in hedged field boundaries are important in contributing to tree cover within the floodplains, and along with woodland, provide texture and vertical elements in this largely flat landscape.

HUMAN INFLUENCES

Buildings and Settlement

Settlement is limited across the River Valley Floodplain, confined to only occasional small villages and hamlets, some of which occupy bridging points along the course of the rivers, although the majority of villages are located on higher areas of land beyond the floodplain landscape. The main settlement pattern within the floodplains, however, is restricted to scattered farmsteads and isolated dwellings adjacent to roads passing over the river. Despite the sparsely settled landscape, large urban areas are often within close proximity and visible from the floodplain landscape.

17 RIVER VALLEY FLOODPLAIN

Heritage Features

Heritage features across the floodplains are generally limited, despite the likelihood of this being a long settled landscape. Parkland landscapes form the most prominent feature. Frequently, however, only the outer edges are located within the River Valley Floodplains. Easton Neston Park and Stoke Bruerne Park are both partially located within the valley of the Tove, whilst Boughton Park is evident on the northern edge of the Ise floodplain. Remnant ridge and furrow is often associated with areas of parkland and these also encroach onto the floodplain landscapes. Beyond such associations are occasional fields of ridge and furrow, although these are relatively limited, indicating loss by subsequent ploughing.

Boundaries and Field Patterns

Fields across the River Valley Floodplain vary considerably in size. In a number of areas pastoral fields range in size from small to small-medium, and arable fields are often larger. In general, however, fields under both pastoral and arable cultivation offer a broad size range. In the larger floodplain fields, there is often evidence of field amalgamation. Field shape also varies, although the majority have a sub regular shape, with pockets of discontinuous shaped fields, and only limited areas of regular fields.

Hedgerows enclosing fields tend to be very gappy and grown out, and in places only remnants of former hedgerows remain. In such areas, willow trees are evident punctuating the landscape, and in some cases provide the only means of identifying a former boundary line. Post and wire fences reinforce hedgerows, in particular around pastoral fields, although they frequently form the only boundary feature. Boundaries along the course of the river vary, to include both post and wire fences, and areas that are open to surrounding fields.

Communications and Infrastructure

Overall, communication routes in the landscape type are limited, and where they do occur they tend to be minor in character and cross over the floodplain landscape. A number of busier, major routes are evident, however, including the A508, A428, A14(T) and A510. The intrusive M40 is prominent in the Cherwell Valley Floodplain, reinforcing the close proximity of large urban settlements. Passing through the same area is a busy mainline railway and the course of the Oxford Canal. A railway line is also evident on the western edge of the River Ise Floodplain.

Urban areas, although located beyond the boundary of the River Valley Floodplains are visible on occasions, and have an impact on this rural landscape. High voltage pylons also pass over the landscape in some areas providing prominent vertical elements in this relatively open landscape.

Recreation

Recreational opportunities vary across the landscape type to include Leisure Parks, notably the Cosgrove Lodge Park, comprising one of the largest inland caravan and leisure parks within England; Wicksteed Park, the first leisure park within the UK; and local nature reserves that provide important areas not only for wildlife, but also for large urban populations within close proximity. Access varies and is limited in some areas, and more extensive in others, but overall is important within the valleys and includes sections of the Brampton Valley Way, Midshires Way, Grafton Way and Grand Union Canal Walk. Also located along the Brampton Valley is the Lamport and Northampton Steam and Heritage diesel railway, providing a tourist railway along the valley.

AESTHETIC AND PERCEPTUAL QUALITIES

Urban influences from surrounding settlements, and associated infrastructure, have an impact on the character and perception of various sections of the landscape type. Nevertheless, significant areas retain a quiet rural character that at times can appear empty and remote. The landscape is perceived as having a simple character with recurring elements such as both arable and pastoral land and linear deciduous copses. Woodlands within the landscape, combined with surrounding valley sides, create a sense of enclosure in places, resulting in a more intimate scale landscape. The decline of hedgerows and lack of boundary management provides a sense of fragmentation across the valley landscapes. Despite the close proximity of managed parkland landscapes, the course of the rivers and their tributaries provide naturalised elements.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The condition and visual appeal of the landscape varies and is very much dependent on the influence that urban features have on the landscape and views to them. In the rural areas located away from the influence of large settlements, notably Northampton, Wellingborough, Kettering and Rugby, the scenic quality of the landscape improves in areas. However, the decline of hedgerows and overall gappy appearance creates a sense of fragmentation to the landscape, despite some areas retaining more traditional floodplain characteristics such as pollarded willow trees.

Within the largely flat and open floodplain landscape, landmark features are relatively limited, although where they do occur, trees and woodland provide important vertical elements. Other landmarks are limited to occasional prominent church spires on the edge of the floodplain, such as at Finedon.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



17 RIVER VALLEY FLOODPLAIN



River Nene at Kingsthorpe with the stream in spate

17c Brampton Valley Floodplain

The Brampton Valley Floodplain Character Area is located on the northern edge of Northamptonshire and drained by a number of tributaries. It flows from the northern edge of the character area around Draughton, and towards the centre of Northampton, before finally joining the River Nene. The meandering course of the main tributary that flows through the central part of the valley is frequently marked by willow and ash, and is particularly overgrown around Northampton in the Kingsthorpe Nature Reserve. In other areas, however, the watercourse is largely open, marked only by occasional trees punctuating the landscape.

Land use in the area is a combination of both arable and pastoral fields, although the latter predominates in smaller scale fields in the southern section of the character area up to the Northampton and Lamport Railway, and northwest of Brixworth. Beyond this to the north, fields are larger and under arable cultivation. Due to the close proximity of urban development, 'horsiculture' predominates in pastures to the south, along with significant areas of neutral grassland. Fields are frequently divided with post and rail fences, with evidence of prominent, white ribbon temporary fencing. Many fields are undergrazed and have a scrubby, overgrown appearance in the landscape. Typical of the landscape type, woodland cover is sparse, confined to linear broadleaved copses along the course of tributary streams. However, hedgerow trees and streamside vegetation provide some tree cover within the area.

Settlement within the valley is extremely sparse with only occasional isolated farmsteads and dwellings located adjacent to roads crossing over the valley landscape. Associated with a number of dwellings are stable blocks, which are particularly prominent to the south of the character area, close to Northampton. Although the majority of roads crossing the valley are minor, the A5199 and A508 are both busy roads within the character area. Bounding the southern boundary are the A5095 and A428, providing further urbanising influences upon the area.

Two railway lines are located along the valley, one of which is still in use, the other a dismantled railway that once formed part of the Northampton to Market Harborough branch, designed by George Bidder and George Stephenson, and opened in 1859. Although passenger services were closed on the line in 1981, rebuilding of the railway began in 1995 and six and half miles are now complete to the Lamport Crossing. The Northampton and Lamport Steam and Heritage diesel railway now operates on the line as a tourist railway. The Brampton Valley Way, Midshires Way and off road cycle track also run along the remaining length of the dismantled railway. The Kingsthorpe Local Nature Reserve provides an additional recreational opportunity within the area. Originally known as Kingsthorpe Mill Meadows, it covers an area of 7 hectares of land, and was formerly used as an area of flood meadows. It included the site of Kingsthorpe Mill. Sections of the old mill race are still evident in the area, which is now important for insects, wild flowers and mammals.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



17 RIVER VALLEY FLOODPLAIN



Riverside near Furnace Lane



Wicksteed Park, recreation park

17d River Ise Floodplain

The gently sloping valley and floodplain of the River Ise Floodplain Character Area stretches between Kettering and Wellingborough to join the River Nene southeast of Wellingborough. The settlement of Burton Latimer extends across the valley south of Kettering and divides the floodplain landscape. Despite being heavily influenced by the close proximity of large urban areas and associated infrastructure, the character area does retain some sections that have a rural character where the river is surrounded by vegetation, including flag irises and rushes. A varied character predominates throughout the floodplain landscape.

A combination of both arable and pastoral land, in fields of varying sizes, characterises the landscape. Often, however, small to medium scale grazing sheep pastures predominate, notably north of Burton Latimer, together with some areas to the south around Furnace Cottages and on the eastern edge of Wellingborough. Areas of calcareous and neutral grassland are also closely associated with areas of improved pasture. A significant area of neutral grassland is evident to the northwest of Barton Seagrave, adjacent to the River Ise. Woodland cover, although limited, is more abundant in this character area than any other areas of River Valley Floodplain. It is mainly confined to linear woodlands closely associated with the River Ise and its tributaries, along the dismantled railway northeast of Wellingborough, and within Wicksteed Park and Boughton Park on the northern edge of the character area. Woodland here forms part of the more expansive parkland landscape of Boughton Park, including scattered parkland trees. Hedgerow trees are located throughout the landscape, contributing to overall tree cover with willow, alder and hawthorn common along the course of the River Ise.

Settlement in the character area is extremely limited, confined to isolated farms and dwellings and an area of industrial units along Furnace Lane. Despite limited settlement within the floodplain, significant urban areas are visible adjacent to the character area. Limited areas of vegetation adjacent to settlements provide partial screening, including tree and shrub planting surrounding the River Ise, and public open space between Kettering and the northern edge of Barton Seagrave. Crossing the floodplain landscape are a number of roads that connect settlements beyond the character area, including both quiet country roads and the busier A6003 and A14(T) at Kettering, and the A510 at Wellingborough. Other urban influences include high voltage pylons and the main line railway connecting Wellingborough and Kettering, which follows the western edge of the character area. It is a busy line with relatively frequent trains, and is inconspicuous along some sections within the landscape, marked only by post and wire fences with some scrub. Sections of dismantled railway also occur within the area.

Wicksteed Park is located within the centre of the floodplain on the southeastern edge of Kettering, and provides a valuable recreational opportunity within the character area. Developed on a former area of meadowland, and the inspiration of its founder Sir Charles Wicksteed, the Park was the first leisure park in the UK. Set within 147 acres of sunken gardens, tree lined walks, nature trails and picnic areas, the park is also a valuable wildlife habitat. Central to the park is a 30 acre lake and at the northwest corner is the pavilion building. Car parking facilities are extensive at the Park and a miniature railway provides access around the site. The Park, together with public open space to the north adjacent to the River Ise, provides important areas for recreational opportunities in close proximity to urban centres. A number of public rights of way also cross the floodplain landscape.

Although landmarks in the character area are limited, the church spire at Finedon is a notable feature and prominent on the horizon.

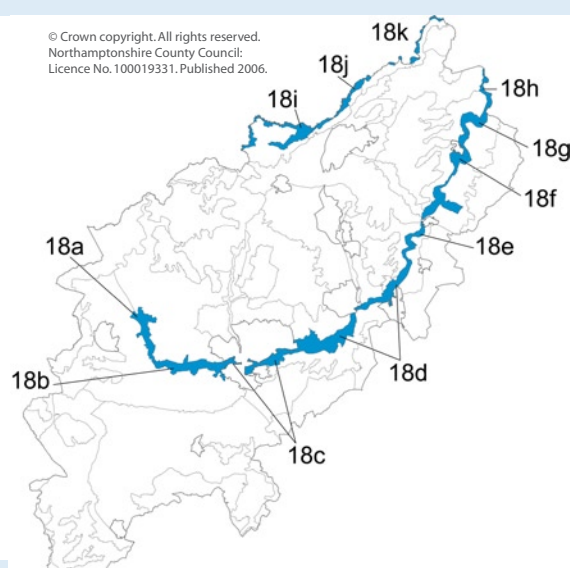
CURRENT LANDSCAPE CHARACTER ASSESSMENT



18 BROAD RIVER VALLEY FLOODPLAIN

CHARACTER AREAS

18a	The Nene – Long Buckby to Weedon Bec
18b	The Nene – Weedon Bec to Duston Mill
18c	The Nene – Duston Mill to Billing Wharf
18d	The Nene – Billing Wharf to Woodford Mill
18e	The Nene – Woodford Mill to Thrapston
18f	The Nene – Thrapston to Cotterstock
18g	The Nene – Cotterstock to Warmington
18h	The Nene – Warmington to Wansford
18i	The Welland – Market Harborough to Cottingham
18j	The Welland – Cottingham to Wakerley
18k	The Welland – Tixover to Wothorpe



Broad River Valley Floodplain, River Nene, Woodford

KEY CHARACTERISTICS

- **Broad, flat and predominantly wide floodplain surrounded by rising landform of adjacent landscape types;**
- **deep, alluvial clay and silt with sand and gravel, masking the underlying geology;**
- **river channel with slow flowing watercourse with limited bank side vegetation in areas;**
- **predominance of unimproved pasture with pockets of both neutral and improved grassland and scattered arable land in fields of varying size; arable land becomes more frequent within the western section of the Nene Valley;**
- **limited woodland cover confined to occasional broadleaved copses scattered throughout the floodplain;**
- **hedgerow trees, although infrequent, are an important feature where they do occur, creating localised well treed areas;**
- **hedgerows are generally overgrown and reinforced with post and wire fencing with intermittent sections showing evidence of decline;**
- **settlement is very limited within the floodplain with a sequence of small nucleated villages on the lower valley slopes, along the western section of the River Nene;**
- **wider settlement pattern of scattered farmsteads and individual dwellings;**

18 BROAD RIVER VALLEY FLOODPLAIN

- **urban influences arising from the proximity of large urban areas and associated road infrastructure on the perimeter of some sections of the floodplain;**
- **minor roads generally cross the floodplain landscape at right angles to the river, with major roads also following the valley course and marking the boundary of the type;**
- **evidence of long periods of gravel extraction and restoration within the Nene Valley, particularly along the middle section of the Valley, with patterns of restored landscapes with numerous areas of wetland and lakes; and**
- **significant recreational activities within the Nene Valley landscape, mainly focused on the restored lakes.**

LOCATION AND INTRODUCTION

The Broad River Valley Floodplain landscape character type occurs in two separate areas within the county, in association with the two major river valleys of the Nene and Welland. The principal area, comprising the Nene Valley, extends across the central and eastern part of the county from the west of Northampton towards the northeastern section of the county and beyond towards Peterborough. A further section of the character type is also located along the northern boundary of the county where Northamptonshire adjoins Leicestershire, adjacent to the River Welland. A total of eleven character areas have been identified, eight within the Nene Valley and three within the Welland Valley.

PHYSICAL INFLUENCES

Geology and Soils

Although the rivers flowing through the Broad River Valley Floodplain have cut down through the underlying rocks, the valley floors have been overlain in areas with glacial tills (diamicton) dating from the Quaternary period, and sand and gravels, which mask the rocks beneath. Deep alluvial clay and silt deposits have enriched the valley floors, creating soils of good quality for agricultural use. Isolated areas of river terrace gravels can also be found scattered along the upper reaches of the river floodplain.

Soils within the valleys are characteristically of a good quality and fertile, due to the rich alluvial deposits. A broad band of stoneless clayey soils, in places calcareous, and variably affected by groundwater are evident along the base of the river valley. Soils vary along the lower valley slopes and along the course of the rivers. In the River Welland and western section of the Nene these mainly include slowly permeable, seasonally waterlogged, fine loamy over clayey soils, fine silty over clayey and clayey soils, and fine loamy over clayey and clayey soils, with slowly permeable subsoils and slight seasonal waterlogging. Small pockets of deep well drained coarse loamy and sandy soils, locally over gravel and slowly permeable calcareous clayey soils are also evident. In the central section of the Nene, soils mainly comprise deep permeable, mainly fine loamy soils variably affected by groundwater, and slowly permeable, seasonally waterlogged, clayey soils with similar fine loamy over clayey soils. Lower valley slopes in the eastern section of the River Nene are dominated by well-drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy.

Landform

The Broad River Valley Floodplains comprise some of the lowest areas in the county, in places reaching a height of only 20m ASL. They form distinctive riparian landscapes with the main rivers and tributary streams following a meandering course across the floodplain. In the northeast of the county, the Nene Valley floodplain comprises a low-lying, almost flat area that progressively merges into the flat and extensive landscape that characterises the Cambridgeshire Fens to the east beyond the county. In contrast, at its source close to Badby, the Nene Valley floodplain is more confined, surrounded by the more elevated land of the Undulating Hills and Valleys. In localised areas, the floodplain is narrower when surrounded by rising landform, such as areas adjacent to the Limestone Valley Slopes, adjacent to the Nene, and where the Farmed Scarp Slopes form a backdrop to the floodplain landscape, as in the case of the Welland. Generally, however, the floodplains of the river valleys are predominantly broad.

Hydrology

The river channels of the Broad River Valley Floodplain are intrinsic to the character of this landscape type. For the majority of their course, the rivers give the impression of being slow flowing, with variable depth and height of the surrounding river banks. Bank side vegetation in general is sparse with only limited areas of the riverside being well treed. Marginal vegetation is more abundant, however. As a consequence, in a number of areas the rivers lose their dominance within the floodplain landscape. Chains of former sand and gravel pits are located within the Nene valley, a large number of which have been flooded to form artificial lakes and combine to create local nature reserves. The earliest of these support dense vegetation and wet scrubland around their margins and provide valuable wildlife and wildfowl habitats.

18 BROAD RIVER VALLEY FLOODPLAIN

Land Use and Land Cover

There is generally a dominance of grassland within the floodplain, with calcareous grassland frequently occurring adjacent to the watercourse, indicated by areas of unimproved permanent pasture with pockets of both neutral and improved grassland. Arable fields are scattered throughout the valleys, which become more frequent within the western section of the Nene Valley, and throughout the Welland Valley.

In the central section of the Nene Valley, in particular, the sequence of lakes and wetland habitats, following restoration of sand and gravel extraction areas, is a dominant influence on the landscape character.

Woodland and Trees

Woodland blocks of any significant size are absent from the Broad River Valley Floodplain, with tree cover being restricted to smaller broadleaved copses and areas of young tree planting. Scattered tree planting, including ash, willow, elder and oak is also evident along the riverside along with areas of scrubby vegetation. In some areas, hedgerow trees are frequent within the hedged field boundaries, creating localised areas with a well treed character. Overall, however, tree cover is very limited, with the wooded backdrop of surrounding landscape types having more significance. A sense of openness therefore prevails within the floodplain.

Buildings and Settlement

Settlement is generally restricted to only a small number of scattered dwellings and farmsteads, and associated river buildings such as mills. The western side of the Nene Valley is slightly more heavily settled, however, with occasional nucleated settlements, including Nether Heyford and Kislingbury rising on the slopes of the valley. In some areas, dwellings are located extremely close to the river's edge. Overall settlement is limited within the floodplain itself, but towns and villages are frequently located on the edge of the floodplain landscape.

The Broad River Valley Floodplain is bordered by seven of the county's fifteen urban areas, so urban areas have a more significant influence on landscape character than the pattern of intermittent individual dwellings. Influences upon the landscape type are both direct and indirect. Direct influences include views to the urban areas and, during hours of darkness, the distinctive arc of light that rises above the towns. The largest of the urban areas is Northampton, which surrounds significant proportions of the Duston Mill to Billing Wharf section of the Nene Valley. Wellingborough, Rushden and Irthlingborough also have a significant influence on the Billing Wharf to Woodford Mill character area of the Nene. These areas occupy hillside locations, are visible over wide areas, and create a backdrop to the Nene Valley Broad River Valley Floodplain. Although Raunds, Thrapston and Oundle are smaller and more compact settlements, they still exert a strong influence on the rural landscape. Indirect urban influences, which become less conspicuous with distance from each urban area, include suburban building styles and materials in otherwise rural locations, and busy infrastructure development such as motorways, 'A' roads and railways. The resulting influence on the floodplain is therefore one that varies between being significantly urban, to one that is deeply rural and relatively remote.

Heritage Features

Few areas of historic interest are evident across the landscape. A limited number of pastoral fields show evidence of ridge and furrow, although this is not widespread throughout the area, and only glimpsed in views. Occasional examples of preserved medieval fields are evident, the most significant of which occur around the settlement of Kislingbury within the Nene Valley. Other elements of interest include scattered individual features. Most notable are the registered battlefield at Delapre Golf Course, the site of Mallow Cotton medieval village, and the outskirts of the registered park and garden at Brockhill Manor, all of which are located within the Nene Valley.

Boundaries and Field Patterns

Hedgerows are typically overgrown hawthorn, reinforced with post and wire fences, including the use of stock proof netting. Occasional gappy stretches are evident; here, the post and wire fencing becomes more prevalent. Limited examples of wooded post and rail fencing can also be found within the floodplain along with areas of hazel hedgerow. Where hedgerow trees are present they frequently comprise mature or semi mature oak and ash, along with scattered riverside vegetation, including willow, sycamore and elder. These provide important landscape features contributing a degree of woodland cover to an otherwise sparsely wooded landscape. The river itself frequently forms the boundary to fields adjacent to the watercourse with only scattered riverside vegetation evident. Field sizes vary along the length of the Broad River Valley Floodplain with evidence of subdivision of medium sized fields by post and wire fences and lines of field trees illustrating possible field amalgamation. The field shapes are consistent, however, and include both regular and sub regular fields. By contrast, limited areas of discontinuous fields are evident around land once used for sand and gravel extraction. Drainage ditches often marking field boundaries are bordered by vegetation, including mature willow trees.

18 BROAD RIVER VALLEY FLOODPLAIN

Communications and Infrastructure

The majority of roads providing access across the floodplain landscape are minor in character, often connecting settlements on either side of the river. Nevertheless, a number of major roads are present. In general, these are associated with larger settlements and provide connecting routes between development within the county and beyond. Although major roads also provide direct access across the river, they principally follow the course of the river and are located along the edge of the floodplain marking the boundary, in contrast to the minor roads that often cross the river at right angles. Sections of railways also occupying the valley floodplain landscape are, and include both dismantled sections and lines in current use. Along with the development of road and rail networks impacting upon the character of the river valleys, the presence of sewage treatment works are now a frequent occurrence within this landscape. Despite a number of areas within the Broad River Valley Floodplains retaining a rural character, large proportions have been affected by communications and infrastructure development, in particular in the Nene Valley around Northampton.

Recreation

There are numerous recreational opportunities within the Broad River Valley Floodplain. Public footpaths and bridleways occur relatively frequently, including large stretches of the Nene Way, Grand Union Canal Walk and Midshires Way stretching across the landscape. Other recreational activities exploiting the river valley include marinas, fishing, and water activities such as water skiing. Numerous caravan, camping and picnic sites are also located within the valley, along with country parks and local nature reserves. A single golf course is located on the gentle slopes of the valley side, east of Far Cotton.

AESTHETIC AND PERCEPTUAL QUALITIES

Contrasting agricultural uses of arable and pastoral land with riparian vegetation, interspersed with some significant areas of man made wetland landscape create a patchwork of colours within the landscape. Despite the variety of the land uses, however, the continuity of intrinsic elements such as hedgerows, field shape and river create a strong landscape pattern. The overgrown hedgerows, along with surrounding landform, combine to create an intimate character, although panoramic views are frequently available along the river channel. Whilst large areas are quiet and inaccessible, a busier and intrusive character prevails where urban centres are in close proximity. For many sections of the floodplain, it is a well-managed landscape showing evidence of occupation for many centuries. Nevertheless, there are more degraded sections where current gravel extraction is operational, and where inappropriate or incomplete restoration of gravel extraction also detracts from an otherwise riparian landscape.

LOCAL DISTINCTIVENESS, LANDSCAPE CONDITION AND LANDSCAPE CHANGE

The condition of the landscape varies and is dependent on various factors. These range at a local level from the extent to which hedgerows are managed to the influence of development, including current gravel extraction within the Nene Valley, the extent and type of restoration of workings, development such as marinas, high voltage pylons crossing the landscape, to the nature of the surrounding urban development on the edge of the landscape type. Where urban development is extensive and insensitive to the landscape character, the condition of the landscape can be regarded as low. Elsewhere, however, where the river and floodplain remains largely unspoilt, a tranquil riparian landscape of higher scenic quality prevails.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



18 BROAD RIVER VALLEY FLOODPLAIN



Little Houghton across the floodplain

18c The Nene – Duston Mill to Billing Wharf

Located to the south of Northamptonshire, the Duston Mill to Billing Wharf Character Area is heavily influenced by the close proximity of significant areas of urban development. Dominating the area are large man made lakes occupying the valley floodplain, which have been created following the restoration of gravel extraction areas. The River Nene, railway, lines of high voltage pylons and a section of the Grand Union Canal to the west, all combine to provide a character influenced by the use of the floodplain as a communications corridor. Despite the influence of these urban and infrastructure elements, peaceful rural areas still remain. Surrounding the river and lakes is a landscape characterised by predominantly medium to large-scale pastoral fields occupied in areas with grazing cattle. Often overgrown and gappy hawthorn hedgerows divide the fields, with significant evidence of the use of post and wire fences.

Although land use within the character area is dominated by large-scale lakes developed on the site of former sand and gravel pits, in places they are inconspicuous despite the large number of major roads traversing the valley, since there is limited vehicular access to the water's edge. Pedestrian access is more extensive, however, and includes the Grand Union Canal Walk, Nene Way and numerous public footpaths.

There is a concentration of recreational opportunities within the valley, including Billing Aquadrome to the east, which comprises 235 acres of land, nine lakes with water sports and fishing, a marina and various caravan parks, camping sites, retail outlets and restaurants. Located in the most southern section of the area is the parkland landscape and golf course at Delapre Abbey and Gardens, which provides a valuable resource for the surrounding urban population. The site is also a Registered Battlefield commemorating the Battle of Northampton, fought during the War of the Roses on the 10 July 1406. Queen Eleanor's Cross, located at the most southern point of the Abbey grounds, represents one of the points at which the cortege carrying Queen Eleanor, wife of King Edward I, rested on her way for burial at Westminster Abbey. It also provides a prominent landmark within the area. Areas of the river and floodplain have also been developed as local nature reserves. Settlement is limited within the character area, incorporating only office and industrial development. Rising land surrounding the floodplain is heavily developed, with residential, industrial and commercial development creating a backdrop to the Broad River Valley Floodplain. Prominent buildings within Northampton and surrounding areas, including the Express Lifts Tower, provide important visual landmarks from both the character area and wider landscape.

CURRENT LANDSCAPE CHARACTER ASSESSMENT



18 BROAD RIVER VALLEY FLOODPLAIN



Great Addington across the Nene



Summer Leys Local Nature Reserve

18d The Nene – Billing Wharf to Woodford Mill

The Billing Wharf to Woodford Mill Character Area within the Nene Floodplain is the largest character area within the Broad River Valley Floodplain, extending for a significant length and width across the central eastern part of the county. A significant number of man made lakes again dominate the landscape, occupying the floodplain adjacent to the River Nene. In this location, the river is a less significant element within the landscape. The local nature reserves, country parks and lagoons in this area have been created from former gravel workings providing areas for not only public enjoyment and access, but also valuable habitats in the form of wet grasslands and reed beds, and nationally important areas for wildfowl and wading birds. Sections of dismantled railway and a number of high voltage pylons are also evident along the valley, the latter of which converge at the sub station northwest of Grendon. Surrounding the lakes is a landscape characterised by pastoral and arable fields, although water elements continue to dominate the majority of views.

Although urban influences are less evident within the character area than to the west, the impact of development on the edge of the floodplain at Irthlingborough, Rushden and Wellingborough remains prominent, including the development of Irthlingborough football ground to the east of the town, and also the surrounding industrial units, which extend into the floodplain. Further developments including active gravel pits, such as those to the west of Stanwick and at Irthlingborough, and sewage treatment plants also have an impact on the character of the landscape. Beyond these influences however, the area is very sparsely populated and settlement is confined to isolated dwellings and occasional farmsteads.

Whilst woodland cover remains sparse, a number of broadleaved copses contribute to the overall character. They frequently surround valley ponds, lakes and lagoons, thus helping to integrate these artificial waterbodies, created after gravel extraction has finished, into their landscape setting. More sensitive planting is required in a number of areas, however, to allow these man made features to integrate more harmoniously with their surroundings. Significant tree planting is also evident around lakes at Summer Leys Nature Reserve, south of Great Doddington. Here, new planting creates a sense of enclosure and limits views to the surrounding landscape.

Summer Leys has been created through the restoration of a disused gravel pits and includes a number of islands left in the centre of the former pits. It is valuable for waterfowl and wading birds, and often rare mammals, birds, dragonflies and flowers can be found. The nature reserve has both car parking and picnic facilities. Other areas of recreational interest in the valley include fishing, sailing, camping and caravan facilities southeast of Earls Barton, fishing west of Ringstead, watersports and fishing at Ditchford Lakes and Meadows, again on the site of a restored gravel pit, and scattered camping and caravan sites. A section of the Nene Way follows the valley floodplain together with a number of minor footpaths.

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The main area of historic interest within the valley is the site of the medieval village of Mallows Cotton, west of Raunds. The site is located on a slightly raised gravel peninsula on the edge of the floodplain and comprises a series of earthworks indicating that the hamlet comprised a series of building plots set about an open space or 'green' which was approached along a sinuous trackway branching from Cotton Lane, the former road from Higham Ferrers to Thrapston. To the south and west, the hamlet was flanked by an embankment and a relict stream channel, that was once occupied by the Cotton Brook. A less substantial earthwork to the northeast indicated an earlier course of the stream, and although no earthworks are visible to the north, an excavated hedgeline is indicative of the edge of a major river channel that was a branch of the Nene. Mallows Cotton formed one of three villages in the area; West Cotton and Mill Cotton were largely destroyed during gravel extraction on the 1970s.



Willow trees by river at Denford

18e The Nene – Woodford Mill to Thrapston

The Nene – Woodford Mill to Thrapston Character Area is one of the shortest sections of the Nene Broad River Valley Floodplain. Here, the River Nene is bordered by relatively shallow banks with reeds and rushes occupying the broad, flat floodplain. In some sections, however, the floodplain landscape is limited by the rising landform of the Rolling Ironstone Valley Slopes and Limestone Valley Slopes. The river is deep and follows a more meandering course within the landscape compared to other character areas, though it retains a still, tranquil and rural character. Improved pastoral fields with grazing cattle characterise the landscape with horse paddocks and pockets of under grazed rougher pasture.

Woodland cover is limited to scattered willows and ash lining the course of the river. The succession of overgrown hedgerows within the floodplain, and woodland and hedgerows in distant views, combine to create the sense of a well-wooded landscape and obscure views to distant hills. The generally open character of the river floodplain allows some extensive views along the valley bottom. Glimpsed vistas are also possible to the road network that lies beyond, and on the fringe of the floodplain.

Settlement is extremely limited and includes only occasional dwellings confined to the southern boundary west of Ringstead, and northern boundary southwest of Thrapston. There are no roads within the character area, and dwellings are accessed via roads located on the area's boundary. Glimpses of small settlements located adjacent to the floodplain are possible, including prominent church spires such as the spire at Woodford. The Nene Way, and a number of minor footpaths, provide the only access to the floodplain, with the river hosting recreational opportunities such as boating, and a dry dock at Woodford Riverside. Evidence of the industrial past of the area is apparent in the line of a dismantled railway cutting across the valley landscape, and which provides the line of a public footpath beyond the floodplain.

Milton Keynes Council

Milton Keynes Landscape Character Assessment

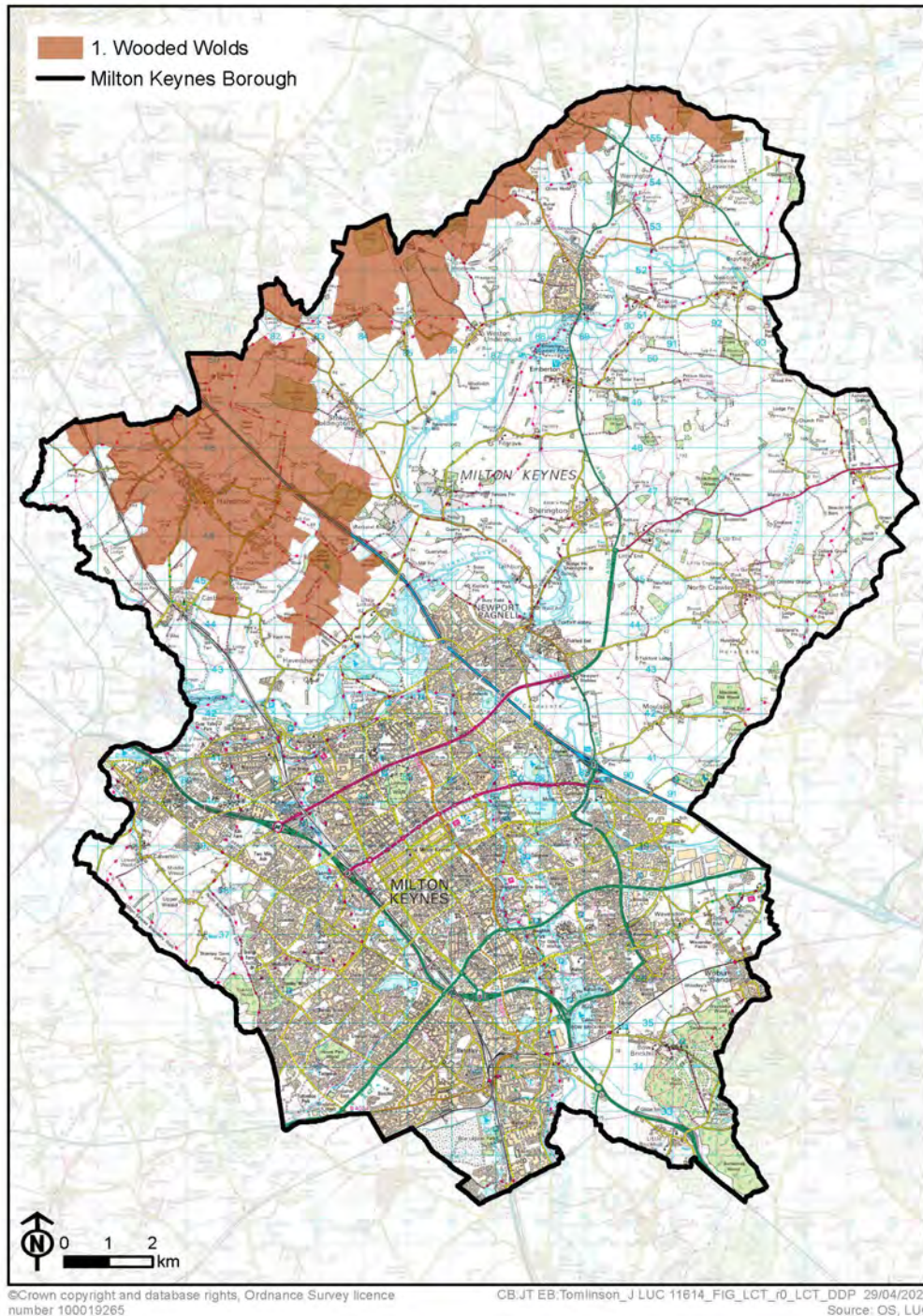
Final report

Prepared by LUC

May 2022



LCT 1: Wooded Wolds



Landscape Character Areas

The Wooded Wolds LCT is subdivided into two LCAs:

- 1a Yardley Chase Wooded Wolds
- 1b Gayhurst and Stokepark Wooded Wolds

Location and summary

The Wooded Wolds LCT comprises an open plateau located in the north and north west of the borough. The northern boundaries are defined by the borough boundaries with West Northamptonshire, North Northamptonshire and Bedford. The southern and western boundaries are defined by the 90m contour line as the landscape falls to the valley sides of the Ouse and Tove (LCT 2 Undulating Valley Slopes).

The gently undulating plateau landscape is predominantly in arable use, with large woodland blocks which are linked to more extensive woodlands in West Northamptonshire. It retains its rural character and has limited settlement, although is crossed by large road corridors. The elevated landscape provides open views to the south, while woodland in West Northamptonshire provides a strong wooded backdrop to the north.



A gently undulating plateau landscape of ancient woodland and arable fields, interrupted by the M1 major transport corridor.

Key Characteristics

- Gently undulating plateau landscape, between 90m and 120m AOD forming part of a wider plateau to the north. A limestone bedrock with considerable till deposits, gives rise to soils with a high clay content.
- Small streams and springs, which drain into the Ouse and Tove, create topographic interest.
- Large to medium scale broadleaved or mixed woodland blocks, including many ancient or ancient replanted woodlands, The Yardley Chase SSSI extends into this LCA, and contains broadleaved, mixed and yew woodland.
- Medium to large arable fields bound by clipped hedges and occasional mature trees with smaller-scale fields and areas of pasture located closer to the settlements.
- A sparsely settled rural landscape crossed by minor roads, although the M1 is locally dominant and audible across the LCT.
- Public Rights of Way cross the landscape, connecting to settlements in the Undulating Valley Slopes (LCT 2) and the wider countryside.
- An open expansive landscape with long panoramic views over valleys to the south, east and west.
- The scenic and distinctive woodland backdrop that the LCT provides to adjacent landscape.
- A rural landscape, with limited modern influences, and some areas of inaccessible land.

Physical and natural characteristics

5.1 A simple, gently undulating plateau on the edge of a much larger and more prominent plateau running south-east to north-east, that continues over the borough boundary into West and North Northamptonshire. The plateau lies between 90m and 120m AOD, with localised steeper slopes around streams and springs. The streams and springs have their source close to the edge of the LCT, and flow into the River Great Ouse to the south and east and the River Tove to the west. Ponds and small agricultural reservoirs are common throughout.

5.2 The geology is dominated by Jurassic Oolitic limestone, with the east of LCA 1a Yardley Chase Wooded Wolds underlain by Kellaways Formation and Oxford Clay Formation mudstones and sandstones. The underlying geology has formed the distinctive plateau present today. Limestone is more porous than some of the surrounding geology, resulting in aquifers under parts of the ridgeline. Glacial activity subsequently eroded and smoothed out the original limestone and left behind substantial, irregular deposits of boulder clay (till). This results in variable soils, mostly with a high clay content, which are slowly permeable and subject to seasonal waterlogging, with a higher calcareous content on some of the slopes. These soils have resulted in land graded in the ALC as 3 (moderate-good) with areas of 4 (poor).

5.3 As a result of the relatively poor soils and plateau topography there has been less woodland clearance in the Wooded Wolds LCT than elsewhere in the borough and woodland cover is an important characteristic of the landscape. The woods are mainly priority habitat deciduous woodlands of ancient origin, for example Great Wood, Little

Linford Wood, Gayhurst Wood and Stokepark Wood. There are a number of replanted ancient woodlands, such as The Grove, Longland's Wood and Great Wood, which contain mixed broadleaved and conifer trees. The woodlands link with the more extensive woods of Yardley Chase and Salcey Forest in West Northamptonshire, which are designated as a Site of Special Scientific Interest (SSSI) for their woodland habitats. The Yardley Chase Biological Opportunity Area extends across much of the LCT.



Woodland blocks at Hanslope Park with Gayhurst Wood and Little Linford Wood in the distance.

Historic and cultural characteristics

5.4 The LCT was part of the extensive Yardley Chase and Salcey Forest medieval hunting forests or 'chases', a series of lands across England designated by the Normans. Strict forest

laws were imposed to protect the land for royal hunting. Royal forests were never fully wooded, but contained woodland, pasture and parkland. This landscape pattern is retained within Yardley Chase (predominately in West Northamptonshire). Hanslope Park (LCA 1b) was originally a deer park within the Royal Forest of Salcey, with formal parkland and grounds laid out in the 18th century. The parkland character has been retained.



Hedgerow-lined arable fields with the landmark spire of St James the Great, Hanslope.

5.5 The landscape pattern of remnant woodlands and irregular field boundaries is a result of assarting, the conversion of areas of woodland to agricultural fields that took place before the 18th century. Pre-18th century enclosure fields are common across the landscape, and include both irregular and co-axial forms. There are also areas of regular Parliamentary enclosures north of Hanslope, and the LCT has a higher incidence of 19th century enclosure than the rest of the borough. There has also been considerable 20th century field amalgamation, as a result of modern farming techniques, creating large scale fields.

5.6 Land is predominately under arable cultivation. There are smaller areas of pasture near settlements or on the edges of woodland. Field boundaries are generally low, clipped hedgerows with occasional mature hedgerow trees. Hedgerows along the minor roads are in better condition than field hedgerows.

5.7 Settlement is concentrated in LCA 1b, in the historic villages of Long Street and Hanslope, along with dispersed satellite settlements. Isolated farmsteads, which are often Grade II listed buildings, are found across the LCT. Although major roads pass through the landscape, large areas remain inaccessible. LCA 1a has few roads, except for the busy A428 and A509, while LCA 1b is crossed by minor lanes generally lined by low hedgerows. The M1 passes through LCA 1b.

5.8 There is good footpath access through the LCT, including the Milton Keynes Boundary Walk, although there are more connections within LCA 1b between settlements.

Visual and perceptual characteristics

5.9 A rural landscape, accessible only by minor roads, lanes and PRoW. There is a good experience of dark night skies in the north, particularly around Yardley Chase. LCA 1a has a more remote character, due to the more restricted public access and dense wooded horizon to the north.

5.10 Road noise is prevalent throughout the LCT, but concentrated around the M1 which cuts through LCA 1b, resulting in visual intrusion, noise and light pollution. Electricity pylons run through the east of LCA 1a.

5.11 From the elevated plateau there are long panoramic views to the south over the Ouse valley, over Milton Keynes city and to the Greensand Ridge (LCA 6a) to the south. There are also long views across the Tove valley to the west, and north to the wooded clay ridge in West and North Northamptonshire.



Panoramic views across the Ouse valley to the Greensand Ridge from Weston Road.

Landscape evaluation

Landscape qualities

- The ecologically important semi-natural woodlands including extensive areas of ancient woodland and hedgerows that support biodiversity, and provide carbon capture.
- Small streams and springs that support biodiversity and provide nutrient and sediment filtration enhancing water quality.
- The heritage features of the landscape particularly the connection to the Royal hunting forests and historic field patterns that provide a connection to history, cultural identity, and aesthetic value.
- The historic settlement pattern, including the linear village of Hanslope and its satellite 'End' villages, with their high concentration of historic buildings built from local limestone as well as historic farmsteads that provide a connection to history and cultural identity.
- The elevated rural and sometimes remote character of the landscape, with a strong sense of openness that contributes to mental well-being and health.
- The pattern of hedged fields, woodland areas and panoramic long views across the neighbouring valley landscapes that contribute to a distinctive sense of place.
- The scenic and distinctive wooded backdrop that the LCT provides to adjacent landscapes.
- The network of PRoW, including the Milton Keynes Boundary Walk, that connect to the wider countryside and settlements, provide recreational value and contribute to well-being and health.

Landscape condition

5.12 The Wooded Wolds LCT is generally in good condition, with intact hedgerow field boundaries and a strong historic field pattern. There has been some modern amalgamation of fields, and some use of post and wire fencing for horse grazing, particularly on the edge of Hanslope. Semi-natural habitats are in good condition, with a mixed age structure, although woodlands are scattered.

Forces for change

5.13 Key forces for change include:

- Potential changes in woodland and tree species composition as a result of climate change. Wind damage due to increases in severe gales could result in damage to woodland edges, and ancient woodlands may be particularly susceptible to damage from storms and drought.
- Previous replacement of broadleaved woodland with conifer and mixed plantations, and use of coniferous species in hedgerows, which are out of keeping with the character of the local landscape.
- The ongoing decline in woodland management including a loss or reduction of traditional coppicing techniques and increasing fragmentation of woodlands.
- Changes in agricultural practices to large-scale arable cropping, with consequent field boundary loss, which has fragmented the landscape pattern.
- Increasing fragmentation of the traditional landscape pattern due to the loss of unimproved grassland and natural field ponds.
- Potential changes in flora and increase in pests and diseases as a result of climate change, with ash die back becoming increasingly apparent in the local landscape.
- Impact of the M1 corridor through LCA 1b, and increasing noise from traffic on major roads surrounding the LCT.
- Increasing pressure for expansion of residential development at Hanslope, and increasing development at Hanslope Park, affecting the rural character of the landscape, increasing traffic and resulting in changes to roads and land uses in the area, as well as levels of tranquillity.
- Recreational pressure on the landscape, including erosion of unsurfaced routes due to increasing use by walkers, horses, bicycles and 4-wheel drive vehicles.
- Potential pressure for further renewable energy infrastructure including wind turbines and solar farms, both within the LCT and seen in views from the LCT e.g. Petsoe Manor wind farm.

Landscape strategy

5.14 The landscape strategy for the Wooded Wolds LCT is to conserve and enhance the rural qualities of the landscape, and enhance the habitat potential and connectivity as part of the wider wooded wolds which extend into West and North Northamptonshire and Bedford.

Guidance

Landscape Management

- Manage and increase the biodiversity of agricultural fields by creating uncultivated margins to arable fields, or converting some arable land to permanent pasture where suitable.
- Monitor water quality in streams, and minimise water pollution from agriculture through sensitive land management practices, including the restoration of buffer strips along watercourses to minimise run off.
- Retain and enhance existing small field ponds for wildlife, and encourage creation of new ponds.
- Manage and protect existing woodlands, using traditional techniques including coppice with standards and wood pasture. Promote extensions and connectivity between woodlands, as set out in the Green Infrastructure Strategy⁴.
- Encourage progressive conversion of conifer plantations within existing woodlands to indigenous native broadleaved tree and shrub species using local provenance stock, particularly in semi natural ancient woodland of Great Wood, Little Linford Wood, Gayhurst Wood and Stokepark Wood.
- Protect and restore boundary hedges by coppicing, laying and gapping up to improve the network of linkages between habitats. Promote the introduction of new hedges following roads, PRoW and historic boundaries. Plant individual hedgerow trees to provide replacement for mature and over mature stock.
- Protect the valued recreational use of the rural landscape through PRoW, exploring opportunities for informal access and enjoyment. Enhance recreational routes through the woodlands, providing connections to neighbouring Yardley Chase and Salcey Forest, as set out in the Green Infrastructure Opportunity Mapping⁵.
- Extend interpretation of the historic heritage of the area including medieval hunting forests.
- Protect and enhance heritage assets within the LCT, including the historic parkland at Hanslope Park.

Development Management

- Conserve the open landscape and avoid the introduction of large-scale elements which would have a visual impact over a wide distance.
- Retain views from the elevated plateau across the wider landscape of the borough, and consider the impact on views from the surrounding landscape in relation to any proposed change.
- Retain views of local landmarks, including Hanslope church spire.
- Conserve the distinctive vernacular of historic buildings and their rural setting, including within Hanslope Conservation Area. Reference the pattern of local building materials and local identity in any new development or boundary treatments.
- Integrate new development at Hanslope and Hanslope Park into the landscape through the use of native hedgerows and woodlands.
- Where built development is considered appropriate, consider the visual relationship with the wooded skyline in West Northamptonshire.
- Ensure any renewable energy generation is compatible with the guidance above, and as set out in the Renewable Energy Landscape Sensitivity Assessment⁶. Renewable energy should be in scale with the landscape where possible, acknowledging that wind turbines may transcend the scale of existing features in the landscape. Electricity infrastructure associated with renewable energy generation should be efficiently planned to minimise the number of lines required, routeing in accordance with the Holford Rules⁷.

⁴ AECOM, Milton Keynes Green Infrastructure Strategy (2018)

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⁶ Gillespies, Landscape Sensitivity to Wind Turbine and Solar PV Development (2016)

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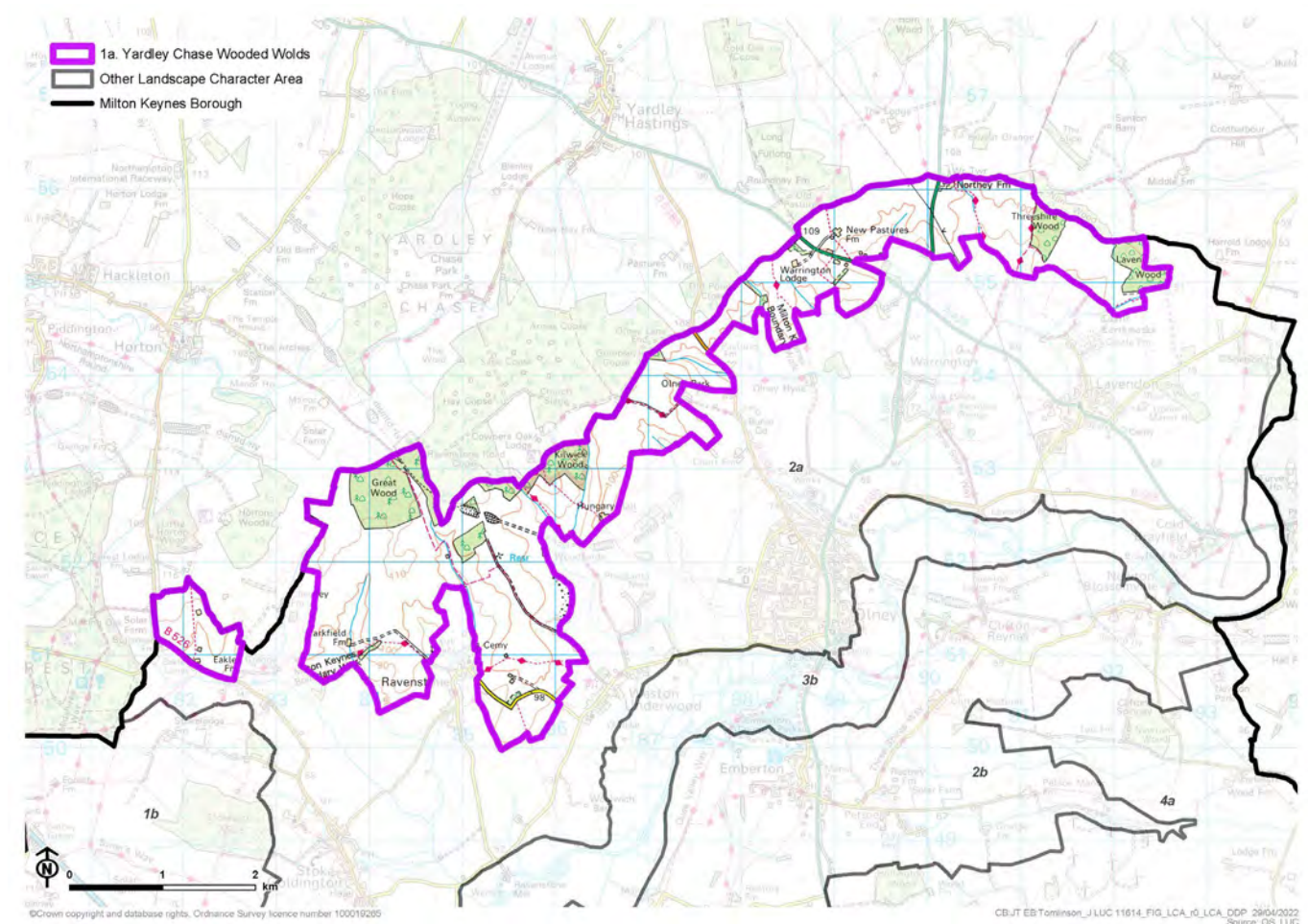
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1a Yardley Chase Wooded Wolds



Location and unique characteristics

5.15 Yardley Chase Wooded Wolds is a narrow strip of land on the northern edge of the borough. It forms the foreground to the wooded Yardley Chase and Salcey Forest to the north (within Northamptonshire), and is part of the wooded plateau, with topography ranging from 85m to 110m AOD.

5.16 Woodlands within the LCA link to the extensive woodlands to the north, including Threshing Wood, Kilwick Wood and Great Wood. Barrstaple Wood is part of the extensive Yardley Chase SSSI, which mainly lies in Northamptonshire. Yardley Chase was originally a Norman hunting chase, and is now woodland, pasture and parkland, valued for these habitats which support uncommon invertebrates. The broadleaved, mixed and yew woodland within the SSSI is in recovering condition, and has benefitted from the re-introduction of coppicing.

5.17 The Yardley Chase Biological Opportunity Area covers the majority of the LCA. A disused railway line between Bedford and Northampton runs through the landscape, and is designated as a Wildlife Corridor.

5.18 The majority of the land use is arable with smaller areas of pasture near farmsteads. Hedgerows are in generally good condition, and are often species-rich, with a high proportion of *Viburnum lantana*.

5.19 A varied historic field pattern, areas of assarts, (indicating the previously greater extent of woodland) with pre-18th and 18th century irregular enclosure, and some 20th century prairie fields. Long thin enclosures at New Pastures Farm are enclosed furlongs and strips, an indicator of former open field farming which are very rare in Buckinghamshire.

5.20 Settlement is limited to isolated farmsteads, with only Eakley Manor Farm and associated barn designated as listed buildings. There is very limited access by road to the LCA, although the busy A509 and A428 cross through the east of the landscape.

5.21 This is a rural, and at times remote landscape, with dark night skies in the north, especially within the woodlands. There are good PRoW links across the landscape, although conversely there are also large areas which have no public access, for example south of Great Wood.

5.22 Modern influences include an electricity pylon route in the east, modern garage at Warrington House, which is out of place in the rural landscape and views to Milton Keynes city to the south. Road noise from the M1 and other major roads reduce the levels of tranquillity throughout the area, despite its rural character.

5.23 Woodlands within the LCA combine with the extensive woodlands in Northamptonshire to form a seemingly continuous wooded horizon when viewed from the surrounding low-lying landscape. The hedgerows also contribute to the wooded character of the landscape. There are extensive panoramic views to the south, east and west from the elevated plateau, over much of the borough. Church spires and towers in adjacent LCTs are visible, including at Weston Underwood, Olney and Lavendon. The Petsoe Manor wind farm is an incongruous modern element in views south-east.

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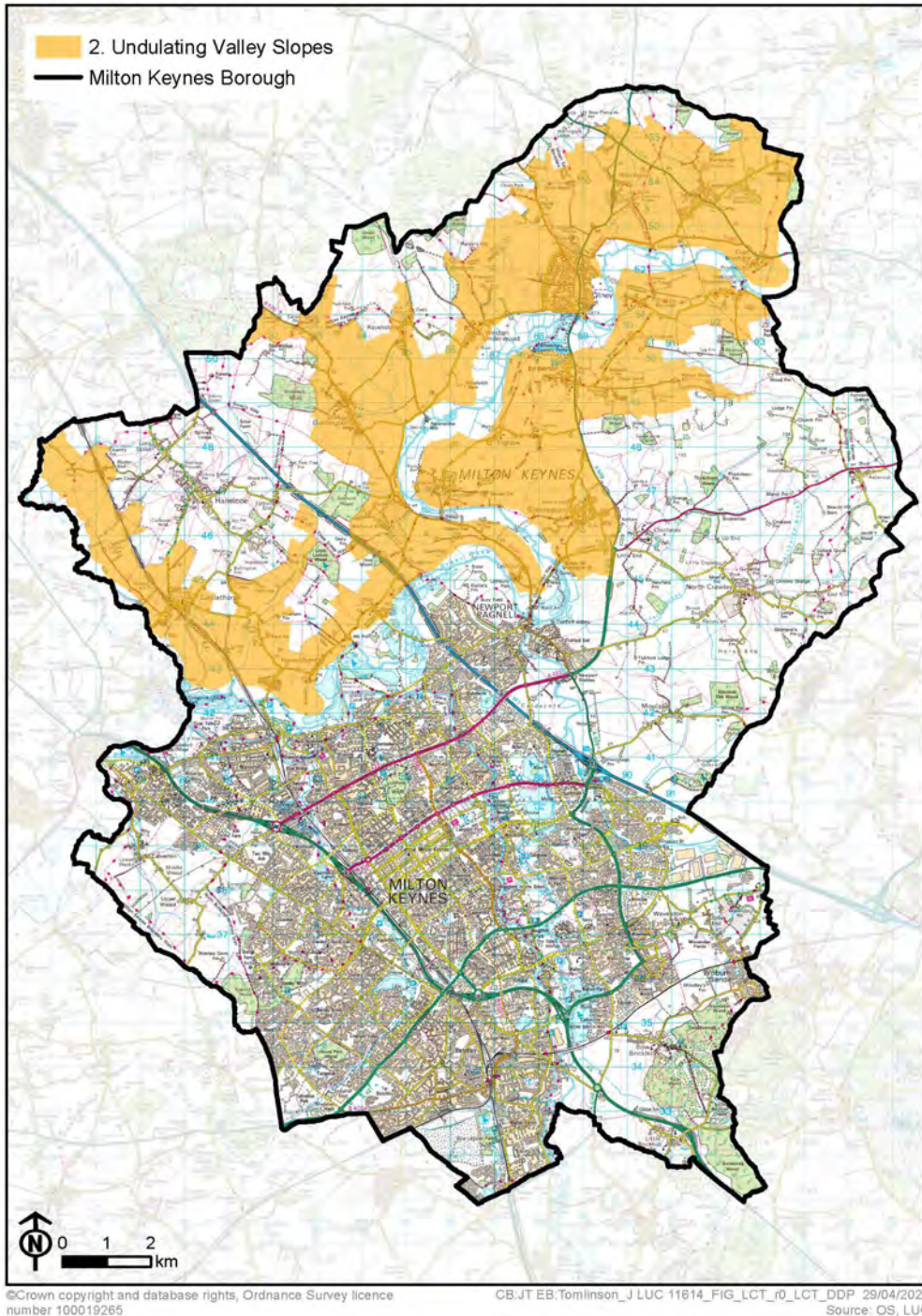
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LCT 2: Undulating Valley Slopes



Landscape Character Areas

The Undulating Valley Slopes LCT is subdivided into three LCAs:

- 2a Ouse Northern Undulating Valley Slopes
- 2b Ouse Southern Undulating Valley Slopes
- 2c Tove Undulating Valley Slopes

Location and summary

The Undulating Valley Slopes LCT is located across the north of the borough. It comprises the valley landscapes along the course of the River Ouse and the River Tove. The boundary with LCT 3 River Floodplains is marked by the rise in topography of the valley slopes above the floodplain, either to the boundary of flood zone 2 or the 50-55m contour line. The boundary with LCT 1 Wooded Wolds marks the change to the elevated and more wooded plateau and is defined along the 90m contour line.

This is an open and gently sloping landscape, predominantly in arable use. It is generally a quiet and picturesque rural landscape with limited impact from modern development, except in proximity to the urban edge of Milton Keynes city.



A gently undulating landscape rising from the River Ouse with large-scale arable fields and limited modern intrusions.

Key Characteristics

- Undulating valley slopes, rising from the Ouse and Tove rivers, from 50m to 105m AOD.
- A varied bedrock of sandstones, limestones and mudstone result in diverse soils, with well-drained calcareous clays at the top of slopes and seasonally waterlogged loamy soils at the base of slopes.
- Secondary valleys of small streams and springs where the landform provides a localised sense of enclosure.
- Woodland cover is limited to small copses, some recorded as ancient woodlands and mature parkland trees associated with historic estates.
- A mixed field pattern dominated by large-scale arable fields with unclipped hedges. Smaller pasture fields are common on lower slopes with those near settlements often used for horse grazing. There are some surviving areas of ridge and furrow earthworks.
- Historic settlement pattern of nucleated villages, with numerous listed buildings and often designated as Conservation Areas. Traditional buildings materials include local limestone and roofs in thatch, slates or red tiles. Isolated farmsteads are located on the narrow rural lanes.
- A network of PRoW allows recreational access to the landscape, including the promoted routes Three Shires Way, Ouse Valley Way and Milton Keynes Boundary Walk.
- Panoramic views over the meandering valley floodplain, with a wooded backdrop provided by the Wooded Wolds (LCT 1) to the north. Village church towers provide local landmarks.
- A rural and peaceful landscape with an experience of dark skies away from larger settlements. However, electricity pylons, wind turbines and busy trunk roads in the east (LCA 2a and 2b) and the west coast mainline in the west (LCA 2c) reduces the sense of remoteness.

Physical and natural characteristics

5.34 A gently undulating landscape, rising from the floodplains of the slow flowing and meandering River Ouse and the Tove, with slopes ranging from 50m to 105m AOD. There are localised steeper escarpments or 'bluffs' close to the valley floor of the Ouse, and valleys associated with tributary streams which flow into the main rivers. Many of the farms on the valley slopes have ponds associated with them.

5.35 Much of the LCT is underlain by sandstone, limestone and argillaceous rocks of the Great Oolite Group, with areas in the north-east underlain by Kellaways Formation and Oxford Clay Formation. The Tove Undulating Valley Slopes (LCA 2c) are underlain by Lias Group mudstone, siltstone, limestone and sandstones. Glacial till drift deposits lie in the west and north of the LCT, while river terrace deposits and some alluvium are found adjacent to the Ouse river floodplain.

5.36 This variety in geology is reflected in the soils. The majority consist of calcareous clayey or loamy soils that are well drained but can be shallow or fragmented. Soils tend to be calcareous clayey soils over chalky till towards the tops of the slopes. Soils towards the base of the slopes tend to be slowly permeable and seasonally waterlogged loamy soils.

5.37 Woodland is limited to small isolated woods and copses, many recorded as priority habitat deciduous woodland and with some of ancient origin. The woods are often associated with parklands and settlements, especially at Tyringham Hall and Gayhurst Court, either side of the River Ouse, which also contain a number of mature parkland trees. A number of

Wildlife Corridors and Wildlife Sites are found across the LCT. The Ouse Valley and Yardley Chase Biological Opportunity Areas extend into this LCT.

5.38 Land use is predominantly arable and generally occurs in large open fields, with smaller pasture fields on the lower slopes. Pasture and horse keeping is also apparent in proximity to settlements. Hedgerow cover is variable, with few hedgerow trees and some reinforcement by post and wire fencing, although hedgerows are more intact along the minor lanes. Conifer shelterbelts and hedgerows are out of character in the landscape.



Open arable farmland at Pindon End looking west towards the Tove Floodplains (LCA 3a) and beyond.

Historic and cultural characteristics

5.39 Large 20th century amalgamated fields, the result of modern farming techniques, are common. Historic field patterns shown in the Buckinghamshire HLC include pre-18th century enclosures, both planned and irregular, with some areas of straight-edged 18th and 19th century Parliamentary enclosure. Areas of assarted enclosure are found on higher ground, indicating a more wooded landscape in the past.

5.40 Pockets of ridge and furrow are found within the LCT. The straight furrows suggest some of these features may have been created by steam plough rather than traditional ox-drawn plough.

5.41 Roman sites at Olney and a villa near Clifton Reynes provide evidence of the Roman occupation. Motte and bailey castles at Lavendon and Castlethorpe and a number of moated sites on the slopes of the rivers Tove and Ouse reflect the increasing settlement of the area in the Middle Ages.

5.42 A large number of historic villages, many originating from this period, are located on the valley slopes. Local warm limestone, often used as rubblestone, is the most prominent building material, with roofs of thatch, slate or red tiles. The villages, including Castlethorpe, Clifton Reynes, Emberton, Lavendon, Newton Blossomville, Ravenstone, Sherrington, Stoke Goldington and Weston Underwood, contain a high number of listed buildings often dating from the late 17th and 18th centuries. The historic cores are designated as Conservation Areas, often centred around the church. Clock towers at Emberton and Filgrave provide local landmarks. Many of the villages have expanded in the 20th and 21st centuries, although new developments are generally sympathetic, using local materials and styling. Haversham is the only example of a new settlement within the LCT, built between the original village and Wolverton in the 1930s.



St Peter's church in Stoke Goldington.

5.43 The small market town of Olney is the largest settlement in the LCT, with a wide High Street lined by fine stone town

houses dating from the 18th century (most listed Grade II) when the town expanded as a staging post for travellers on the Newport Pagnell Turnpike and as centre for lace making. The historic interest of the high street is reflected in its designation as a Conservation Area. The parish church of St Peter and St Paul's marks the end of the settlement and is a notable landmark within the Ouse valley. Olney expanded considerably in the late 20th century, which has had an adverse visual impact on the adjacent rural areas, and there is considerable on-going development.

5.44 Away from the villages, settlement is generally limited to occasional isolated farmhouses or mills, accessed off tracks or narrow twisting lanes.

5.45 Parkland landscapes are found across the LCT, including Tyringham Hall with its Grade I stately home designed by Sir John Soane and Grade II* Registered Park and Garden, and Gayhurst Court, also a Grade II Registered Park and Garden. Both landscape parks were designated by Lancelot Brown, with later alterations by Humphrey Repton and reflect the increasing wealth of local landowners in the 18th century. There are also undesignated landscape parks at Weston Underwood and Hanslope Park. Mature parkland trees in singles and clumps are characteristic of all these parklands, with some exotic trees noted at Tyringham.

5.46 The LCT is crossed by narrow, hedged and winding country roads lined by mature hedgerows. A number of the minor roads follow the valleys slopes. Major transport links include the West Coast Main Line, a strong linear element in the Tove valley, and a short section of the M1. Busier A roads cross the landscape to the east of Milton Keynes, including the A509 and A428. A disused railway between Northampton and Bedford crosses the valley north of Olney.

5.47 A strong network of PRoW crosses the LCT, including promoted routes Ouse Valley Way, Hanslope Circular Route, Three Shires Way and Milton Keynes Boundary Walk. National Cycling Route 6 connects Hanslope, Castlethorpe and Milton Keynes.

Visual and perceptual characteristics

5.48 The Undulating Valley Slopes LCT has a remote character with few modern detractors. Historic villages with landmark churches, winding country lanes and historic parklands at Tyringham and Gayhurst combine to make this an attractive, rural landscape.

5.49 There are panoramic views of the meandering rivers, and across and along the river valleys, both from PRoW and roads. Views to the adjacent wooded ridge of the Wooded Wolds to the north are also common. Elevated views from local escarpments over the floodplain, from example from Clifton Reynes, are also possible.

5.50 Modern influences within the landscape are mostly located close to urban areas, including industrial units on the north-east of Olney. Proximity to the major transport corridors of the M1, West Coast Mainline and to the urban edge of Milton Keynes reduces tranquillity and remoteness locally. A number of solar farms are located in the LCT, and there are views to the wind farm at Petsoe Manor (within LCA 4a). Electricity pylons run north-south direction across the Ouse valley, which also impact the rural character of the landscape.



Deer grazing on the Grade II* registered parkland surrounding 18th century Tyringham Hall.

Landscape evaluation

Landscape qualities

- The tributary streams and small ponds which feed into the Ouse and Tove, that provide freshwater habitats, regulate water quality and water flow.
- The semi-natural habitats including woodland copses, mature trees and hedgerows that support biodiversity and provide carbon capture.
- The historic field patterns of pre-18th century enclosure and assarts, and surviving ridge and furrow earthworks, which provide time depth to the landscape.
- The settlement pattern of historic villages, with numerous listed buildings from the 17th and 18th century constructed from local limestone that provide cultural identity and aesthetic value.
- The 18th century landscape parks laid out around country houses, most notably at Gayhurst and Tyringham, that provide a connection to history, cultural identity and aesthetic value.
- Panoramic views of the meandering rivers and across the undulating landscape of the valleys, with tall church towers and spires, and clock towers as local landmarks, that contribute to a strong sense of place.
- The network of PRoW, including the Three Shires Way, Ouse Valley Way and Milton Keynes Boundary Walk, that connect the settlements and wider countryside, and provide recreational value, and contribute to well-being and health.
- The pleasing combination of landscape elements, strong sense of tranquillity and experience of dark skies in this rural landscape which contribute to the sense of place.

Landscape condition

5.51 Generally a landscape in good condition, with a strong rural character. Fragmentation of historic field patterns, and lack of connectivity between woodlands and hedgerow field boundaries reduces the condition in some areas. Modern influences on the landscape include electricity pylons in the east, Petsoe Manor wind farm, and some unsympathetic modern extensions to settlements, including residential and commercial development to the north of Olney.

Forces for change

5.52 Key forces for change include:

- Increasing periods of drought and increased temperatures as a result of climate change may result in a change in water levels and tributary stream flows.
- Increase in frequency and severity of seasonal flooding in the tributary stream valleys as a result of climate change.
- Potential changes in woodland and tree species composition as a result of climate change, including wind damage due to increases in severe gales (with ancient woodland being particularly susceptible to storm damage), drought, and an increase in pests and diseases, such as ash dieback.
- Maturing parkland trees on estates, which are vulnerable to pathogens and limit the ability of woodland to regenerate.
- Introduction of out of character conifer shelter belts and hedgerows.
- Changes in agricultural practices resulting in the loss of pasture and associated hedgerows, and increase in arable cropping.
- Increasing traffic on rural roads, leading to demands for road 'improvements' introducing urban clutter on rural roads.
- Potential for upgrades to major road corridors including the A509, and corresponding reduction in rurality and tranquillity locally.
- The church of St Peter, Gayhurst is on the Heritage at Risk register due to timber decay of the cupola and tower.
- Pressure for housing and commercial development in the villages, and associated upgrades to infrastructure.
- Pressure for further renewable infrastructure (e.g. wind turbines on elevated ridges and solar farms on south-facing slopes or in open areas, and associated grid connections). Several solar farms have already been developed in the LCT.

Landscape strategy

5.53 The landscape strategy for the Undulating Valley Slopes LCT is to conserve and enhance the rural character and the exiting pattern of rolling arable landscape interspersed with contrasting woodland copses, parkland and small historic villages, retaining a separate character to urban areas of Milton Keynes.

Guidance

Landscape Management

- Minimise water pollution from agriculture through sensitive land management practices, including restoration of buffer strips along watercourses to minimise run off, which will also improve biodiversity and connectivity.
- Conserve and enhance the existing farm ponds for wildlife, and promote the creation of new ponds where appropriate.
- Conserve and enhance the ancient woodland and deciduous woodland through appropriate woodland management.
- Increase the extent of native deciduous woodland, using locally occurring species to link the existing small woodland blocks, copses and hedgerows, as set out in the Milton Keynes Green Infrastructure Strategy⁸. Encourage progressive removal of conifer hedgerows and shelter belts where appropriate.
- Manage and increase the biodiversity of agricultural fields by creating uncultivated margins to arable fields, including along PRoW, or converting some arable land to permanent pasture.
- Conserve and strengthen the traditional landscape pattern and structure, as well as increasing biodiversity interest through the maintenance or restoration of hedgerows with native species. Consider the addition of hedgerow trees to provide additional structure in the landscape.
- Manage and monitor invasive native or harmful species in woodlands and the impact of pathogens, pests and diseases as a result of climate change.
- Conserve and reinforce the parkland /estate character of Tyringham, Gayhurst, Weston Underwood and Hanslope Park, particularly planning the succession of veteran trees which form an integral part of the historic landscape.

⁸ AECOM, Milton Keynes Green Infrastructure Strategy (2018)

- Protect the valued recreational use of the landscape (PRoW), further enhancing opportunities for informal access and enjoyment through well maintained linked routes through farmland, providing connections between the settlements, wooded wolds and river floodplains, and identifying opportunities for green infrastructure enhancements.

Development Management

- Conserve the nucleated village settlement pattern and restrict built development away from the villages to retain the agricultural and recreational landscape.
- Integrate new development and improve the suburban edges of settlements such as Olney through the use of native hedgerows and woodlands.
- Conserve the distinctive vernacular of historic buildings and their rural setting, particularly within the numerous Conservation Areas within the LCT and ensure that landscape continues to provide a rural setting to these areas.
- Where new development is planned encourage the use of limestone with thatch, slate or red brick roofs, to maintain a strong local identity.
- Resist proposals for highway upgrading to retain the rural character of the narrow rural lanes and conserve the grass verges which provide an important biodiversity resource.
- Identify, retain and manage key viewpoints to appreciate the undulating valley slopes. Consider the landmark churches and clocktowers and panoramic views across the river floodplains in development both within the LCT and in adjacent LCTs.
- Ensure any renewable energy generation is compatible with the guidance above, and with guidance set out in the MK Renewable Energy Landscape Sensitivity Assessment⁹. Renewable energy should be in scale with the landscape where possible, acknowledging that wind turbines may transcend the scale of existing features in the landscape. Electricity infrastructure associated with renewable energy generation should be efficiently planned to minimise the number of lines required, routeing in accordance with the Holford Rules¹⁰.
- Protect the valued recreational use of the landscape, seeking opportunities to further enhance opportunities for access and enjoyment.

⁹ Gillespies, Landscape Sensitivity to Wind Turbine and Solar PV Development (2016)

¹⁰ [REDACTED]

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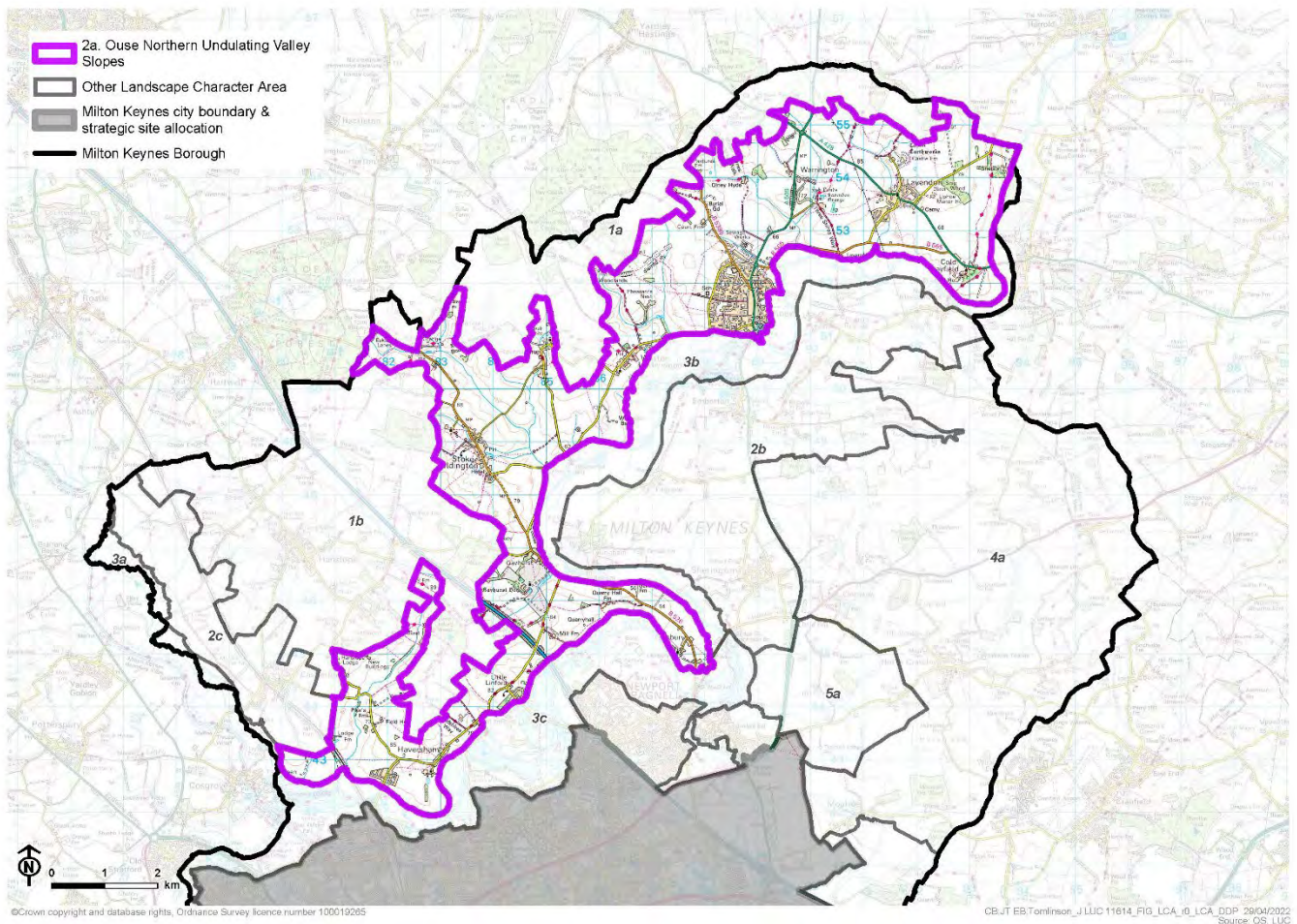
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2a Ouse Northern Undulating Valley Slopes



Location and unique characteristics

5.54 Ouse Northern Undulating Valley Slopes LCA is located to the north of the River Ouse, and stretches from the east to the west of the borough, ranging from 50m AOD where it meets the Ouse floodplain to the south and rising to 105m AOD on the boundary with the plateau of the Wooded Wolds to the north and west.

5.55 The LCA is underlain by Great Oolite Group sandstone, limestone and argillaceous rocks, with small areas of Kellaways Formation and Oxford Clay Formation in the north-east. Glacial till is found in the north, with river terrace deposits in the east marking former courses of the River Ouse, which has resulted in clay-loam soils, which provide Grade 3 (moderate-good) agricultural land in use primarily for arable cultivation.

5.56 Areas of woodland are often recorded as priority habitat deciduous woodland, and some of ancient origin including Snip Wood and Overbrook Spinney.

5.57 Pockets of semi-improved grassland is found on the lower edges of the valley slopes, and also around Court Farm.

Meadow habitat has survived west of Olney and is designated as the Barn Field Long Lane LWS, while a small area of priority habitat lowland fens along a tributary spring is designated as the Valley Fen, Ravenstone LWS. A disused railway line west of Olney is designated as a Wildlife Corridor. The Ouse Valley and Yardley Chase Biological Opportunity Areas extend into this LCA.

5.58 There is a mixed field pattern with pre-18th century regular enclosure, regular Parliamentary enclosure fields and larger 20th century fields, enclosed with hedgerows or local limestone walls. Fields are large and in arable cropping use, with areas of sheep grazing on the edges of settlements, for example at Haversham. Hedgerows are in variable condition, with mature hedgerow trees.

5.59 Historic villages, with listed buildings mostly constructed from the local limestone and landmark church spires and towers, are designated with Conservation Areas at Lavendon, Olney, Weston Underwood, Ravenstone and Stoke Goldington. A number of Scheduled Monuments lie around Lavendon including 12th century earthworks relating to the motte and bailey castle.

5.60 Olney is situated at an important crossing point of the River Ouse. There is evidence for a substantial Roman settlement to the north at Ashfurlong (now a Scheduled Monument), and a smaller settlement to the south in the area now covered by Emberton Park. Olney is one of the earliest documented settlements in the borough, first named in a charter of 979 CE as 'Ollanege', as well as in the later Domesday Book. The spire of the 14th century church of St Peter and St Paul, now Grade I listed, stands on the banks of the Ouse and dominates the southern approach to Olney. Olney was home to radical Christians in the 18th century, including the poet William Cowper and his friend and curate of Olney, John Newton, who wrote the words to 'Amazing Grace'.

5.61 Historic houses and parklands are distinctive features of this LCA. Gayhurst Court is a late 16th century house (listed at Grade I) set within an 18th century landscape park laid out by Lancelot (Capability) Brown, with alterations by Humphry Repton. The parkland and 19th century formal gardens are a Grade II Registered Park and Garden. Repton also worked on the park and pleasure grounds for Hanslope Park, which partially lie in this LCA (the remainder in LCA 1a). Weston Park is an unregistered garden and park associated with a demolished manor house, which retains its parkland character, and contributes to the rural setting of Weston Underwood. Weston Underwood is also associated with the poet William Cowper.

5.62 This is an open landscape, with fine panoramic views, including to the heavily wooded skyline of Yardley Chase to the north, south-east to the wooded Greensand Ridge (LCA 6a), and over the historic parklands at Gayhurst and Tyringham which lies on the opposite bank of the River Ouse (within LCA 2b).

5.63 Modern influences on the landscape include a solar farm, new residential and commercial development at Olney and an aggregates quarry north of Lathbury. Traffic noise from the M1 and West Coast Mainline railway reduce tranquillity, and there are views across the river valley to the Petsoe Manor wind farm.

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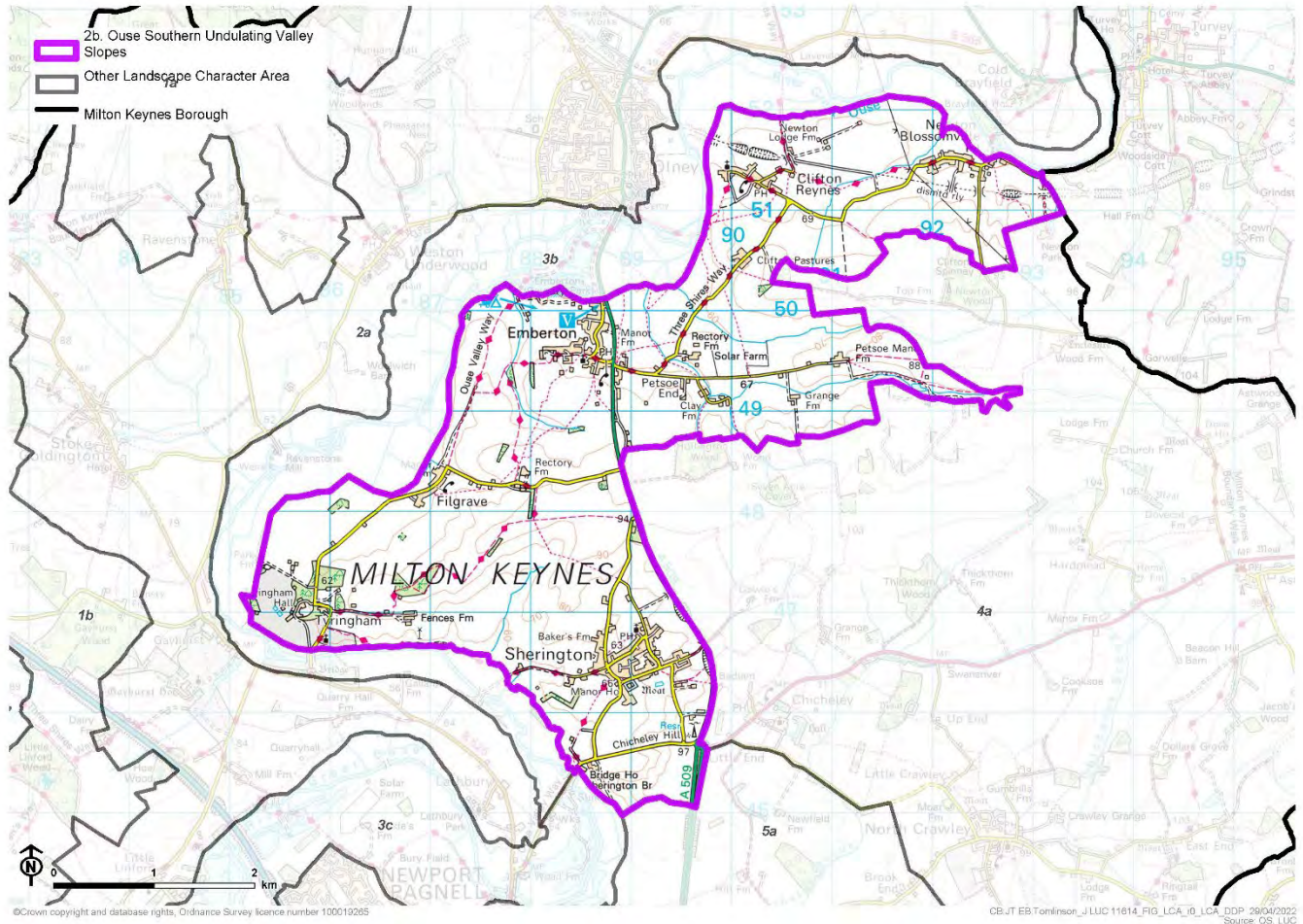
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2b Ouse Southern Undulating Valley Slopes



Location and unique characteristics

5.64 Ouse Southern Undulating Valley Slopes LCA is located to the south of the meandering River Ouse, and stretches to the borough boundary near Newton Blossomville. The LCA rises from the Ouse floodplain (LCAs 3b and 3c) to the elevated plateau of LCT 4 Undulating Clay Plateaux to the east.

5.65 The underlying geology of Great Oolite Group in the west and Kellaways Formation and Oxford Clay Formation in the east is overlain by river terrace deposits in the west, evidence of the former course of the River Ouse with glacial till deposits in the east. These result in variable clay, loam and silt soils, and grade 3 (moderate-good) agricultural land.

5.66 The landform rises from 50m adjacent to the river floodplain to 85m AOD at the transition to the Undulating Clay Plateaux (LCT 4). Tributaries of the River Ouse run north and south of Petsoe End, and provide localised shallow valleys.

5.67 Small blocks of woodland, many recorded as priority habitat deciduous woodland and often of ancient origin

including Hollington Wood (also an LWS) are scattered across the LCA. A number of LWS are recorded, including at Costerpits for its semi-improved calcareous grassland and Petsoe Manor for field ponds and scrub. The Ouse Valley Biological Opportunity Area extends into the LCA.

5.68 There is a mixed field pattern with considerable areas of pre-18th century irregular enclosure fields close to the small settlements including Clifton Reynes and Newton Blossomville, with some areas of more regular 18th century enclosure. Large prairie fields, the result of 20th century amalgamation dominate the LCA around Sherington and Filgrave.

5.69 The large fields are generally in arable use, with some horse grazing on the edge of settlements. Hedgerows are in variable condition, with some replacement by post and rail, although there is evidence of new hedgerow planting.

5.70 Small historic villages are found at Newton Blossomville, Clifton Reynes, Emberton and Sherington, which contain a large number of historic buildings and are covered by

Conservation Areas. Brick, limestone and thatch are common vernacular materials.

5.71 Tyringham Hall was designed by Sir John Soane in the 18th century and is Grade I listed. It sits within the Grade II* Registered Park and Garden, laid out by Humphry Repton, with early 20th century formal gardens by Rees and Edwin Lutyens. There are views from the parkland over the River Ouse to the parkland at Gayhurst Court (within LCA 2a). Estate fencing marks the extent of the Tyringham estate, and deer and sheep graze in front of the hall.

5.72 This is a largely open rural landscape, with views across the undulating landscape, across the River Ouse, including to the landmark church at Olney. A wooded backdrop is provided to the north by the Wooded Wolds.

5.73 Modern influences on the landscape include the A509, A422, electricity pylons west of Newton Blossomville, the solar farm at Petsoe Manor (LCA 4a) and views to tall buildings including warehouses within Milton Keynes city.

Milton Keynes Council

Milton Keynes Landscape Character Assessment

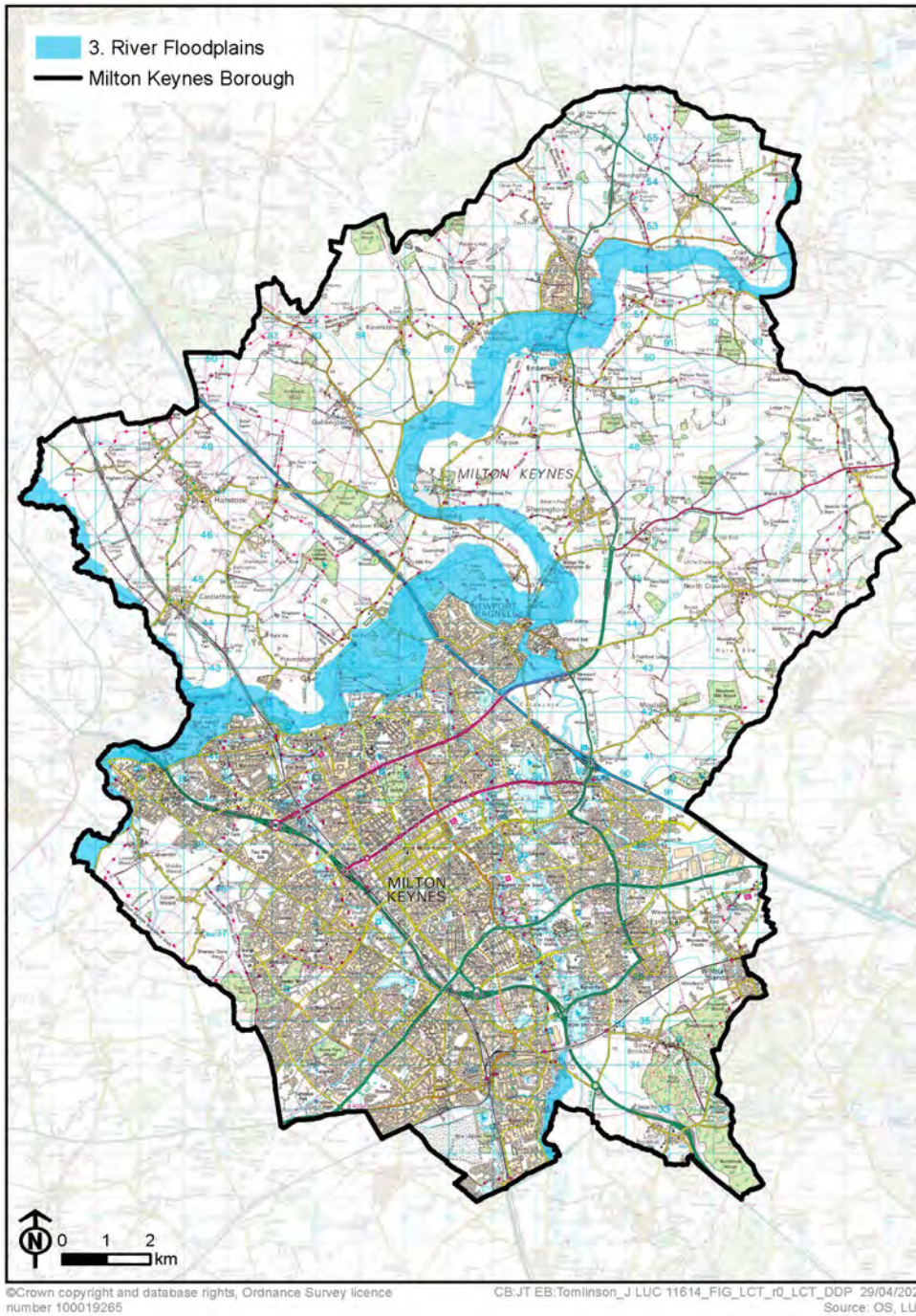
Final report

Prepared by LUC

May 2022



LCT 3: River Floodplains



Landscape Character Areas

The River Floodplains LCT is subdivided into four LCAs:

- 3a Tove Floodplains
- 3b Ouse Floodplains
- 3c Ouse Lakes and Parkland Floodplains
- 3d Ouzel Parkland Floodplains

Location and summary

The River Floodplains LCT comprises the river valley floodplains of the River Ouse, and its main tributaries the Ouzel and the Tove. The boundaries of the LCT are defined by the extent of Flood Zones 2 and 3, and the 50-55m contour line, where the valley slopes begin to rise.

This is a flat, open landscape with meandering river channels. The rivers tend to be slow flowing, with a variable depth and height of surrounding banks. The LCAs within the LCT are divided into rural and largely recreational floodplains.



The wide River Ouse running under the Grade I listed bridge at Tyringham, with parkland landscape on the river floodplain.

Key Characteristics

- A flat landscape with slow flowing rivers on sinuous valley floors, underlain by a varied bedrock with alluvium deposits.
- Riparian woodland lines the meandering river channels, some recorded as priority habitat deciduous woodland and wetland habitats lie on the floodplains, many of which are designated as LWS.
- Open pasture fields lie adjacent to the river channel, bound by ditches and post and wire fencing.
- Historic and current mineral extraction have impacted the landscape, including the creation of extensive large lakes and ponds.
- Heritage assets are limited to historic mills, bridges and occasional isolated farmsteads. Archaeological evidence of Neolithic, Bronze Age, Iron Age, Roman and medieval communities is often designated as Scheduled Monuments.
- An open undeveloped floodplain, with restricted settlement, although there are views to villages and towns on adjacent higher ground.
- Recreationally important landscape with good access on PRoW, parks on former mineral extraction sites, cycling routes and fishing (particularly within LCAs 3c and 3d).
- Rural character, away from the urban settlement edges and major transport corridors.

Physical and natural characteristics

5.82 A flat floodplain landscape, between 45m and 75m AOD. The landscape is dominated the river channels and floodplains of the Ouse, Ouzel and Tove, and associated tributaries. Streams and springs which drain the adjacent valley slopes (LCT 2) cross the floodplain to join the main river channels. The width of the floodplains varies; the Ouse is generally wider, while the Tove and Ouzel are narrower and less defined.

5.83 The geology is dominated by the superficial alluvium deposits formed by the meandering river corridors, while the bedrock geology is varied. This gives rise to stoneless clay soils, with some sandier loams away from the river channels. Seasonal flooding is common within the landscape in winter and spring.

5.84 Riparian vegetation along the river corridor includes willows and black poplars which mark the course of the river and plantations of cricket bat willow such as at Newton Blossomville. Many of the woodland areas are recorded as priority habitat deciduous woodland. Wetland habitats associated with the floodplain include priority habitat floodplain grazing marsh and good quality semi-improved grassland. Many of these woodland and wetland habitats are designated as LWS, and the River Ouse and Ouzel are designated as Wildlife Corridors.



The narrow channel of the River Tove with flat pastoral fields.

Historic and cultural characteristics

5.85 The field size and historic pattern varies between the urban and rural areas of the floodplain. Rural areas have small to medium fields of pre-18th century regular enclosure and later Parliamentary enclosure. There are a number of historic enclosed meadows along the Ouse, such as Bury Field at Newport Pagnell which has been common land since the Middle Ages. Historic field patterns in the more urban areas, around Milton Keynes city, have largely been lost due to mineral extraction.

5.86 Land use is still predominantly pasture, with open irregular fields bound by drainage ditches, post and wire fencing and occasional over-mature hedgerows. Closer to the urban edges of Milton Keynes city and Newport Pagnell, fields which historically would have been used as riverside pasture still retain much of their original landscape structure.

5.87 Historic assets are limited to historic bridges and mills at crossing points, although historic parkland extends into the Ouse floodplain at Gayhurst and Tyringham (LCA 3b). Archaeological evidence of Neolithic ritual or ceremonial landscapes in the valley floor, Bronze Age and Iron Age ring ditches and pit alignments, Roman sites and medieval villages and associated fish ponds is found on the river floodplains, including at Old Wolverton and Tyringham. Many of these sites are now Scheduled Monuments.

5.88 The LCT is largely uninhabited, with the majority of villages located in the adjacent LCT on higher land beyond the floodplain. Settlement within the floodplain is limited to bridging points along the course of the rivers and occasional isolated historic farmhouses and mills, many of which are listed buildings.

5.89 Gravel extraction, particularly north of Milton Keynes city, has resulted in large lakes and ponds, which are now managed for nature conservation and/or recreation. Gravel extraction is still taking place, particularly along the lower reaches of the River Ouse (LCA 3b and 3c).

5.90 The LCT is crossed by a number of major roads, including the M1 and A5 which cross both the Ouse and the Ouzel. In contrast, there is limited access to the Tove floodplain, which is crossed by only small country roads.

5.91 Despite limited access to the floodplain in some locations, particularly along the Tove (LCA 3a) and the north of the River Ouse (LCA 3b), the River Floodplains LCT provide considerable opportunities for recreation. These include PRoW such as the Ouse Valley Way, National Cycling Route 6, and leisure parks with fishing and water sports at Emberton and Cosgrove. The Grand Union Canal and its towpath also cross the floodplain.



A variety of recreational opportunities on the Ouse, Stony Stratford.

Visual and perceptual characteristics

5.92 Views within the LCT are relatively open, across the river floodplain to the surrounding higher ground. In areas of former

gravel extraction, along the Ouse north of Milton Keynes city and Newport Pagnell, the river channel is a less visually unifying feature.

5.93 Modern influences on the floodplain landscape include the major road corridors of the M1 and A5, and the west coast mainline railway. Noise from these transport corridors disrupts tranquillity across the LCT. Some buildings associated with recreational facilities, particularly the holiday park at Cosgrove Leisure Park, are out of keeping with the generally unsettled landscape, although generally hidden from view by vegetation. The built edges of Milton Keynes city and Newport Pagnell are also apparent in some views, with a number of large commercial and residential developments dominant in some views.

5.94 Away from the urban edges the river floodplains are rural with some areas of dark skies on the eastern and western borough edges.



New development at Eaton Leys features prominently in the foreground of views from the River Ouzel at Waterhall Park.

Landscape evaluation

Landscape qualities

- The semi-natural habitats including floodplain grazing marsh, lowland meadows and deciduous riparian woodland that support biodiversity, and provide carbon capture.
- The river channels which provide water, and the underlying aquifers which maintain springs and base flows into rivers. The floodplains also regulate water flows, and provide flood protection.
- The riverside meadows which provide a connection to the historic land uses and provide a highly scenic quality to the landscape.
- The heritage features of the landscape particularly the historic mills and bridges, farmhouses and parklands, and archaeological earthwork features that provide a connection to history, cultural identity and aesthetic value.
- The largely undeveloped rural character of the flat low-lying floodplain, with a strong sense of openness, which provides a sense of place.
- The expansive, uninterrupted long-distance views across the floodplain which provide a sense of place.
- The recreational opportunities provided by PRoW including the Ouse Valley Way, cycle routes, country parks, fishing and water sports which connect the settlements and wider countryside, provide recreational value and contribute to well-being and health.

Landscape condition

5.95 The landscape is variable across the River Floodplain LCT, influenced by proximity to Milton Keynes city, and other recent development. The landscape is still largely in agricultural land use, and has a good cover of semi-natural habitats. There has been some fragmentation of hedgerow boundaries, and tranquillity and rural character are influenced by land uses in adjacent LCTs, such as wind turbines at Petsoe Manor, electricity pylons and noise from major road and rail routes.

Forces for change

5.96 Key forces for change include:

- Changes in agricultural practices to reduce grazing and increase arable cropping.
- The spread of invasive, non-native species including Himalayan Balsam and signal crayfish along river valleys, displacing native plants and habitats.
- Increasing periods of drought resulting in the drying of grazing floodplain as a result of climate change and demand for water extraction.
- Changes to flood management as a result of climate change, including increased pressure for tree planting to attenuate flash flooding, which could impact on the open character of the floodplain.
- Agricultural run-off and discharge of sewage into the waterways, causing pollution and impacting on wildlife.
- Continuing and future gravel extraction, and the management of the restoration of former extraction sites.
- Expansion of Milton Keynes city and Newport Pagnell affecting the rural character of the landscape adjacent to these settlements.
- Increased traffic on major transport corridors including the M1 and West Coast Mainline disrupting tranquillity.
- Pressure for additional renewable energy infrastructure e.g. solar farms.
- Recreational pressure, including demand for additional facilities, could alter the sense of rurality.

Landscape strategy

5.97 The landscape strategy for the River Floodplains LCT is to conserve the rural undeveloped character of the floodplains and support opportunities to increase and connect semi-natural floodplain habitats, while increasing informal recreational access.

Guidance

Landscape Management

- Encourage sustainable management of traditional meadows by introducing sensitive grassland management such as late hay cutting or low-density livestock grazing.
- Manage and enhance floodplain meadows. Protect existing meadows from ploughing, grassland improvement or further mineral extraction. Draw on the advice of the Upper and Bedford Ouse Catchment Partnership on the management of floodplain meadows and implementation of natural flood management schemes. Identify opportunities for green infrastructure enhancements, as set out in the Milton Keynes Green Infrastructure Strategy¹¹ and Green Infrastructure Opportunity Mapping¹².
- Monitor water quality in the rivers, and seek to reduce surface water flow off agricultural land. Support the production of nutrient, manure and crop protection management plans where appropriate.
- Conserve and enhance the biodiversity interest of wetland habitats and watercourses. Ensure a whole valley approach is taken, identifying opportunities for green infrastructure enhancement.
- Promote the management of existing floodplain pollards and plant new specimens such as Black Poplar. Where appropriate extend areas of wet woodland.
- Promote improvements to the river and lake habitats to encourage increased biodiversity value through marginal planting and localised bank profiling and sympathetic maintenance of drainage ditches.
- Encourage reversion of arable fields to pasture where possible, and increase the biodiversity of arable fields by creating uncultivated margins.
- Promote the use of ditches and hedges in place of post and wire as a means of stock enclosure on pasture fields.
- Promote increased recreational opportunities which respect the landscape character. Improve PROW connections and signage on well-maintained linked riverside routes, particularly adjacent to urban areas, and encourage use of the river for appropriate recreation, identifying opportunities for green infrastructure enhancement.
- Maximise opportunities from the restoration of mineral extraction sites for recreation and biodiversity. Develop diverse mixed age woodland communities to retain a balance between screening recreation, wildlife and public safety.

Development Management

- Conserve the undeveloped nature of the landscape, to provide a rural floodplain setting to Milton Keynes city.
- Consider views from the floodplains landscape when planning development in adjacent landscapes, enhancing the integration of development through native wooded boundaries and mature trees to provide visual screening and to reduce the impact of built development on the floodplain.
- Conserve and enhance the historic bridges and mills, and archaeological evidence of earthworks.
- Ensure a comprehensive restoration plan is in place for any future mineral extraction, to restore habitats and land cover pattern. This should include wet woodland as part of a mosaic of habitats.
- Ensure any renewable energy generation is compatible with the guidance above, and with guidance set out in the MK Renewable Energy Landscape Sensitivity Assessment¹³. Renewable energy should be in scale with the landscape where possible, acknowledging that wind turbines may transcend the scale of existing features in the landscape.

¹¹ AECOM, Milton Keynes Green Infrastructure Strategy (2018)

¹² [REDACTED]

¹³ Gillespies, Landscape Sensitivity to Wind Turbine and Solar PV Development (2016)

Electricity infrastructure associated with renewable energy generation should be efficiently planned to minimise the number of lines required, routeing in accordance with the Holford Rules¹⁴.

¹⁴ [REDACTED]

Milton Keynes Council

Milton Keynes Landscape Character Assessment

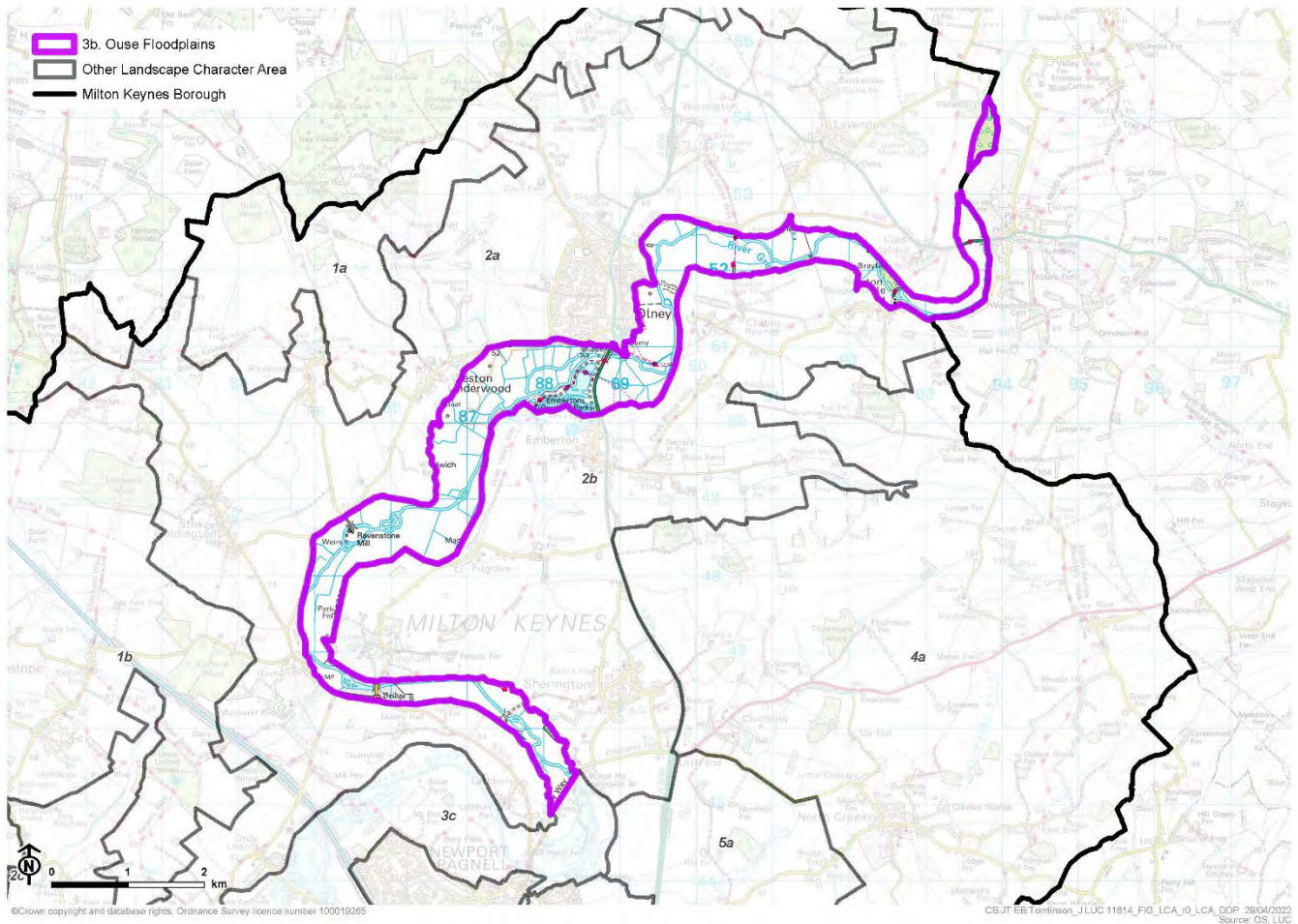
Final report

Prepared by LUC

May 2022



3b Ouse Floodplains



Location and unique characteristics

5.105 The Ouse Floodplains runs from Newport Pagnell in the south to the north-east of the borough, close to Turvey (in Bedford borough). Its boundaries are marked by the rise in topography to the valley sides in the Northern and Southern Ouse Undulating Valley Slopes (LCA 2a and 2b). The boundary with the Ouse Lakes and Parkland Floodplains (LCA 3c) marks where the urban influences of Newport Pagnell and Milton Keynes city become more apparent, and is defined by Sherington Road.

5.106 The floodplain lies around 45-55m AOD and is underlain by the Great Oolite Group sandstones and limestones. The meandering river channel is lined by mature riparian vegetation, much of which is priority habitat deciduous woodland. Areas of priority habitat floodplain grazing marsh and chalk grassland are found at Olney. The whole river channel is designated as the River Ouse Wildlife Corridor, and part of the Ouse Valley Biological Opportunity Area.

5.107 Land use is predominantly pasture, with sheep grazing in irregular small to medium sized open fields divided by drainage ditches, post and wire fences and occasional over-mature and unmanaged hedges. Some arable fields reach the river channel.

5.108 Remnant ridge and furrow is found on some pasture fields which provides time-depth to the landscape. Parkland landscapes extend into the river valley floodplain at Tyringham Hall (Grade II* Registered Park and Garden) and Gayhurst Court (Grade II Registered Park and Garden). These parklands are situated on either side of the Ouse, and both designed in part by Humphry Repton. Historic stone bridges at Olney, Tyringham and Sherington are listed buildings, with Olney and Tyringham bridges also designated as Scheduled Monuments.

5.109 Settlement is limited, although a Roman site at Olney and ring ditches and enclosures at Tyringham indicate previous occupation on the floodplain. Rural roads crossing the floodplain are restricted to Tyringham, Olney and Turvey.

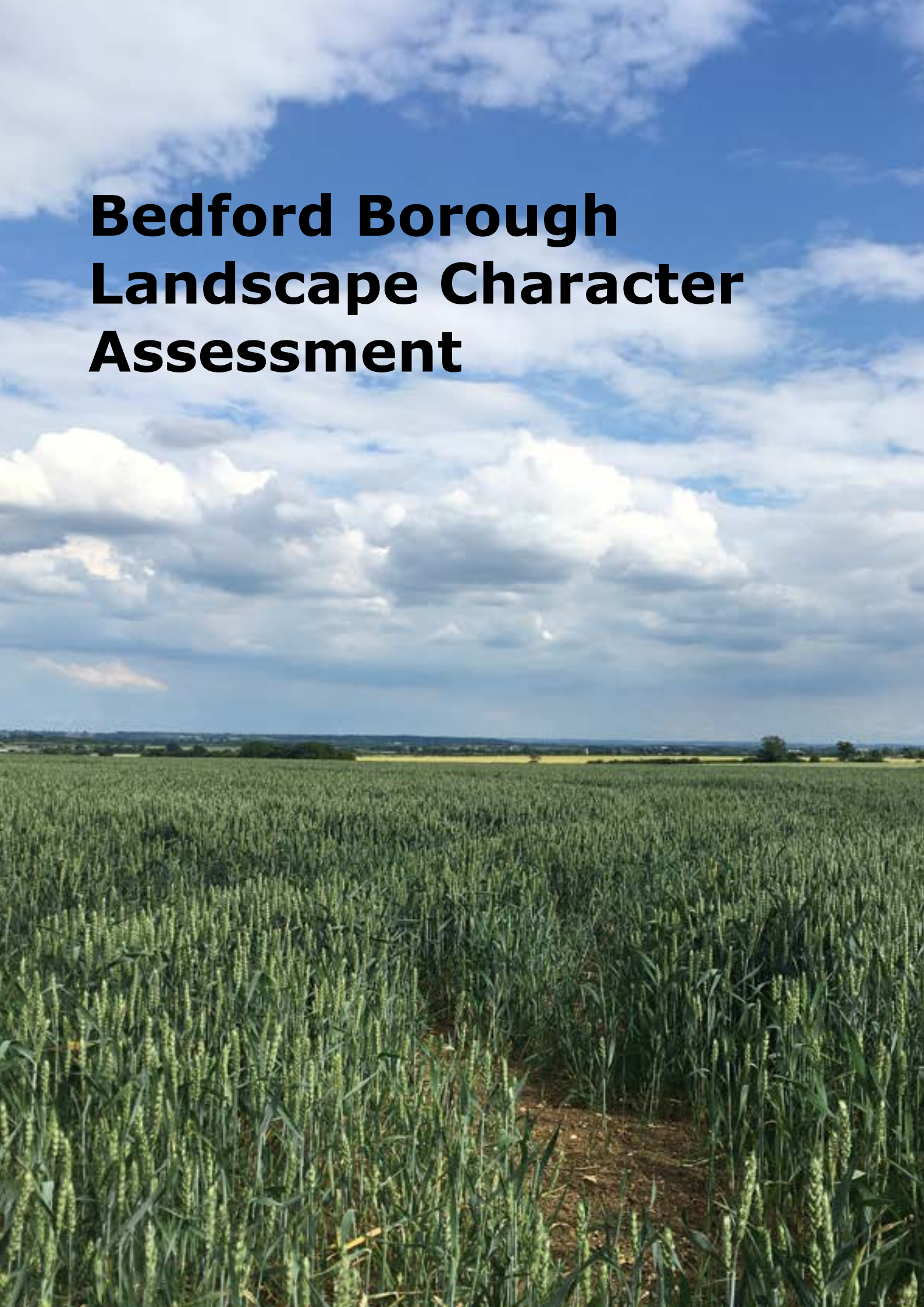
5.110 The promoted route of the Ouse Valley Way crosses the floodplain at various points, and connects settlements adjacent to the floodplain. Emberton Country Park was the first country park in England, created from a former gravel works and provides recreational opportunities.

5.111 There are views across the floodplain to the rising valley slopes, with the villages and towns within the adjacent LCAs (LCA 2b and 2c) visible, especially the church spire of St Peter and St Paul and Olney. This is a peaceful and rural landscape, with few modern intrusions, although there are views to the wind farm at Petsoe Manor and electricity turbines in adjacent LCTs.

5.112 The 18th century poet William Cowper lived at Olney and Weston. His poems included frequent references to the local landscape, and highlight the importance of the river as a place for people to enjoy as far back as the 18th century. He wrote in *The Poplar Field*; *'The poplars are felled, farewell to the shade And the whispering sound of the cool colonnade: The winds play no longer and sing in the leaves, Nor Ouse on his bosom their image receives'*.

5.113 Cowper also wrote about Digby's Walk in Gayhurst; *'Sweet Digby's Walk, cool shade in summer-time. Leads through an archway to the peaceful Ouse, Where boat and fishing rod supply the taste Of those who seek the meditative charms To memory dear of sylvan river scene.'*

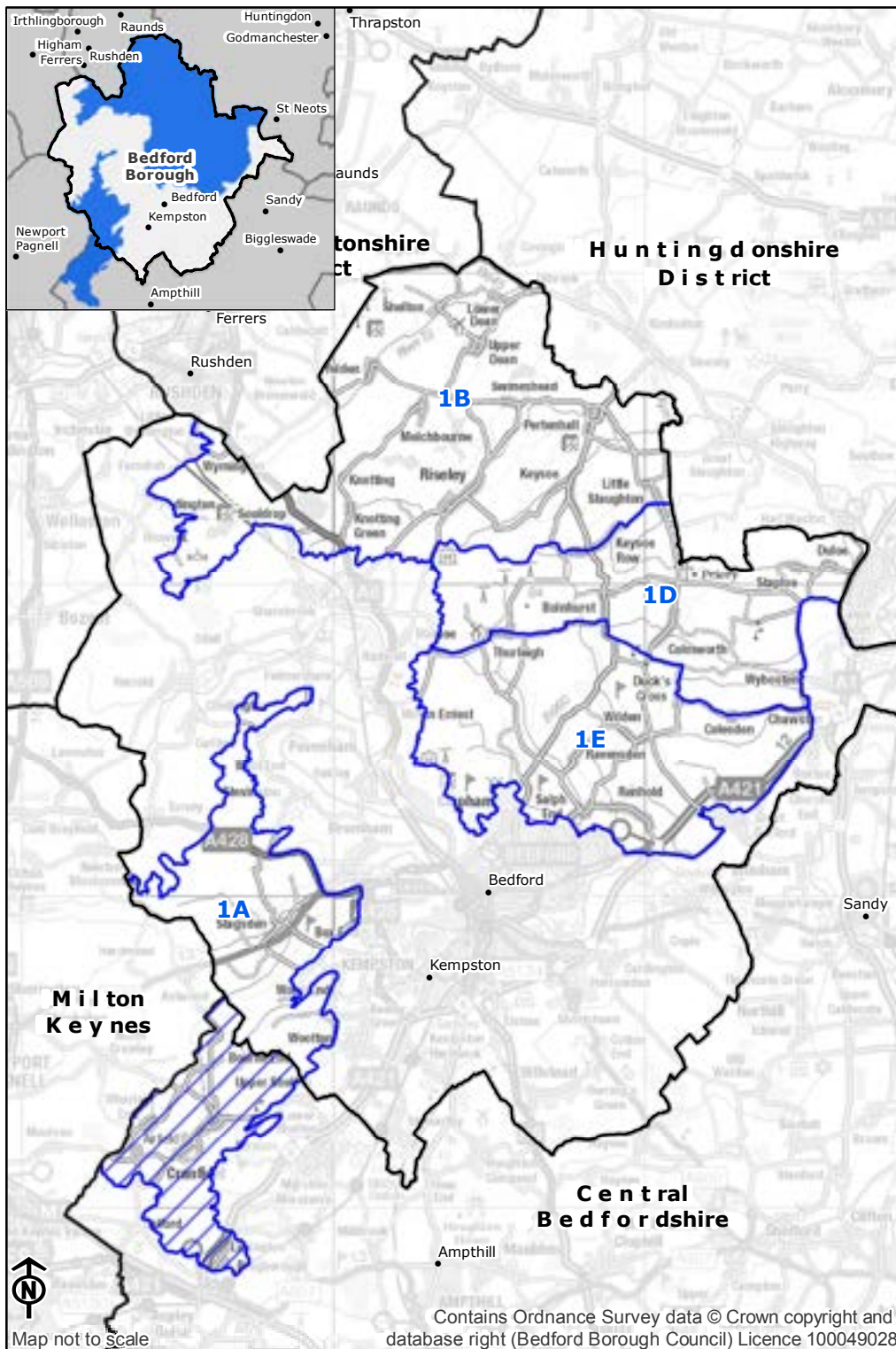
Bedford Borough Landscape Character Assessment



TYPE 1: CLAY FARMLAND



Looking towards St Nicholas church, Swineshead



TYPE 1: CLAY FARMLAND

Key Characteristics

- A large scale landscape with an open and exposed character intersected by subtle wooded valleys.
- Gently undulating landform levelling out to areas of flat plateaux on highest ground.
- Underlying solid geology of Oxford Clay with extensive drift deposits of Boulder Clay and localised areas of Alluvium and Valley Gravels.
- Large scale, intensive arable crop production dominates the land cover.
- Tributaries, brooks and rivers cut through the plateaux forming a series of subtle valleys - tree-lined and a focus for settlement.
- Dispersed woodland (some ancient) – predominantly mixed and deciduous - some having significant nature conservation value and SSSI status.
- Significant hedgerow loss leaving variable and inconsistent field and roadside boundaries.
- Active and disused airfields located on areas of higher, level ground.
- Business and technology parks and new housing development frequently form a blunt interface with the open countryside.
- Water towers, village churches and windmills are strong landmark features.
- Settlement is of low density, dispersed across the landscape and predominantly of linear form.
- Green lanes of significance for recreation and wildlife.

Location and Boundaries

The Clay Farmland landscape type occurs across two main areas within the north and west of the County. The boundaries of the landscape type are defined by geology and topography – the drift deposits of Boulder Clay and gently undulating, elevated terrain distinguishing the landscape from the adjacent Wooded Wolds, Limestone Valleys and the Clay Vales. To the north and west, the edge of the landscape is defined by Bedfordshire's administrative boundary although in reality this landscape type extends into Cambridgeshire and Northamptonshire.

Landscape Character Areas

Landscape character areas within the Clay Farmland landscape type in Bedford Borough are:

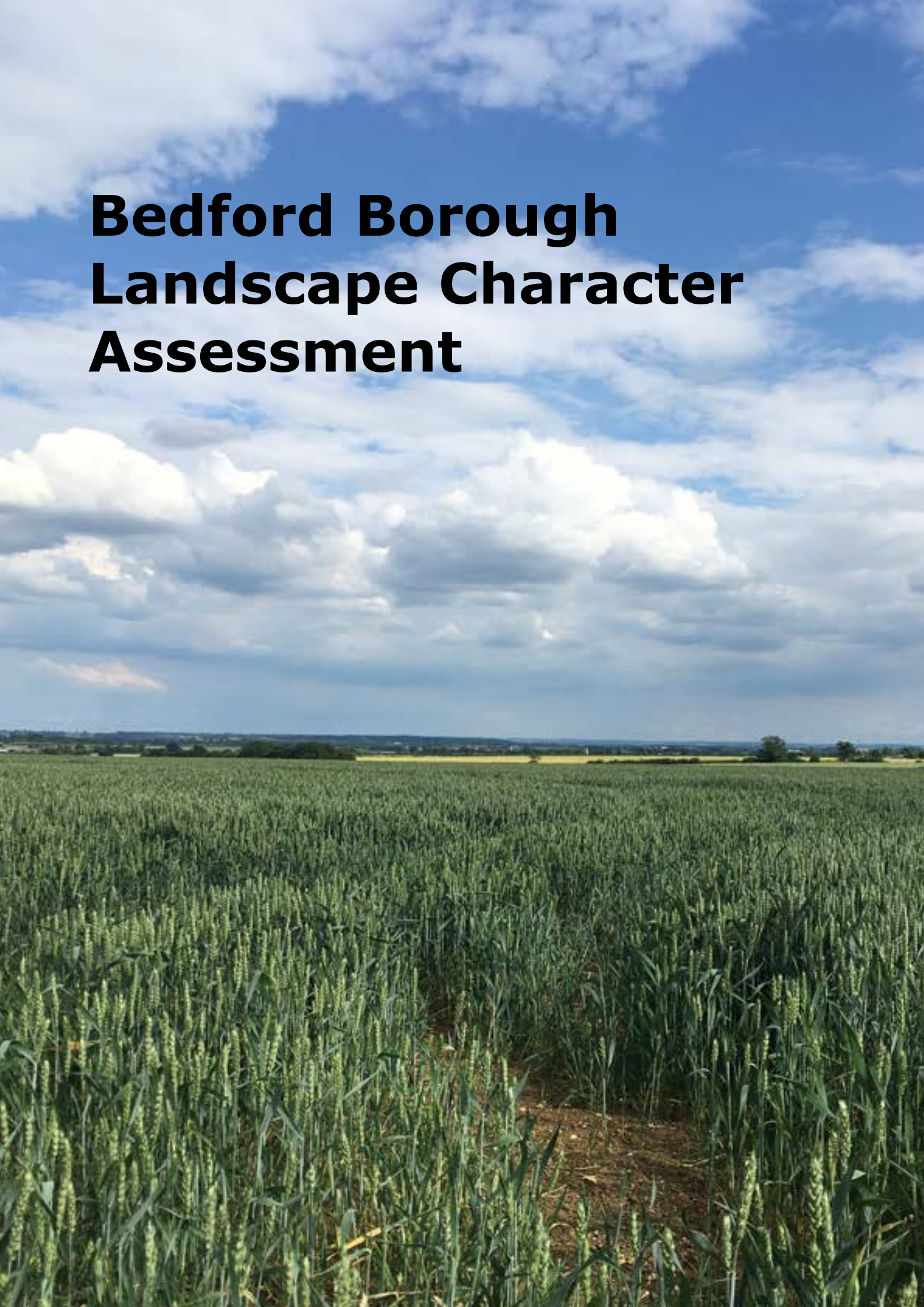
1A Cranfield to Stagsden Clay Farmland

1B Riseley Clay Farmland

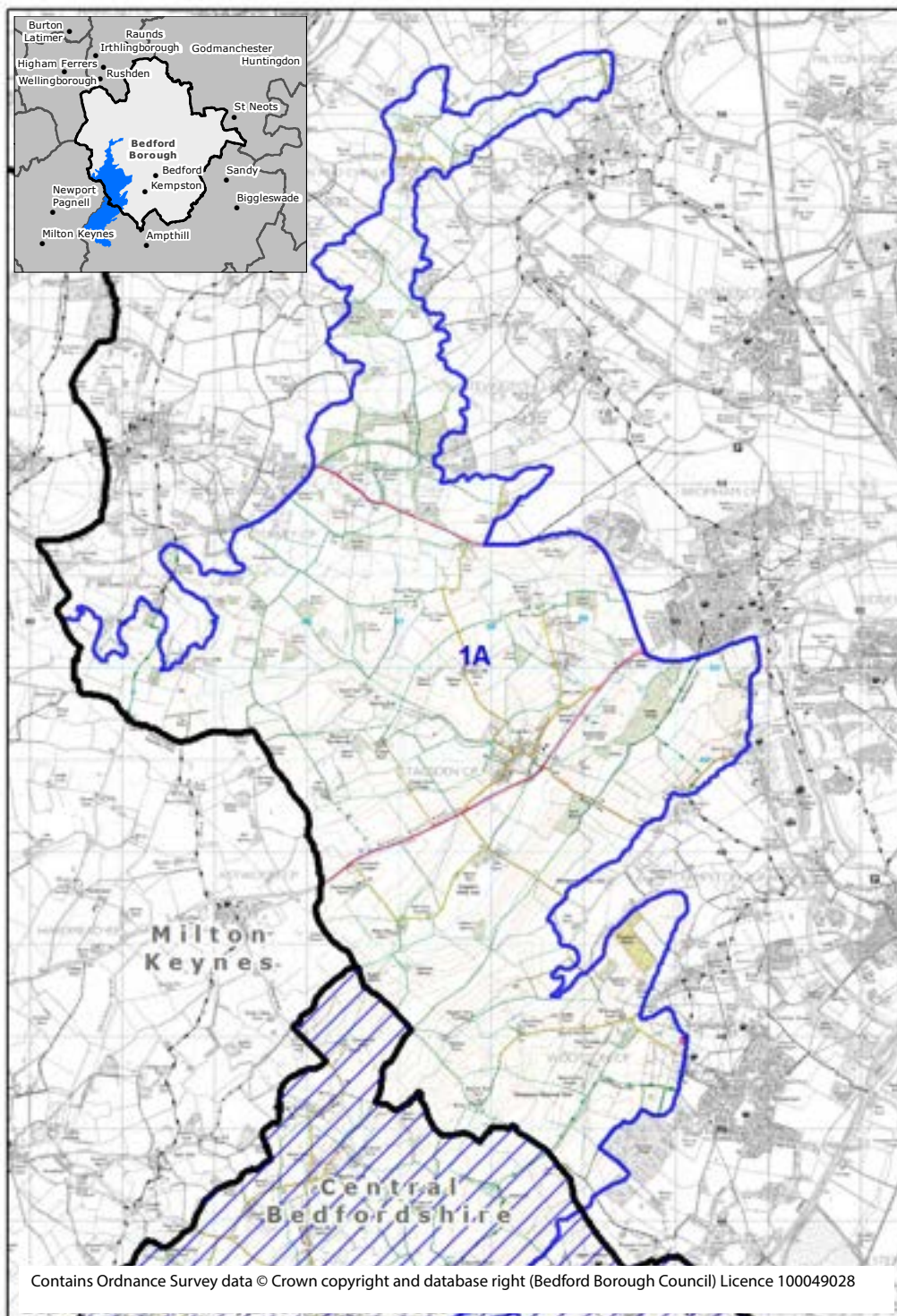
1D Thurleigh Clay Farmland

1E Renhold Clay Farmland

Bedford Borough Landscape Character Assessment



1A Cranfield to Stagsden Clay Farmland



Note: Hatched area indicates the part of the character area lying in Central Bedfordshire

1A Cranfield to Stagsden Clay Farmland

Location and boundaries

- 1A.1 The landscape character area forms part of the *Clay Farmland* landscape type and is located to the west of Bedford. The area extends from Pavenham (located in the adjacent *Wooded Wolds* landscape) in the north to the boundary with the *Mid Greensand Ridge* (6B) at Brogborough in the south. The northern half of the area is in Bedford Borough and the southern half in Central Bedfordshire – refer also to the companion LCA for Central Bedfordshire. The eastern boundary runs along the base of the slopes that descend onto the lower lying areas of *North Marston Vale* (5D). This character area is geographically distinct from the other landscape of the same type, physically separated by the *Wooded Wolds* and *Limestone Valleys*. Part of the area is within the Forest of Marston Vale.

Summary of landscape character: Key characteristics

- | | |
|---------|---|
| 1A.1.1 | A medium - large scale plateau landscape with an open and exposed character with long distant views, and strong skylines. |
| 1A.1.2 | Gently rolling landform predominantly underlain by Oxford Clay, levelling out to areas of flat plateaux on highest ground such as around Cranfield Airfield which form local skylines. Significant elevation range, from 40 -117m AOD. |
| 1A.1.3 | Intersected by subtle valleys associated with tributaries of the River Great Ouse - the most significant of which runs through Stagsden. The valleys are underlain by localised areas of alluvium and valley gravel. |
| 1A.1.4 | Predominantly under arable cropping contained within large open fields but with pockets of horse paddocks - particularly associated with the settlements. |
| 1A.1.5 | The nationally important Hanger Wood SSSI represents one of the best examples of ash-maple woodland in Bedfordshire. |
| 1A.1.6 | A number of ancient semi-natural woodlands have been retained (such as Holcott Wood and Hanger Wood) located predominantly along the eastern boundary, on slopes falling towards the North Marston Vale. |
| 1A.1.7 | Small spinneys (some ancient, including Lambert's Spinney) are frequently dispersed across the arable landscape but are of insufficient extent to produce a sense of enclosure. |
| 1A.1.8 | In the south, strong presence of Cranfield Technology Park and University with its associated urban infrastructure visible from the adjacent Clay Vales due to its elevated location – although woodland and shelterbelt planting buffers some views. |
| 1A.1.9 | Audible and visual presence of Cranfield Airfield located on an area of level plateau adjacent to the University. |
| 1A.1.10 | Variable field boundaries including short flailed and gappy hedges, overgrown hedgerows, and some areas where all boundaries have been removed. Mature standard oak trees often mark old hedgerow lines. |
| 1A.1.11 | Roadside boundaries typically consist of narrow grass verges, overgrown drainage ditches and short-flailed, gappy hedgerows. |
| 1A.1.12 | Settlement within the landscape is concentrated within two contrasting linear villages of Stagsden, small, sheltered within a valley, limestone in character, set within a wooded context - and Cranfield – which is a larger, elevated village, characterised by red and buff brick housing of a mix of styles and ages. |

- 1A.1.13 Occasional large individual farmsteads frequently in view.
- 1A.1.14 Vertical landmark features such as the church spire at Stagsden and water tower at Long Tag Wood are visible but are generally contained and masked by woodland. Pylon lines cross the landscape from east to west from Wootton Bourne End to Astwood and from Stevington through Great Oaks Wood.
- 1A.1.15 Small scale rural lanes cross the landscape although extensive areas are only accessible via the rights of way network.

Landscape character description

Physical and natural landscape character

- 1A.2 This is a medium-scale elevated landscape; rising above the adjacent low-lying Clay Vales to form a broad ridge (with a flat plateau-like top) that provides distant views to the wooded horizons of the Wooded Greensand Ridge. Intersected by subtle valleys associated with the River Great Ouse, the landform is gently rolling, levelling out to flat plateau on highest ground.
- 1A.3 The higher, flatter areas correspond with the occurrence of built development at Cranfield – the airfield, technology park and university forming a focus of built form and infrastructure. This development core forms a marked contrast with the predominantly agricultural character of the landscape. Despite some buffering with planting, commercial/institutional buildings are conspicuous particularly when viewed from the adjacent lower-lying Clay Vales.
- 1A.4 This landscape appears to be in a state of transition. This is exemplified by large-scale development at Cranfield together with the development of roads, pylon lines and the frequent occurrence of other 'fringe' land uses such as horse grazing and degraded pockets of land. Denuded hedges and prominent coniferous shelterbelt planting are recurring features.



Farmstead near Stagsden with woodland block behind and distant views of pylons and wind turbines in the Milton Keynes Windfarm at Emberton



Undulating, open fields and hedgerow roadside boundaries near Stagsden

Biodiversity

- 1A.5 Farmland habitats are widespread in this area including arable field margins, hedgerows, ponds, ditches and improved grassland. There are also scattered blocks of ancient semi-natural woodland dominated by oak and ash. Hanger Wood SSSI, at the north east of the area, is a good example of ash-maple woodland with rich shrub and ground flora species. Unimproved grassland would have been a feature of this area in the past and small areas remains such as the species rich neutral grassland at Cranfield Manor Farm Meadow. Wetland habitats include minor tributaries of the River Great Ouse, woodland and farmland ponds and field ditches.

Visual and perceptual character

- 1A.6 In the south of the area, the open and exposed character results in the strong visual presence of Cranfield Technology Park and University with its associated urban infrastructure visible from the adjacent Clay Vales due to its elevated location. The visual and aural presence of the adjacent Cranfield Airfield is also apparent. Some visual buffering is created by woodland and shelterbelt planting.

- 1A.7 The strong woodland framework often masks development, other than landmark church spires, and the sense of rural character is reinforced by the lane and track network, and the often concentrated nature of settlement.

Cultural pattern and historic character

- 1A.8 Historically, this area was dominated by small irregular fields, created during the medieval period out of woodland on the Boulder Clay upland. There was a large area of common open field at the centre of the Cranfield plateau (the area later to be occupied by the airfield which was built in 1936 in anticipation of World War II), and some open fields in the Ouse tributary valleys around the village of Stagsden. The Brogborough landscape, though originally an area of small irregular fields, was reorganised into a more regular pattern by the Bedford estate in the 19th century. The areas of former open field have been subject to significant loss of field boundaries in modern times.
- 1A.9 The nucleated villages of Cranfield and Stagsden are medieval in origin. They are complemented by a number of 'ends' in Stagsden and isolated medieval farmsteads around the edge of the Cranfield plateau. Many of the ends and farmsteads have surviving settlement earthworks and moated sites, of which those at Boxhedge Farm, Ivy Hall and Moat Farm (all in Cranfield) are scheduled monuments. At Park Farm, Brogborough, a medieval ringwork castle site (also scheduled) occupies a dominant position overlooking the Marston Vale to the north-east.
- 1A.10 Partly lying in the north of the area, the scheduled site of Chellington medieval village is a classic example of a polyfocal settlement. Its various 'ends' on the higher ridge may reflect an originally dispersed settlement pattern, or result from later medieval assarting of woodland. Pictshill House (Turvey) is the sole remnant of another deserted village, and lies within a large oval enclosure of possible ancient origin.

Settlement pattern and built character

- 1A.11 The Cranfield to Stagsden Clay Farmland character area is sparsely settled with scattered farmsteads and two main villages of Cranfield and Stagsden. There is a notable contrast in the character of these two settlements with Stagsden having a more consistent, picturesque character – defined by limestone buildings, a leafy setting and sheltered within a tributary valley. In contrast, the larger village of Cranfield, situated on the higher, flatter ground has a varied character with a mix of building materials, age and style. It is also linked to the Cranfield Technology Park and Cranfield University and large scale modern developments at the western edge of the character area.

Evaluation

Landscape Change

Past change	Potential future change
Technology and University Park development (Cranfield)	Eastward expansion of Milton Keynes
Development of Cranfield Airfield	Potential further linear expansion of development along road corridors
Post war development in and suburbanisation of villages	Potential expansion of Cranfield University and associated technology parks
Arable intensification from the mid-20 th century, leading to field boundary loss	Wind turbine development proposals
Dutch Elm Disease	
Horse paddocks	
Intensification of traffic on 'A' Roads, leading to verge erosion	

Key positive landscape features/strategic sensitivities of the landscape

- 1A.1.16 Landscape pattern provided by the remaining hedgerows and mature hedgerow trees despite their poor condition. This pattern is vulnerable to erosion from further loss of hedgerows and hedgerow trees and lack of management.
- 1A.1.17 Scattered spinneys and blocks of ancient woodland including Hanger Wood SSSI, which are vulnerable to lack of management and associated neglect.
- 1A.1.18 Subtle, tributary valleys and streams of the River Great Ouse which give variety and a sense of place to the area.
- 1A.1.19 The limestone village of Stagsden which set within a wooded context, with a prominent church spire, sharing characteristics with the adjacent Limestone Valleys landscape type and which would be vulnerable to insensitive infill and expansion.
- 1A.1.20 Areas of surviving small irregular fields are vulnerable to further loss due to agricultural reorganisation.
- 1A.1.21 Unscheduled medieval earthworks and pockets of ridge and furrow are unprotected from conversion to arable, and therefore potentially vulnerable to loss in light of changes to agricultural practice.
- 1A.1.22 High level of recreational access via rights of way network including Milton Keynes Boundary Walk and the Icknield Way Path which forms a connection with the Greensand Ridge Walk.
- 1A.1.23 Small scale rural lanes plus large areas only accessible via rights of way – limited access.
- 1A.1.24 Strong rural character over much of the area, which is vulnerable to urban influence for instance the visible and audible impact of roads and large scale development.

Visual sensitivities

- 1A.1.25 Local skylines created by subtle changes in topography which are vulnerable to cluttering by vertical development and notably demand for wind turbine development (e.g. views to potential turbines on skylines).
- 1A.1.26 Long ranging views to wooded horizons of the Mid Greensand Ridge (6B) and across lower lying rural landscape of the North Marston Vale (5D) and Salford – Aspley Clay Vale (5C).

Landscape Strategy

The overall strategy for the Cranfield to Stagsden Clay Farmland character area is to **enhance and renew** the landscape and its rural agricultural character. Enhancement should focus on opportunities to strengthen the landscape pattern to create interconnected green infrastructure networks (woodland blocks associated with the disused railway line in the northern part of the area). The small scale landscape pattern and loose, dispersed settlement character around small settlements such as Stagsden, should be conserved, as should the network of minor parklands north of Stagsden.

The Forest of Marston Vale Forest Plan should be referred to as the endorsed strategy for environmental and green infrastructure-led regeneration of that part of the area which falls within the Forest.

Landscape management guidelines

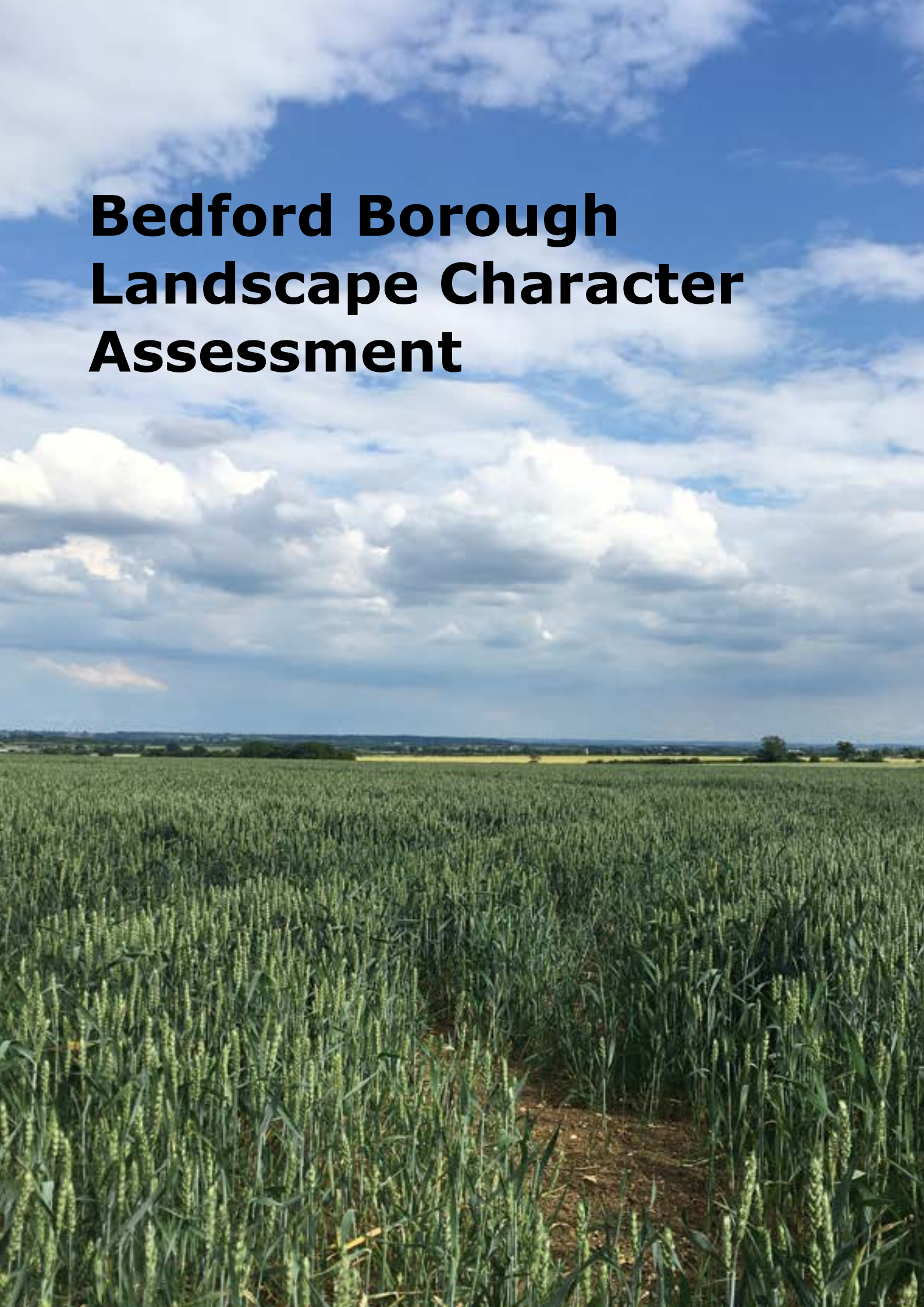
- 1A.1.27 Potential for woodland creation - expanding and linking the existing woodland resource through woodland and hedgerow planting. Appropriate species are likely to include field maple, and hazel. Ensure mid-long range views across the landscape are retained and that the historic grain of the landscape is respected.
- 1A.1.28 Conserve the ancient maple-ash woodland and range of habitats at Hanger Wood SSSI and consider opportunities for extending and linking habitats beyond the site with disease resistant species of similar association.
- 1A.1.29 Bring existing ancient woodlands under appropriate management regimes where possible e.g. reintroduce coppice management if appropriate.
- 1A.1.30 Maintain and enhance surviving historic boundaries, and enhance the condition and structure of hedgerow boundaries by focussing hedgerow restoration between remaining sections so as to strengthen the landscape pattern – this is a key requirement alongside field boundaries and roads.
- 1A.1.31 Enhance the character and presence and ecological resource of the subtle tributary valleys by planting appropriate species along their water courses, enhancing the relationship with the adjacent Limestone Valleys landscape type, and emphasising key GI corridors.
- 1A.1.32 Conserve the ancient woodland blocks and spinneys e.g. Kempston Wood, Holcott Wood and Lambert's Spinney and apply an appropriate management strategy to enhance ecological interest. Consider opportunities for linking small areas of isolated woodland by new planting and hedgerow restoration.
- 1A.1.33 Consider opportunities for woodland planting along existing and proposed road corridors including the A421, A422 and A428. This would help integrate the agricultural land and urban infrastructure.
- 1A.1.34 Conserve the character of the rural roads and limit urbanising influences – widening/kerbing and ensure that traffic management measures are sympathetic to the rural character.
- 1A.1.35 Retain views from elevated areas to the lower lying Clay Vales (5C and 5D) and to the Mid Greensand Ridge (6B) and conserve views to undeveloped horizons.

Development guidelines

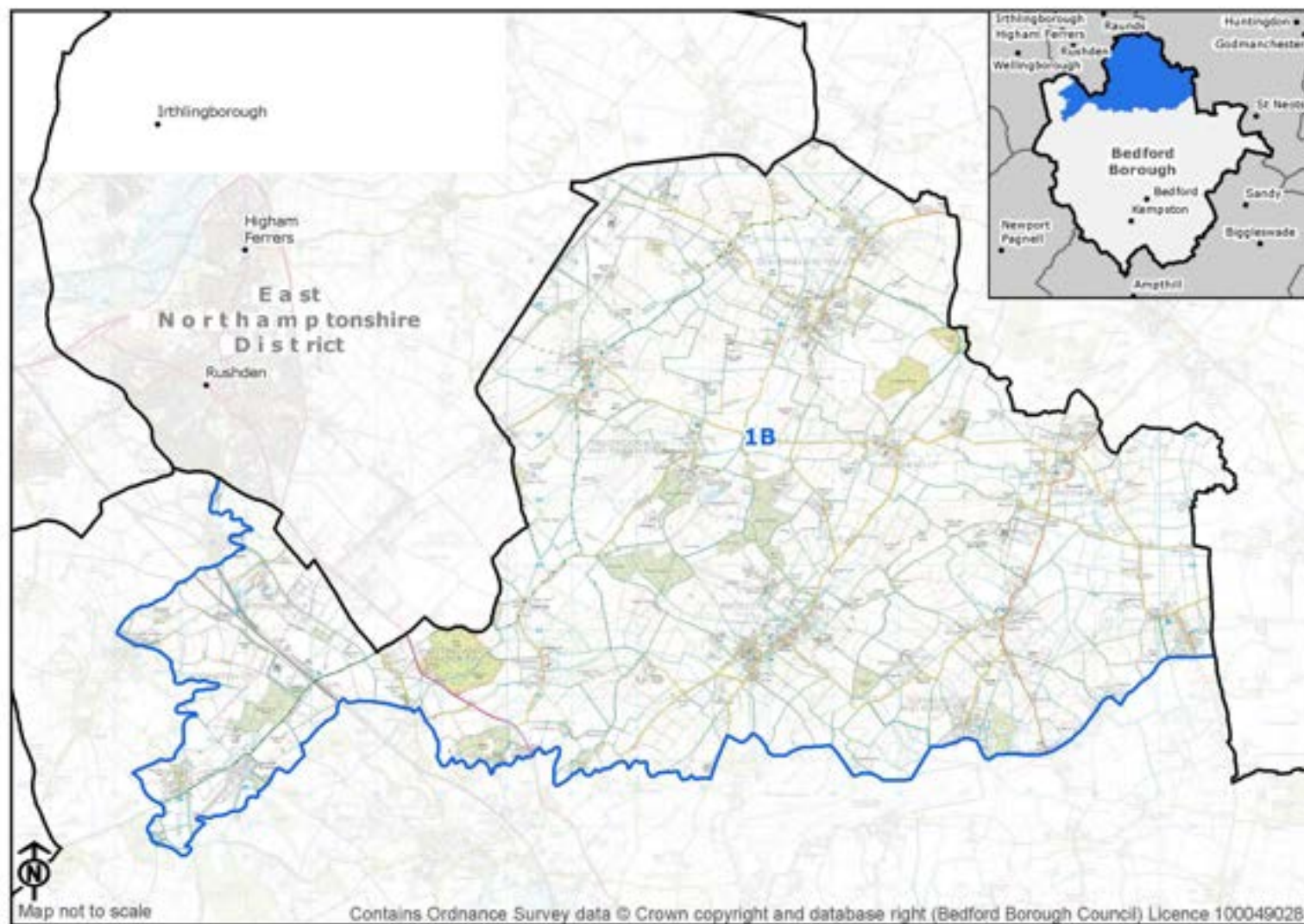
- 1A.1.36 Conserve the largely rural, undeveloped character of the area.
- 1A.1.37 Consider the effects of further eastwards expansion of Milton Keynes in the context of views from this open, elevated landscape.
- 1A.1.38 Conserve the individual village identity and dispersed, open/loose settlement character of Stagsden and respect the open views towards the church spire.
- 1A.1.39 Monitor the introduction of large scale industrial style agricultural buildings into the landscape and seek to limit inappropriate screening by dense coniferous shelterbelts.
- 1A.1.40 Consider the effects of large scale vertical features on skylines and key views.

- 1A.1.41 Conserve and enhance the character of the rural roads and lanes. Many rural roads within this area are already used as 'rat runs' to provide access between the arterial routes of the A421, A422 and A428.

Bedford Borough Landscape Character Assessment



1B Riseley Clay Farmland



1B Riseley Clay Farmland

Location and boundaries

- 1B.1 Riseley Clay Farmland character area is a large area of clayland covering the northern section of Bedford Borough. The change in topography marking the transition to the less settled and more level Thurleigh Clay Farmland defines the boundary to the south with boundaries following roads. To the south west the area is bounded by the change in geology to the limestone of the Wooded Wolds. To the north the edge of the Borough forms the boundary, with the landscape continuing across the administrative boundary as part of the Northamptonshire Farmed Claylands.

Summary of landscape character: Key characteristics

- | | |
|---------|--|
| 1B.1.1 | Open lowland founded on Oxford Clay, subtly varied with gently undulating valleys. |
| 1B.1.2 | A rural, peaceful area with a remote feel. |
| 1B.1.3 | Dominated by arable farmland with some scattered woodlands and smaller horse paddocks near to settlements. |
| 1B.1.4 | Varied field pattern with small to medium fields around villages plus open areas of larger geometric fields bounded by hedgerows, fences and ditches. |
| 1B.1.5 | Hedgerows are in mixed condition with some low flailed and gappy or lost leaving extensive areas of open, arable land. |
| 1B.1.6 | A number of ancient semi-natural woodlands have been retained (such as Holcott Wood and Hanger Wood) located predominantly along the eastern boundary, on slopes falling towards the North Marston Vale. |
| 1B.1.7 | Scattered woods give variety to the distant views and include some ancient woodlands of high biodiversity interest including Swineshead Wood SSSI. |
| 1B.1.8 | A few isolated areas of neutral unimproved grassland retain national importance for their biodiversity, notably Yelden Meadows. |
| 1B.1.9 | Tributaries of the River Great Ouse traverse the area from west to east, their courses marked by isolated willows, crossed by modest bridges and forming a focus for settlement. |
| 1B.1.10 | Dispersed settlement, low but even in density, consists of scattered farmsteads and villages, many made up of loose knit small groups of buildings known as 'ends'. |
| 1B.1.11 | Farms and cottages are built of brick and render, with thatch and clay tile roofs while tall stone churches form landmarks in the level landscape. Distinct chequerboard brickwork at Riseley. |
| 1B.1.12 | Settlements often shelter amongst mature trees, Wilden being a case in point. |
| 1B.1.13 | A network of small rural roads and lanes often with wide grass verges cross the area although the presence of the A6 is felt locally in some poorly maintained and vacant sites along its route. |
| 1B.1.14 | Remnants of the extensive medieval settlement of the area are present in frequent moated sites, earthworks denoting deserted or shifted villages and disused or isolated churches. |
| 1B.1.15 | The historic parks at Melchbourne include ancient woodland, parkland trees and medieval earthworks. |
| 1B.1.16 | Disused World War II airfields are a feature of the higher plateaux. The absence of field boundaries emphasises the 'empty' character of these areas which are often a |

focus for renewable energy development e.g. Chelveston and Podington.

1B.1.17 Consistent network of footpaths, bridleways and green lanes with the Three Shires Way crossing the north west of the area.

1B.1.18 Views are generally distant over the subtly undulating open farmland with blocks of woodland and wind turbines often visible on the skyline.

Landscape character description

Physical and natural landscape character

- 1B.2 The Riseley Clay Farmland character area is a low lying landscape ranging from 30m to 90m AOD, with subtly varied topography founded on Oxford Clay overlain by Valley Gravel along some tributaries and Boulder Clay in higher areas. The area is dominated by arable farmland but scattered woodlands (some ancient) give variety, often crowning the horizon in long views across the level fields. The large and medium fields are bounded by hedges and ditches, the former in mixed condition. Smaller fields and occasional horse pastures are clustered around settlements. Hedgerow trees, usually ash or oak are present, many mature and sometimes within fields marking lost hedgerows. Recent planting is also evident in lines of semi-mature trees especially lining roads. A number of tributaries of the River Great Ouse run from west to east, crossed by modest bridges, their valleys forming a focus for settlement and tree cover. Their progress through the open fields is sometimes marked by the presence of isolated mature willows. There are also a few areas of neutral unimproved grassland (managed as hay meadows) of high ecological value. This is a peaceful, rural area with a dispersed but regular pattern of scattered farmsteads and small villages with frequent medieval earthworks and tall stone churches. The major trunk road of the A6 passes through the west of the area and here disused and untended plots of land give an air of neglect locally.



Distant views with wooded skylines in the north of the character area, to the north of Lower Dean



Stone church at the Vicarage near Keysoe forms a landmark in views from the north and south

Biodiversity

- 1B.3 Farmland habitats are widespread in this area including arable field margins, hedgerows, ponds, ditches and improved grassland. There are also scattered blocks of ancient semi-natural woodland dominated by oak and ash. Swineshead Wood SSSI, at the north east of the area, is a good example of ash-maple woodland with rich shrub and ground flora species which has been managed in the past as coppice with standards. Unimproved grassland would have been a feature of this area in the past and small areas remain such as the species rich neutral grassland at Yelden Meadows SSSI. Wetland habitats include minor tributaries of the River Great Ouse, woodland and farmland ponds and field ditches.

Visual and perceptual character

- 1B.4 The often level to gently undulating topography and the large landscape scale results in long views, fringed by wooded horizons. Wind turbines form prominent features on the skyline, particularly to the north and west of the area. The lightly developed character and dispersed settlement pattern creates an often remote, isolated landscape character.

Cultural pattern and historic character

- 1B.5 Occupation of this area began during the Bronze Age, as is indicated by the cropmarks of ploughed out barrows in some of the tributary valleys. By the late Iron Age and Roman period, the landscape was extensively settled and would have been comparatively open. The evidence for this period is in the form of numerous scatters of enclosures known from aerial photography, usually located on the top of the Boulder Clay ridges or spur ends, or on the gravels in the lower reaches of the tributary valleys.
- 1B.6 As a result of regeneration in the immediate post-Roman period, woodland dominated the ridge-tops in the earlier middle ages. Woodland clearance (assarting) resulted in a pattern of small irregular fields.
- 1B.7 The medieval villages tended to be located in the valley floors, surrounded by small irregular closes, often containing the earthwork remains of shrunken and shifting villages and hamlets. The settlement pattern is more nucleated towards the north and west of the area, but more dispersed in the east (Pertenhall and Keysoe historic parishes). The open fields were not extensive, occupying the gaps between the settlements and the woodland assart areas; the enclosure fields which replaced them tended not to be very regular, but have been subject to some boundary loss in the 20th century. The construction of Second World War airfields at Chelveston and Podington led to the removal of wide areas of historic boundaries.
- 1B.8 Melchbourne Park and its surroundings is an area representing good survival of historic features, including ancient woodland, historic boundaries and medieval earthworks. Scheduled monuments include Yelden Castle and village earthworks, and medieval moats at College Farm (Keysoe), Wold Farm (Odell) and Hall Close (Riseley).



Typical thatched cottage near Keysoe



Wind turbines at Chelveston dominate the skyline of the Til Valley

Settlement pattern and built character

- 1B.9 Settlement within the Riseley Clay Farmland character area takes the form of dispersed rural villages and scattered farmsteads. Villages often shelter in the tributary valleys, either following the line of the tributary or rising up the contours along roads that cross the watercourse and are sheltered by mature trees. Some of the villages consist of a number of 'ends' often just made up of a few farms, cottages or a church. Examples of this are Pertenhall and Little Staughton. The spires of the frequent stone built churches form landmarks in this fairly level, open landscape. Other buildings are constructed of red brick, or rendered, occasionally with timber frames, and with thatch or tiled roofs. Many of the rendered cottages in linear plots cut out of former wide verges, are of clay lump construction. Riseley, by contrast has distinct chequerboard brickwork. The earthworks of deserted or shifted medieval villages are often found within or near to current settlements such as at Riseley. The settlements are highly rural, often without street lighting. Large-scale agricultural buildings, such as sheds for egg production, are a prominent feature in this open landscape.
- 1B.10 Former RAF airfields on the higher plateaux at Chelveston and Podington have been redeveloped as renewable energy parks with both solar and wind farms.

Evaluation

Landscape Change

Past change	Potential future change
Agricultural intensification and attendant loss of hedgerows and some small scale landscape features	Small scale development in villages which could lead to loss of their distinctive character/ 'Ends'
Decline in active woodland management	Highway upgrades which could affect rural character
Dutch Elm Disease	Demand for renewable energy, notably solar farms
Construction of small wartime airfields and subsequent abandonment	Demand for large scale agri-industrial buildings
Renewable energy development of wind and solar farms on former airfields	
Large scale agri-industrial buildings	

Key positive landscape features/strategic sensitivities of the landscape

- 1B.1.19 The network of hedgerows and hedgerow trees which are vulnerable to further loss through lack of consistent maintenance and renewal of trees.
- 1B.1.20 Fields close to settlement are vulnerable to subdivision for horse paddocks with consequent change of boundary character.
- 1B.1.21 The field trees (remnants of former field boundaries) which may be lost due to over-maturity and lack of appropriate management.
- 1B.1.22 The pattern of dispersed farmsteads and rural villages with their distinctive structure of 'ends' which is vulnerable to infill and ribbon development along roads.
- 1B.1.23 Tall stone built churches forming landmarks and creating a sense of place.
- 1B.1.24 The historic earthworks and moats often associated with current day settlements and the remains of historic parks which are vulnerable to lack of management.
- 1B.1.25 High level of recreational access via rights of way network including the Three Shires Way.
- 1B.1.26 Areas of ecological value including ancient woodlands and unimproved grassland which require sustained management.
- 1B.1.27 The tranquil, rural nature of the landscape which is vulnerable to urban influence particularly along the A6 trunk road and around the renewable energy development, particularly on former airfields.
- 1B.1.28 Survival of irregular field pattern in assart areas and round historic settlements, often with earthwork remains.
- 1B.1.29 Melchbourne Park and environs, comprising a significant survival of historic features.

Visual sensitivities

- 1B.1.30 The sense of openness, wide views and skylines given variety by the subtly changing landform and the scattered woodlands which are vulnerable to the influence of large scale features including turbines and agri-industrial sheds.
- 1B.1.31 The views to church spires, which are visually prominent landmarks in the landscape.

Landscape Strategy

The overall landscape strategy for the Riseley Clay Farmland character area is to **conserve** the open rural landscape with its scattered small scale settlements and farmsteads, and historic earthworks, parks and ancient woodlands and grasslands of high biodiversity value (seeking to give expression to the aspirations of a connected GI network shown in the Bedford GI Strategy) while enhancing the elements of the landscape which are in declining condition or detract from the rural character, in particular the hedgerows and hedgerow and field trees, and the margins of the A6.

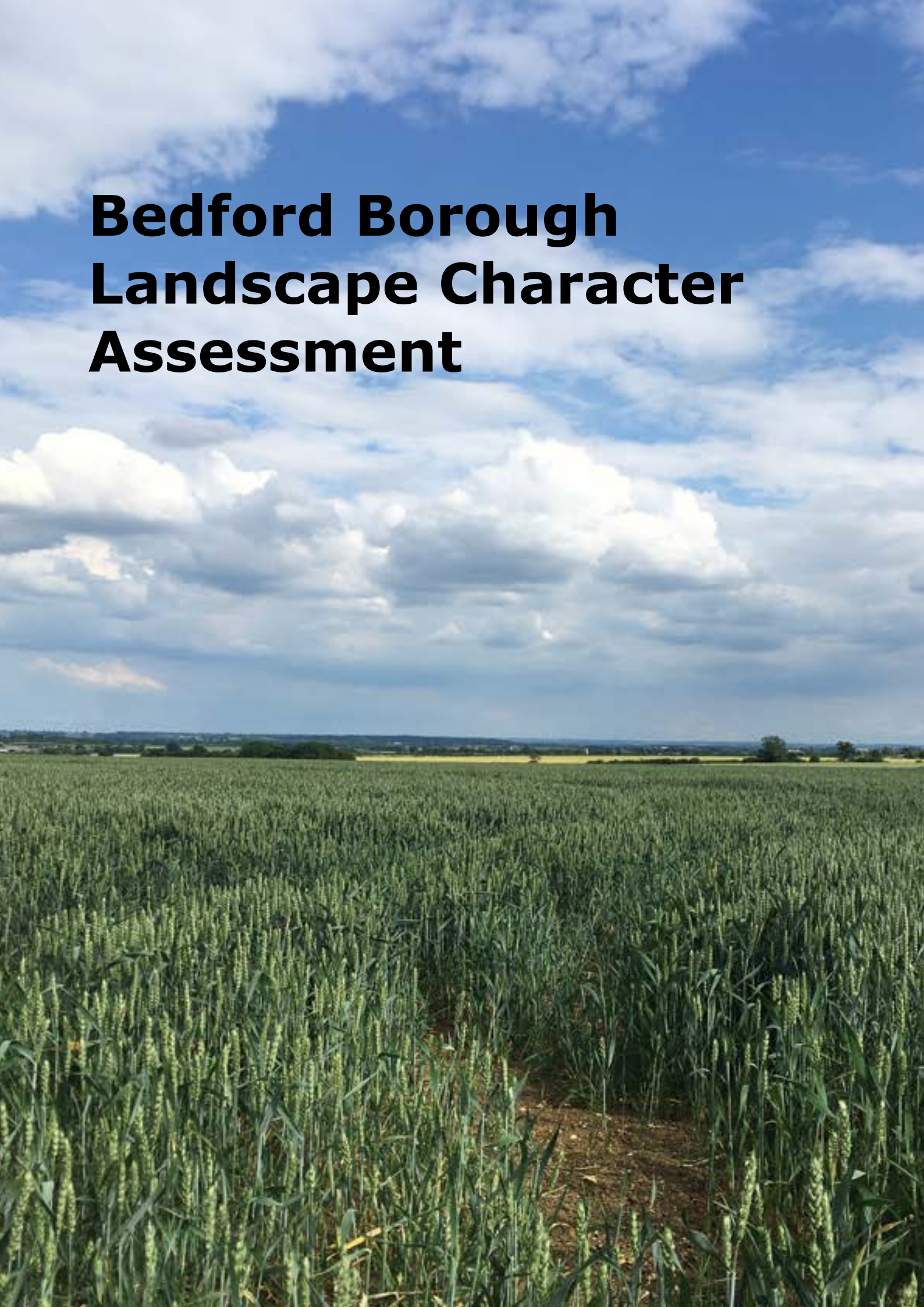
Landscape management guidelines

- 1B.1.32 Conserve, enhance and restore the woodlands through effective long term management and replanting to retain their character and ecological value.
- 1B.1.33 Promote traditional woodland management techniques such as coppicing.
- 1B.1.34 Promote the use of locally appropriate species such as oak and field maple within woodlands and hedgerows and for shelter belts in preference to non-native conifers.
- 1B.1.35 Encourage growth of new hedgerow trees. Enhance the hedgerows by replanting and consistent management and resist development that will result in further loss/fragmentation of hedgerows and hedgerow trees.
- 1B.1.36 Conserve the historic field pattern and avoid further enlargement or subdivision for horse paddocks. Conserve field trees through management of surrounding arable land by for instance avoiding ploughing over tree root zones and taking opportunities to plant new field trees.
- 1B.1.37 Conserve the existing neutral unimproved grassland sites and take opportunities to extend these and create new species rich hay meadows.
- 1B.1.38 Conserve and where appropriate encourage restoration of the historic parkland to maintain and restore key elements such as parkland trees and boundary features.
- 1B.1.39 Record and conserve historic features such as moated sites and medieval earthworks and promote greater understanding of these.
- 1B.1.40 Conserve the character of the rural roads with their wide grass verges and limit urbanising influences – widening/kerbing and ensure that traffic management measures are sympathetic to rural character, avoiding unnecessary signage and associated clutter. Seek to rationalise street signage as far as possible.
- 1B.1.41 Conserve historic features such as moated sites and medieval earthworks, and their settings, and promote greater understanding of these.
- 1B.1.42 Seek to contribute to GI strategy objectives in conserving and enhancing areas of wetland habitats/tributaries, so that these form a robust and connected network.
- 1B.1.43 Promote planting of trees and hedges along the rural roads, and appropriate management of verges to enhance local character.

Development guidelines

- 1B.1.44 Conserve the scattered farmsteads and historic villages with their pattern of dispersed 'ends' and the views to the stone churches.
- 1B.1.45 Retain the individuality of settlements avoiding merging these through linear development along roads.
- 1B.1.46 Conserve open views across the rural landscape which are vulnerable to change from large scale development including renewable energy and agri-industrial buildings.
- 1B.1.47 Ensure proposals for solar farms and associated infrastructure are appropriately integrated into this tranquil and rural setting.

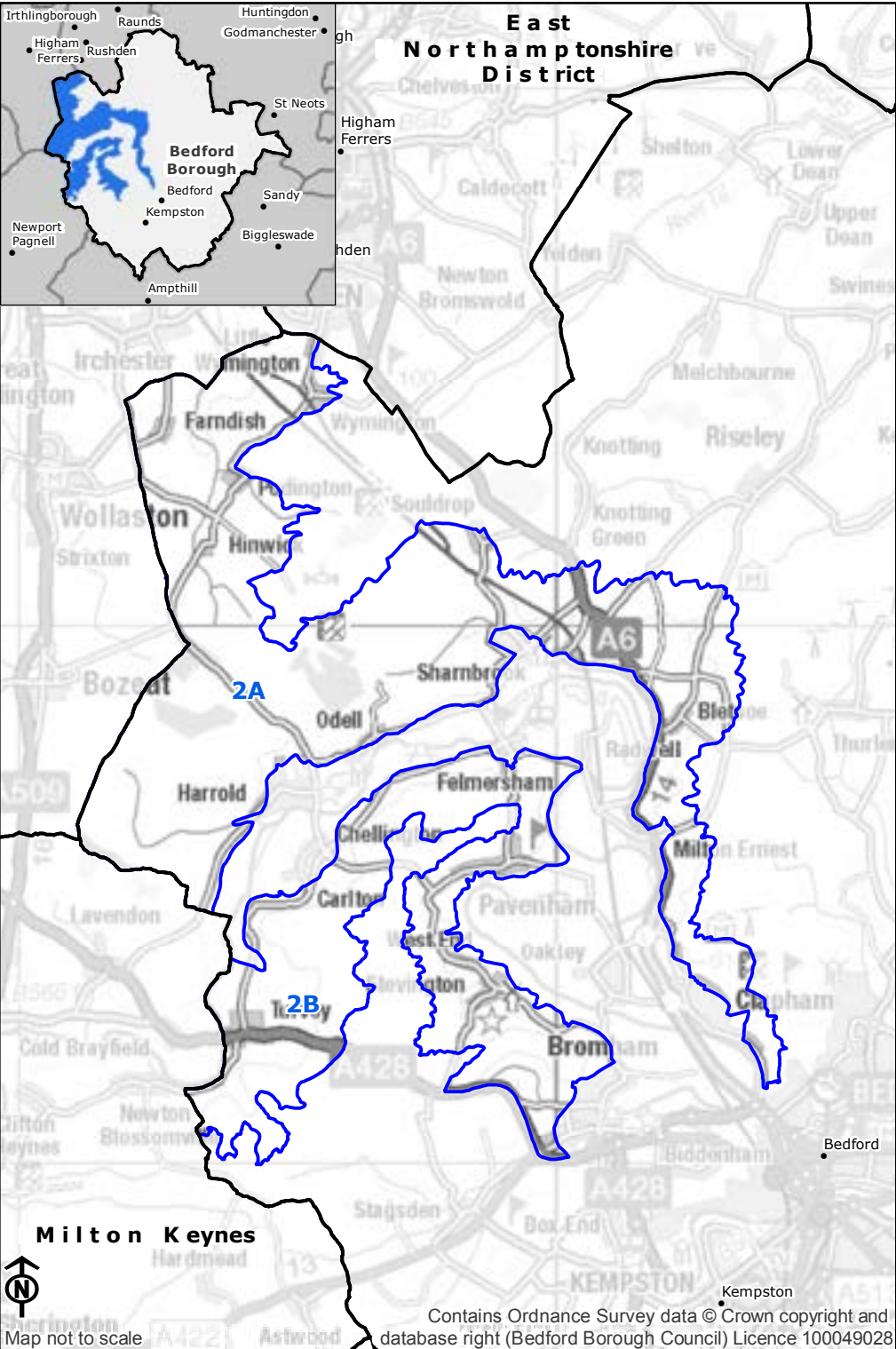
Bedford Borough Landscape Character Assessment



TYPE 2: WOODED WOLDS



Field boundary wall north-east of Podington



Map not to scale

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TYPE 2: WOODED WOLDS

Key Characteristics

- Predominant underlying solid geology of Oolitic Limestone.
- Elevated plateau with a sloping landform cut by tributaries of the River Great Ouse forming subtle valleys.
- Small to medium scale landscape with an enclosed, peaceful character.
- Significant woodland cover, including several ancient woodland sites, for example Park Wood and Odell Great Wood (SSSI).
- Predominantly linear hamlets and villages unified by consistent use of limestone as a building material.
- A land use characterised by mixed arable and pastoral farming.
- Horse grazing frequently focussed at settlement edges.
- Gaps in tree cover provide commanding views across the adjacent Limestone Valleys.
- Registered Historic Park and Garden at Hinwick Hall.
- The Three Shires Way and the John Bunyan Trail are important recreational routes crossing through the landscape.

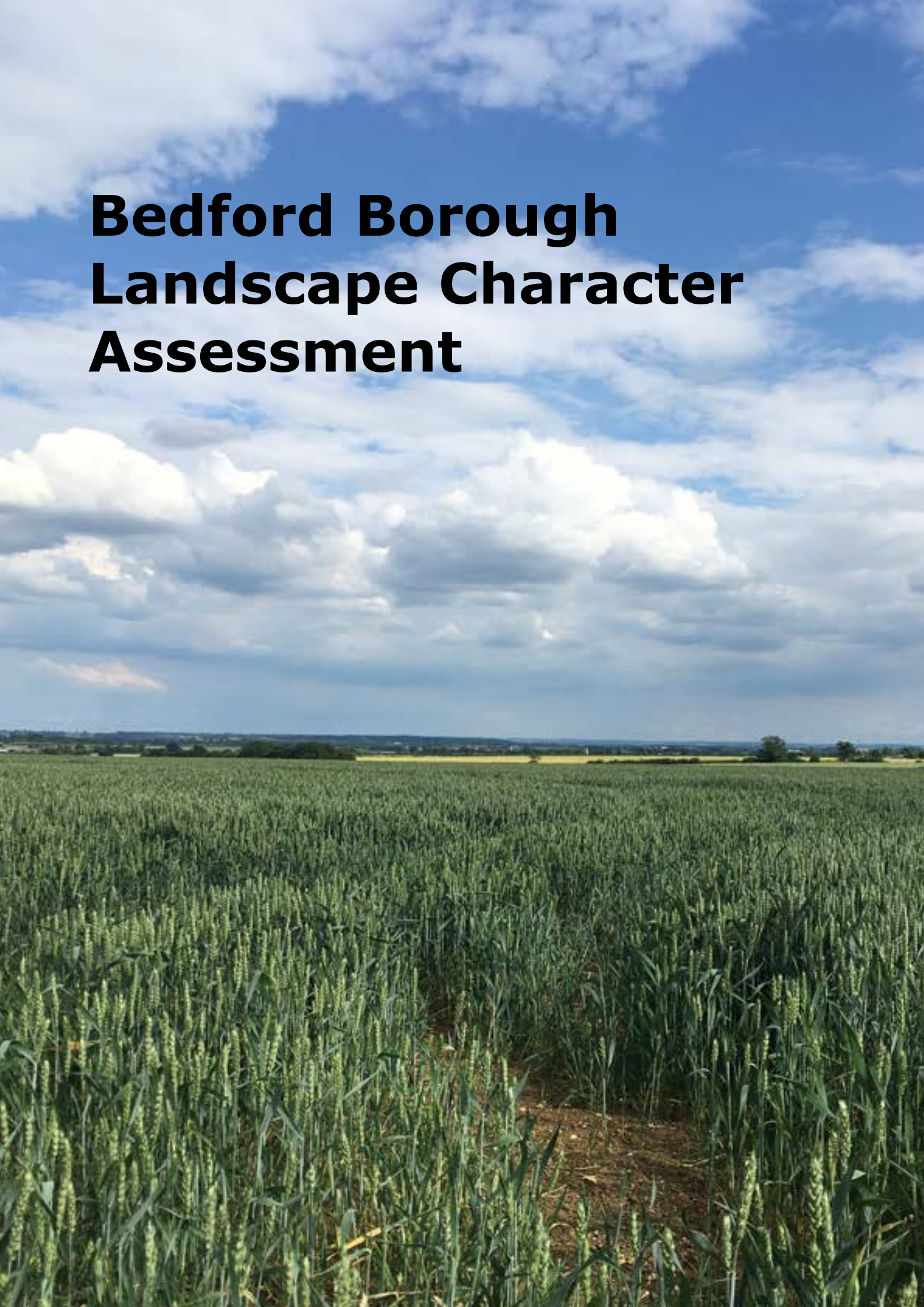
Landscape Character Areas

Landscape character areas within the Wooded Wolds landscape type in the Bedford Borough are:

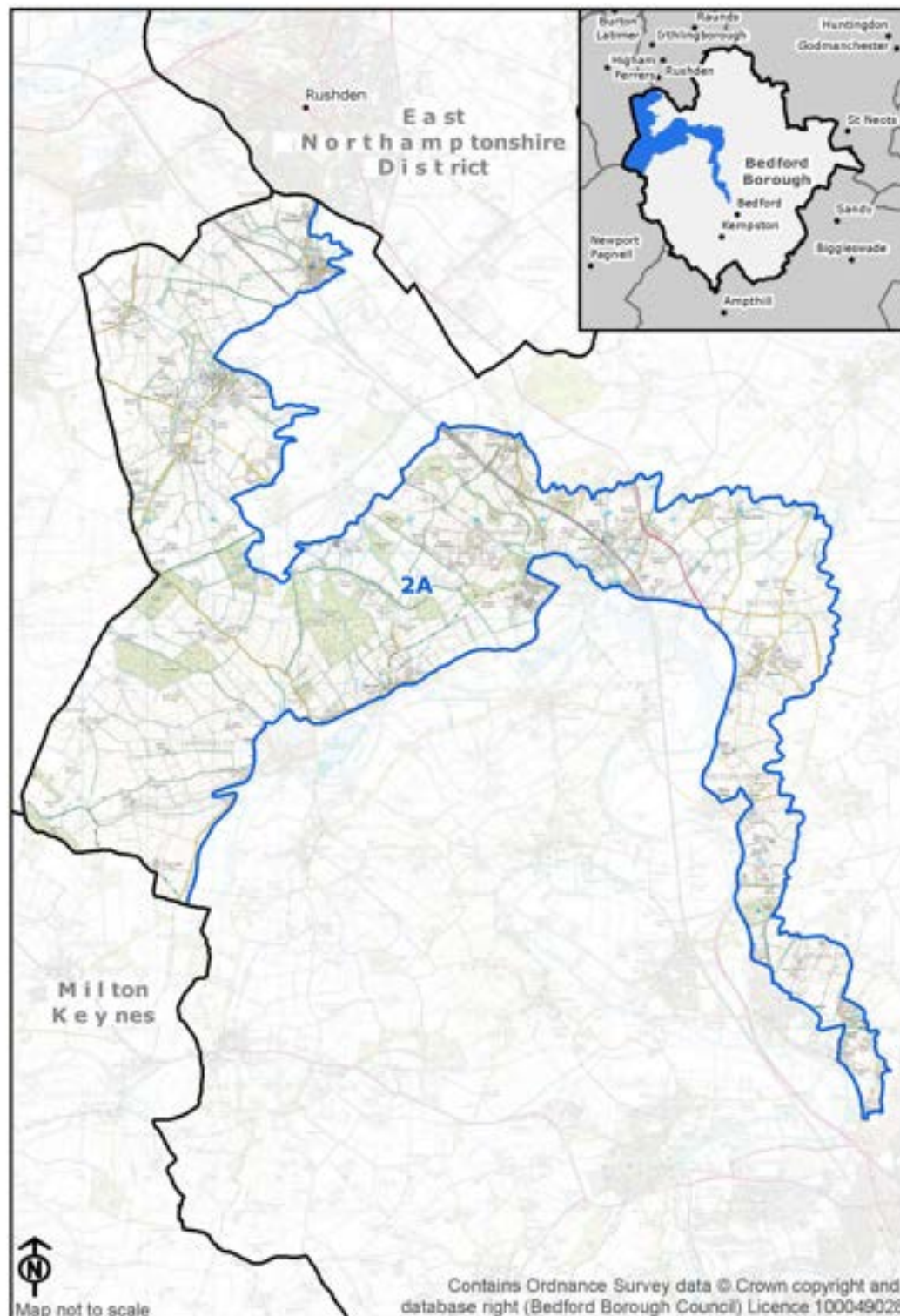
2A Hinwick Wooded Wolds

2B Pavenham Wood Wolds

Bedford Borough Landscape Character Assessment



2A Hinwick Wooded Wolds



2A Hinwick Wooded Wolds

Location and boundaries

- 2A.1 The *Hinwick Wooded Wold* is an elevated Oolitic limestone outcrop to the north-west of the borough defined by the extent of the solid geology. It forms part of a limestone ridge extending westwards out of the borough. The landscape occurs over the northern sloping valley sides of the River Great Ouse, separating the lowland *Harrold-Great Ouse Limestone Valley* landscape character area (3A) from the undulating Clay Farmland landscapes to the east.

Summary of landscape character: Key characteristics

- 2A.1.1 An elevated plateau founded on solid geology of Oolitic Limestone with drift geology of Boulder Clay and some Glacial Gravel.
- 2A.1.2 Rolling, gently sloping landform cut by tributaries of the River Great Ouse forming subtle valleys.
- 2A.1.3 Small to medium scale landscape with an enclosed, peaceful character. Enclosure consists of thick hedgerows with frequent hedgerow trees of oak and sycamore.
- 2A.1.4 A land use characterised predominantly by arable farming with some pasture.
- 2A.1.5 Significant woodland cover, including several ancient woodland sites, for example Park Wood and Odell Great Wood (SSSI).
- 2A.1.6 Sparse settlement of farmsteads and small villages unified by consistent use of limestone as a building material.
- 2A.1.7 Rural roads cross the area and connect the settlements, but large sections of the landscape are accessible only by tracks and footpaths.
- 2A.1.8 Registered Historic Park and Garden at Hinwick Hall and at Hinwick House made evident in the landscape by avenue approach and woodland blocks and spinneys.
- 2A.1.9 Historic earthworks include the scheduled manorial earthworks at Castle Close, Sharnbrook and Bletsoe Castle and the shrunken medieval village at Milton Ernest.
- 2A.1.10 Network of footpaths and bridleways with The Three Shires Way forming an important recreational route crossing the landscape.
- 2A.1.11 Gaps in tree cover provide commanding views across the adjacent Harrold-Great Ouse Limestone Valley and the rising ground of the area forms a rural context for the valley.
- 2A.1.12 Valley side settlements on the fringe of the adjacent LCA area 3A overlook the character area, such as Sharnbrook and Odell.
- 2A.1.13 The relative elevation and rolling landform allows occasional views of wind turbines on the north eastern edge of the character area.

Landscape character description

Physical and natural landscape character

- 2A.2 The distinctive sloping and gently undulating landscape is created by the underlying limestone, which is cut by tributaries of the River Great Ouse which form subtle valleys. The undulating land is predominantly cultivated for arable use; the fields being enclosed by a well maintained network

of hedgerows and hedgerow trees (predominantly oak and ash). Some horse paddocks are visible at the edges of villages.

- 2A.3 The landscape has a strong historic character and contains a significant amount of woodland, much of ancient origin. The woodland is predominantly deciduous, occurring in a series of fragmented blocks, swathes and belts of varying sizes. Odell Great Wood is perhaps the most significant area of ancient woodland, and is designated as a SSSI.
- 2A.4 The combination of woodland cover and undulating, sloping landform creates a sense of semi-enclosure with views that are generally framed or intermittent. Woodland blocks along rural roads provide channelled views. This provides for occasional contrasting views when a gap in the woodland cover affords commanding views across the adjacent Harrold-Great Ouse Limestone Valley. The area also forms a rural backdrop to this more settled valley landscape.
- 2A.5 Hinwick Hall and its immediate surroundings imparts a designed 'parkland' character, and alongside the blocks of ancient woodland and the well preserved limestone villages such as Odell (including Odell Castle) creates a landscape with a sense of history. The irregular, sinuous pattern of early enclosure remains in parts of the character area although areas of post 1950s hedgerow loss (e.g. north of Odell) marks an erosion of the historic, small scale field patterns as fields are enlarged to encompass modern farming methods.
- 2A.6 The distinctive settlement character is a key feature, with hamlets being connected by narrow rural lanes. There is an absence of main transport routes which makes for a peaceful, largely uninterrupted character area. The consistent vernacular of honey-grey limestone houses and walls, an intact hedgerow network and the network of rural roads create a simple and unified landscape.

Biodiversity

- 2A.7 Farmland habitats such as arable field margins, species rich and modern hedgerows, ponds, ditches, improved grassland and road verges are a widespread feature in this character area and support a range of farmland species. The numerous stands of ancient semi-natural woodland are dominated by oak and ash. Conifers have been planted on some stands of ancient woodland such as parts of Odell Great Wood SSSI, and broad-leaved plantations are also occasional. Small areas of scrub and secondary woodland have also developed in places, such as along some of the watercourses.



Occasional views across the valley of the River Great Ouse - from west of Sharnbrook, with Thurleigh business park in the distance



Green lanes are a local feature of the landscape

- 2A.8 Unimproved neutral grassland would have been a feature of the area in the past though much has been lost as a result of agricultural improvement and ploughing. Green lanes such as Hinwick Roman Road and many of the woods contain small areas of neutral grassland within and adjacent to them. The areas of parkland at Hinwick contain veteran or ancient trees and areas of semi-improved neutral grassland.

Visual and perceptual character

- 2A.9 The relative elevation and gaps in tree cover create commanding views of the adjacent LCA Harrold-Great Ouse Limestone Valley (3A) and the rising topography of this character area forms a rural setting for the valley landscape.
- 2A.10 The elevated and rolling landform allows occasional views of wind turbines in the adjacent lowland clay farmland on the north east edge of the character area, such as adjacent to the Santa Pod Raceway near Podington.
- 2A.11 The rural character, sparse settlement pattern and the lightly distributed network of tracks and paths combine to create a sense of tranquillity.

Cultural pattern and historic character

- 2A.12 There is evidence of later prehistoric and Roman occupation in this area, mainly in the form of cropmark sites and, on the western edge, a substantial Roman pottery production site. Extensive evidence of iron smelting, from possibly the late Iron Age to the Middle Ages, has been found in the woodland areas around Harrold, Odell and Colworth, and above Milton Ernest. These exploited the ready source of fuel to smelt ores derived from the Nene valley to the north. The road which runs north from Harrold Bridge towards Irchester is an ancient routeway, possibly pre-Roman in origin. Its line is strongly related to the natural terrain, following an Ouse valley tributary and then the boulder clay ridge-top.
- 2A.13 On the top of the Boulder Clay ridge, there appears to have been substantial regeneration of woodland in the immediate post-Roman period, when the area formed part of the wider landscape of woodland and wood pasture known as Bromswold. Woodland was dominant in the medieval landscape on the upper areas of Harrold and Odell parishes, and in the former township of Colworth. Intervening areas along the Boulder Clay ridge were subject to medieval assarting resulting in the creation of irregular fields. The valley slopes were predominantly in open field cultivation, with smaller irregular ancient closes round the settlements. In some places, population pressure led to the establishment of new settlements over the former open field land away from the original village, notably at Hobbs Green, Odell and North End, Bletsoe.
- 2A.14 There was early private enclosure in the parishes of Odell, Bletsoe and Clapham, with other areas subject to parliamentary enclosure in the later 18th/early 19th century. Generally the historic field patterns have survived well, though there has been some loss of boundaries during the later 20th century, notably around Farndish, Sharnbrook and to the north of Wymington.
- 2A.15 Scheduled manorial earthworks are located at Castle Close, Sharnbrook (on the end of a spur of Boulder Clay) and Bletsoe Castle. The shrunken/abandoned medieval villages at Milton Ernest and Little Odell are scheduled; there are also some settlement earthworks at Souldrop. Ridge and furrow occurs in pockets across the area, particularly around Podington and Hinwick.
- 2A.16 The parks at Hinwick House and Hinwick Hall are both registered Grade II.



Traditional limestone settlements associated with prominent churches.



Wind turbines on the edge of the character area.

Settlement pattern and built character

- 2A.17 Settlement is sparse in the *Hinwick Wooded Wolds*, and consists of scattered farmsteads and small contained hamlets and villages along narrow winding rural roads plus the large scale buildings of the research establishment at Colworth House (which are largely concealed by woodlands). Villages such as Podington, Hinwick and Bletsoe are characterised by traditional limestone buildings often with thatched roofs. More modern brick buildings are also present, particularly at Little Wymington which is on the border of the claylands to the east. Settlements are often associated with mature trees and small woodlands, visually integrating them with the surrounding rural landscape.

Evaluation

Landscape Change

Past change	Potential future change
Infill housing development within the limestone villages and hamlets e.g. at Little Wymington and extensions along rural lanes	Increase in horse paddocks and related infrastructure
Coniferous and other non-native species planted within ancient woodlands	Upgrading of rural roads through additional kerbing and signage to accommodate increasing traffic volume
Recreational use of the landscape – including vehicles on green lanes – and attendant damage	Further renewable energy developments - wind and solar within the area and in the adjacent lowland farmland
Development of paddocks	Demand for large scale agri-industrial buildings
Hedgerow removal post 1950s partially eroding the small-scale landscape	Village expansion and infill development of traditional nucleated villages
Business park development	
Renewable energy developments – wind and solar farms	

Key positive features/strategic sensitivities of the landscape

- 2A.1.14 The strong network of hedgerows (although occasionally gappy) which are vulnerable to loss through lack of consistent maintenance.
- 2A.1.15 The network of rural roads and green lanes with associated neutral grasslands that are vulnerable to damage by increased traffic and resurfacing operations, the green lane section of the prehistoric/Roman road west of Hinwick is a significant ancient landscape feature.
- 2A.1.16 The pattern of nucleated, limestone villages which is susceptible to infill development and extension along the rural lanes.
- 2A.1.17 The setting of the historic landscapes such as the registered parks at Hinwick Hall and Hinwick House.
- 2A.1.18 Good survival of ancient woodland and some areas of assart fields, along the boulder clay ridge, and generally good survival of historic field boundaries, all of which would be vulnerable to changes in management.
- 2A.1.19 Small surviving areas of neutral and semi-improved grassland.
- 2A.1.20 Some areas of earthwork ridge and furrow, and other well-preserved manorial or settlement earthworks.
- 2A.1.21 The tranquil, rural nature of the landscape that is vulnerable to village expansion and increased use of the network of rural roads, and further development.

Visual sensitivities

- 2A.1.22 Occasional views across the River Great Ouse Valley e.g. from south-facing slopes west of Sharnbrook.
- 2A.1.23 The sense of enclosure provided by the combined undulating landform and hedgerow network.
- 2A.1.24 Views to the largely undeveloped occasionally wooded ridges of the area from the adjacent Harrold-Great Ouse Limestone Valley and Oakley-Great Ouse Limestone Valley.
- 2A.1.25 The open views and skylines which are affected by the prominence of wind turbines in the adjacent lowland clay farmland, particularly in views from the north east of the character area.

- 2A.1.26 The historic landscape setting of Hinwick Hall and Hinwick House, and associated intervisibility with the wider landscape.

Landscape Strategy

The overall landscape strategy for the *Hinwick Wooded Wolds* character area is to **conserve** the rural landscape of rolling arable farmland with its largely intact hedgerow network, its scattered small scale limestone settlements and farmsteads, and historic earthworks, parks and ancient woodlands and grasslands of high biodiversity value while enhancing elements of the landscape which are in declining condition.

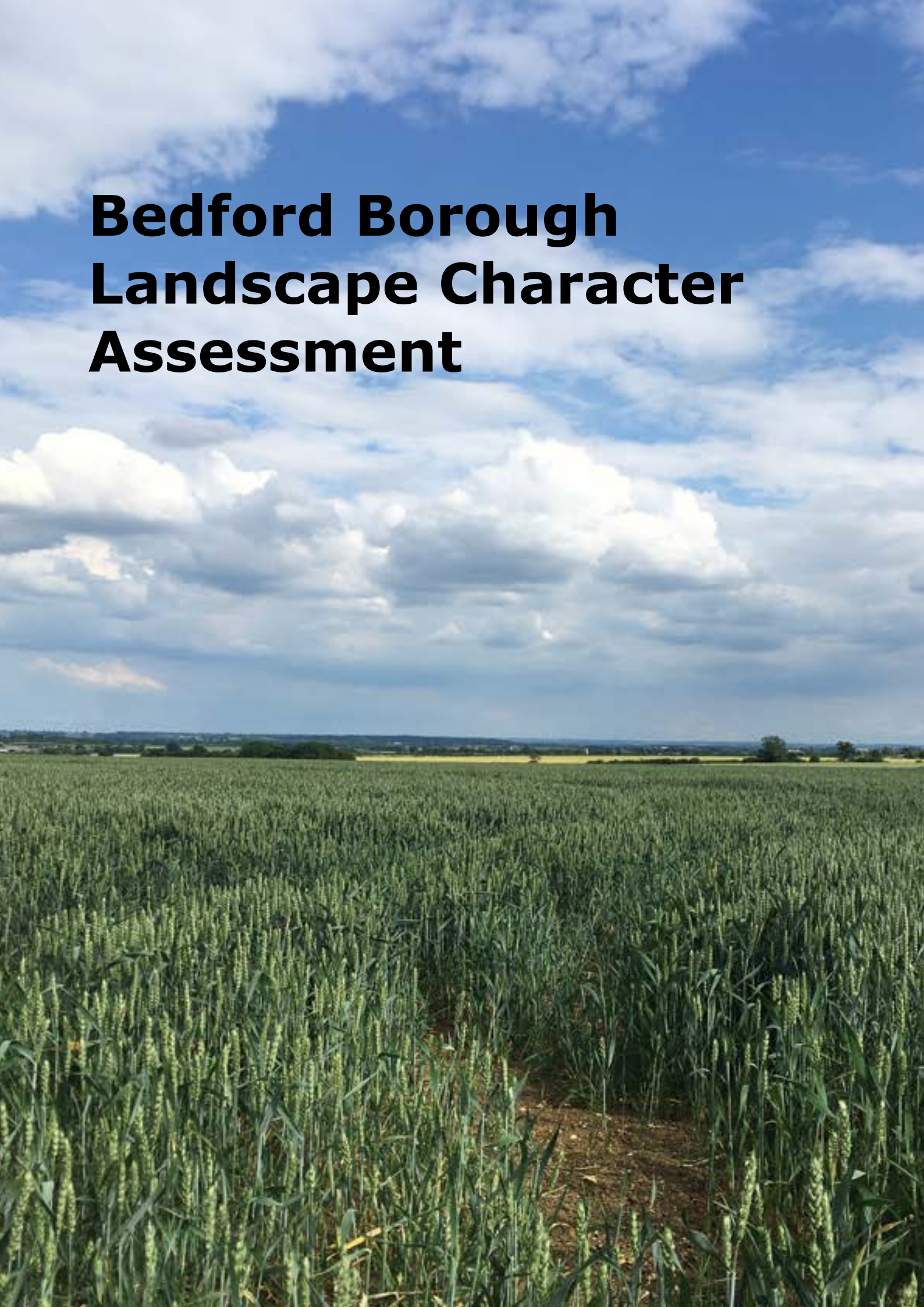
Landscape management guidelines

- 2A.1.27 Encourage the planting or regeneration of new broad-leaved woodland, in particular adjacent to and linking existing ancient woodland in the area and reflecting the historic pattern of woodland in the area.
- 2A.1.28 Conserve and enhance the historic field boundaries, replanting hedgerow and hedgerow trees where necessary.
- 2A.1.29 Manage and restore woodland, particularly ancient semi-natural woodland to conserve and enhance its biodiversity interest.
- 2A.1.30 Ensure the areas of grassland of high biodiversity value are conserved through appropriate management for instance grazing and/or hay cutting, and scrub control, and seek to enhance and restore a connected network of sites.
- 2A.1.31 Conserve historic earthwork sites and their setting.
- 2A.1.32 Ensure the areas of parkland around Hinwick Hall and Hinwick House receive appropriate management to conserve and enhance their historic and biodiversity value and to maintain them as a distinctive feature in the local landscape.
- 2A.1.33 Conserve the character of the rural roads with their wide grass verges and limit urbanising influences – widening/kerbing and ensure that traffic management measures are sympathetic to the rural character.
- 2A.1.34 Ensure that horse related development is sympathetic to the character of the area in materials and scale and respects the historic field pattern around the settlements.

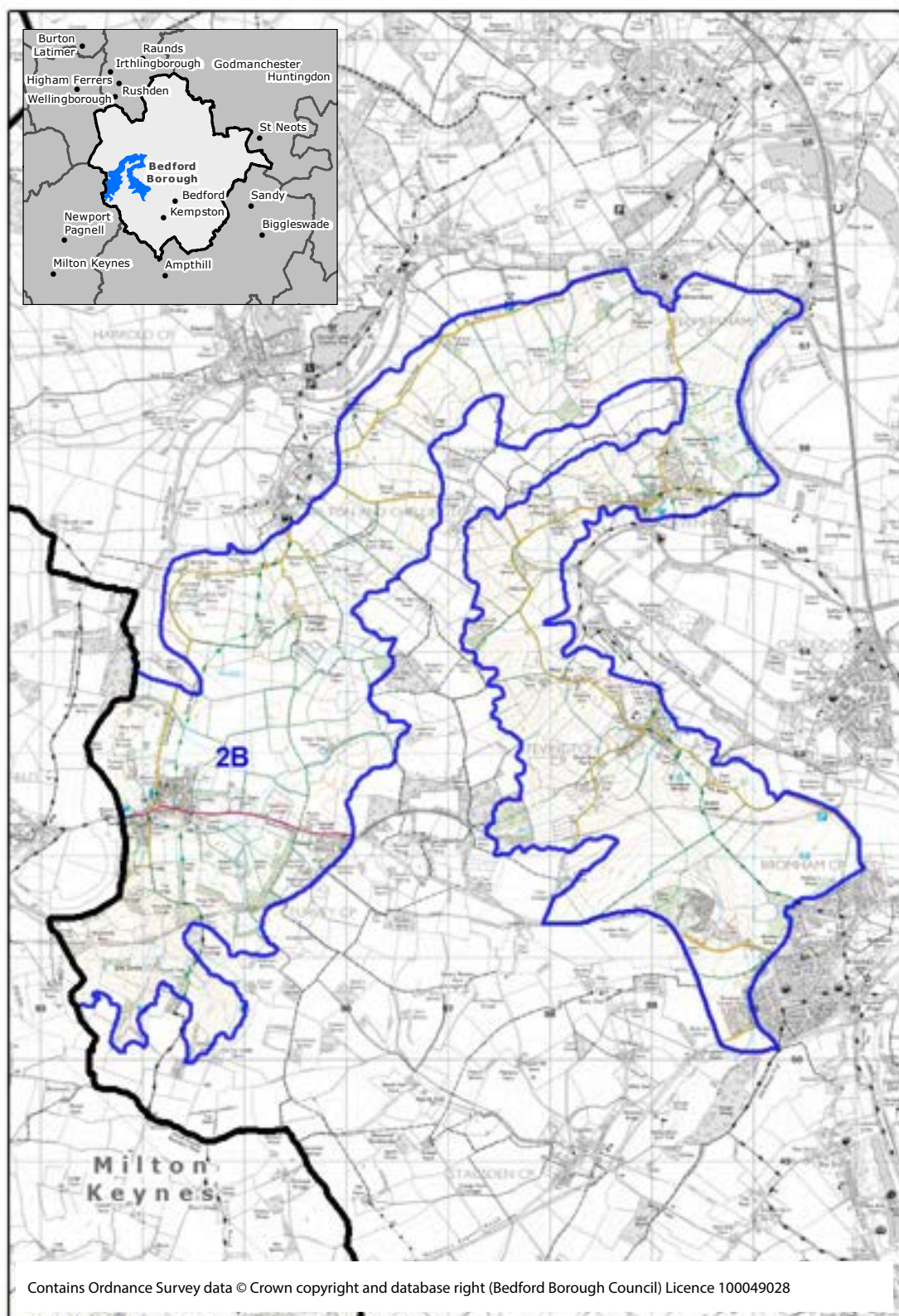
Development guidelines

- 2A.1.35 Retain the historic character of the limestone villages - encouraging any new development to be sensitive in its design by, for instance, incorporating existing character details in the style of buildings and materials.
- 2A.1.36 Retain the individual settlements avoiding merging these through linear development along roads for instance between Podington and Hinwick, or Wymington, Little Wymington and Rushden.
- 2A.1.37 Avoid large scale vertical features disrupting views e.g. across the River Great Ouse Valley, the occasional views to the wooded ridges and to Hinwick Hall and House and views across the lowland clay farmland to the east.
- 2A.1.38 Conserve the largely unsettled slopes above the River Great Ouse Valley that form a rural backdrop to this lower lying, more settled landscape.
- 2A.1.39 Ensure proposals for solar farms are appropriately integrated into their setting of this tranquil rural landscape.
- 2A.1.40 Refer to the 'Milton Keynes to Grafham Water – Wooded Wolds' for green infrastructure opportunities e.g. linking woodlands with access routes and centres of population, particularly enhancing the strategic Three Shires bridleway and Forty Foot Lane, hedgerow planting and management to re-establish the historic field pattern and enhance rights of way.

Bedford Borough Landscape Character Assessment



2B Pavenham Wooded Wolds



2B Pavenham Wooded Wolds

Location and boundaries

- 2B.1 Situated at the west of Bedford Borough *Pavenham Wooded Wolds* is an elevated Oolitic limestone outcrop forming a gently sloping buffer between the low-lying valley floor of the River Great Ouse and the elevated clay plateau of the *Cranfield to Stagsden Clay Farmland* character area (1A). Boundaries follow roads or contours broadly marking the change in geology and the rise of the valley slope above the valley floor or the change to the level plateau of the *Clay Farmland*.

Summary of landscape character: Key characteristics

- 2B.1.1 Sloping landform founded on Oolitic Limestone with drift deposits of Boulder Clay at higher elevations.
- 2B.1.2 Forms an intermediary landscape linking the flat floodplain of the River Great Ouse to the high ground of the *Cranfield to Stagsden Clay Farmland* (1A).
- 2B.1.3 Small to medium scale landscape with an enclosed, peaceful character.
- 2B.1.4 Land use characterised by arable farming, with pastoral landscapes being particularly associated with the historic parkland around Turvey House and Turvey Abbey.
- 2B.1.5 Medium scale geometric fields are enclosed by dense hedgerows while limestone walls form the boundaries of gardens and historic estates.
- 2B.1.6 The wooded character created by small woodland blocks such as Blackwell Spinney (including ancient woodland) is enhanced by frequent hedgerow trees.
- 2B.1.7 Settlement consists of scattered farmsteads, hamlets and villages built mainly of limestone, tall church spires form distinctive landmarks.
- 2B.1.8 Significant areas of parkland at Turvey evident in parkland trees, pasture and copses.
- 2B.1.9 Rural roads, often with wide grass verges, skirt the lower slopes at the edges of the adjacent valley landscape.
- 2B.1.10 The Stevington Country Walk is an important recreational route crossing through the landscape. Parts of the Ouse Valley Way wind across the edge of the area.
- 2B.1.11 Gaps in tree cover provide wide views across the adjacent *Limestone Valley* landscape type, and across into North Buckinghamshire. The wolds form a rural backdrop to the lower ground of the valley.

Landscape character description

Physical and natural landscape character

- 2B.2 This is a sloping, gently undulating landscape founded on limestone, overlain by drift deposits of boulder clay at the higher elevations. The area is predominantly under arable cultivation with medium and small scale fields irregular fields enclosed by a network of well-maintained hedgerows and hedgerow trees (predominantly oak and ash) interspersed with small blocks of woodland. There are pastures around Turvey on the historic parklands of Turvey Abbey and Turvey House. Other features of the parklands here are stone wall boundaries, mature parkland trees and woodland blocks. Locally, views to river meadows are important, as are views to the wetlands (former gravel pits within Harrold-Odell Country Park) in adjacent character area 3A.

- 2B.3 Much of the area has sparse settlement of a few scattered farmsteads although there are substantial villages at Stevington, Pavenham and Turvey. Rural roads skirt and rise up the slopes of the area. To the south the A428 crosses the area creating noise and movement in the largely peaceful landscape. The dismantled railway line (former Olney branch line) is a feature of the landscape south of Turvey.
- 2B.4 The combination of dense hedgerows, hedgerow trees and woodland and the undulating, sloping landform creates a sense of semi-enclosure with views that are generally framed or intermittent. Woodland blocks along rural roads provide channelled views. This provides for occasional contrasting views when a gap in the tree cover affords commanding views across the adjacent Harrold = Great Ouse Limestone Valley (3A) or Oakley - Great Ouse Limestone Valley (3B) character areas. Pavenham commands a particularly prominent position with views of the river valley to the south and east. Conversely the Pavenham Wooded Wolds provides a rural, unsettled backdrop to the lower ground of the River Great Ouse valley.

Biodiversity

- 2B.5 Farmland habitats such as arable field margins, species rich and modern hedgerows, ponds, ditches, improved grassland and road verges are a widespread feature in this character area and support a range of farmland species. Small woodland blocks including the stands of ancient semi-natural woodland in the area are dominated by oak and ash. Unimproved neutral grassland would have been a particular feature of the area in the past though much has been lost as a result of agricultural improvement and ploughing. Areas of neutral grassland are still present at sites such as Pavenham Meadow, many of the woods contain small areas of neutral grassland within and adjacent to them. The areas of parkland such as at Turvey Abbey contain veteran trees and areas of semi-improved neutral grassland.



Distant views from the east of the character area over the adjacent Limestone Valley character type (Photo taken west of Stevington)



Rural roads with hedgerow networks and a sense of tranquillity type (Photo taken west of Stevington)

Visual and perceptual character

- 2B.6 Gaps in tree cover create wide views across the adjacent Limestone Valley landscape type, and beyond the authority boundary into North Buckinghamshire. The wolds form a rural backdrop to the lower ground of the valley. Settlement consists of scattered farmsteads, hamlets and villages built mainly of limestone, tall church spires form distinctive landmarks. A historic aesthetic character is imparted by significant areas of parkland at Turvey with parkland trees, pasture and copses. A landscape of essentially rural character, with rural roads, often with wide grass verges, skirting the lower slopes at the edges of the adjacent valley landscape.

Cultural pattern and historic character

- 2B.7 There is evidence of later prehistoric and Roman occupation in this area, mainly in the form of cropmark sites.
- 2B.8 The later landscape was dominated by extensive areas of old enclosure, with irregular field boundaries. The historic settlements were mostly nucleated, though Stevington had a dispersed pattern of 'ends', which has largely been agglomerated through later development. The former village of Chellington was also polyfocal in its layout, but shifted in the later middle ages (along with neighbouring Carlton) to line the road leading to Harrold Bridge.

- 2B.9 Some areas of later enclosure fields survive, but have tended to be subject to the removal of boundaries in the later 20th century, particularly south of Felmersham and north-west of Bromham.
- 2B.10 Chellington deserted village is a scheduled monument extensive in area, and having a significant landscape impact; the deep hollow way which ran through the settlement is especially impressive. This was the line of an ancient (possibly even prehistoric) route which crossed the ridge from Pavenham and headed to join the road between Harrold Bridge and Irchester (through area 2a). The other scheduled site is the moat and dovecote at Carlton Hall Farm, which probably originated as a lodge site within a medieval deer park. Ridge and furrow survives throughout the area, particularly in Turvey and Carlton parishes.



Typical historic nucleated village of Stevington

Settlement pattern and built character

- 2B.11 This area has fairly sparse settlement concentrated in the nucleated villages of Turvey and Stevington and the more extensive Pavenham. The latter had the typical Bedfordshire pattern of scattered 'Ends' which has been infilled along roads. The villages are unified by the honey-grey hues of limestone houses and walls, the warm colours of thatch and clay tiles and the wide eaves that frequently characterise the roofs. Although the village cores are characterised by historic limestone buildings, brick 20th century housing is present at the settlement edges for instance in the linear spread at edges of Pavenham. The spires of St Peter's Church at Pavenham and St Nicholas's Church north of Carlton are distinctive landmarks in views from the river valley below and Stevington Windmill is also a local landmark.

Evaluation

Landscape Change

Past change	Potential future change
Infill development and linear spread of villages	Further infill development within villages and hamlets
Some hedgerow loss resulting from mid-20th century agricultural re organisation	Road upgrades
	Development (care home) at Turvey Station

Key positive landscape features/strategic sensitivities of the landscape

- 2B.1.12 The strong network of hedgerows (although occasionally gappy) which are vulnerable to loss through lack of consistent maintenance.
- 2B.1.13 The strong network of rural roads and green lanes with associated neutral grasslands that are vulnerable to damage by increased traffic and resurfacing techniques.
- 2B.1.14 The scattered woodland blocks, including wet woodland blocks alongside the adjacent river valley, that require sustained management.
- 2B.1.15 The limestone villages that are susceptible to infill development and spread along roads.
- 2B.1.16 The setting of the historic parkland such as Turvey Abbey.
- 2B.1.17 Irregular field patterns deriving from extensive early enclosure.
- 2B.1.18 Scheduled monuments at Chellington deserted village and Carlton Hall moat, with a close relationship to their landscape context.
- 2B.1.19 The tranquil, rural nature of the landscape that is vulnerable to village expansion and increased use of the network of rural roads.

Visual sensitivities

- 2B.1.20 Occasional views across the River Great Ouse Valley including to prominent features/landmarks such as Emberton Windfarm (both within North Buckinghamshire – Milton Keynes District).
- 2B.1.21 The sense of enclosure provided by the combined undulating landform and hedgerow network.
- 2B.1.22 Views to the largely undeveloped occasionally wooded ridges of the area from the adjacent Harrold-Great Ouse Limestone Valley and Oakley-Great Ouse Limestone Valley.
- 2B.1.23 The historic parkland setting of Turvey Abbey and Turvey House.

Landscape Strategy

The overall landscape strategy for the *Pavenham Wooded Wold* character area is to **conserve** the rural landscape of rolling arable farmland with its largely intact hedgerow network, its limestone villages and farmsteads, and historic parklands and earthworks, and woodlands of high biodiversity value while enhancing elements of the landscape which are in declining condition such as some sections of hedgerows.

Landscape management guidelines

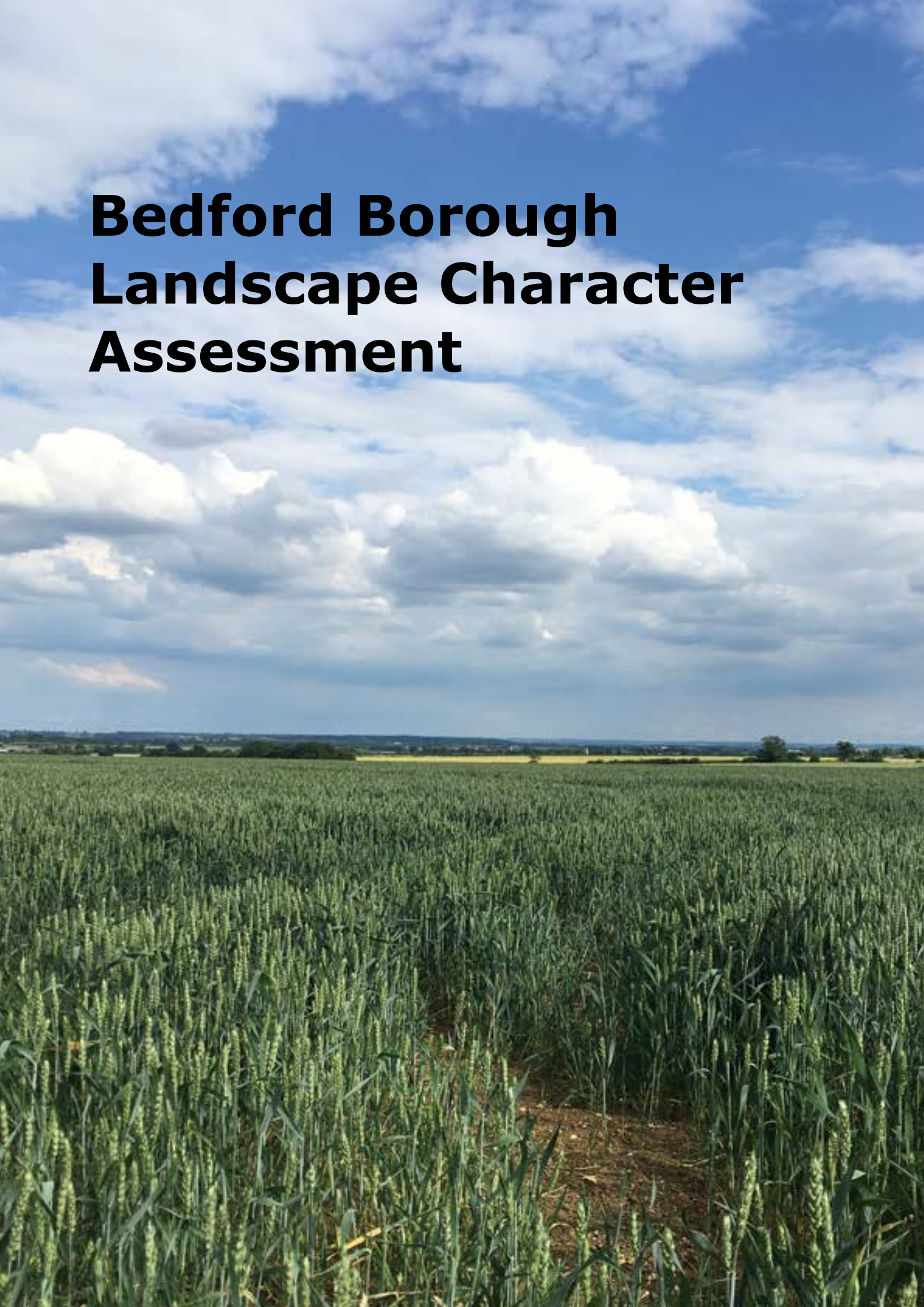
- 2B.1.24 Encourage the planting or regeneration of new broad-leaved woodland, in particular adjacent to and linking existing ancient woodland in the area and respecting the grain of the historic landscape.
- 2B.1.25 Conserve and enhance the historic field patterns.
- 2B.1.26 Enhance the hedgerow network, replanting hedgerow and hedgerow trees where necessary.
- 2B.1.27 Safeguard the surviving fields of ridge and furrow, and the setting of the ancient monuments.
- 2B.1.28 Ensure all ancient semi-natural woodland in the area receives appropriate management to conserve and enhance its biodiversity interest.
- 2B.1.29 Ensure the areas of grassland of high biodiversity value are conserved through appropriate management for instance grazing and/or hay cutting, and scrub control. Seek to create enhanced landscape connectivity with meadows and wetlands in adjacent character areas, to help give landscape character expression to strategically important GI sites, assets and initiatives⁸.
- 2B.1.30 Ensure the areas of parkland around Turvey Abbey receive appropriate management to conserve and enhance their value to biodiversity and to maintain them as a distinctive feature in the local landscape.
- 2B.1.31 Conserve the character of the rural roads with their wide grass verges and limit urbanising influences – widening/kerbing and ensure that traffic management measures are sympathetic to the rural character.

Development guidelines

- 2B.1.32 Conserve the historic cores of the limestone villages, encouraging any new development to adopt the vernacular style of buildings and materials.
- 2B.1.33 Conserve the historic form of scattered 'Ends' at Pavenham avoiding further merging of these through linear development along roads.
- 2B.1.34 Conserve the views to the church towers.
- 2B.1.35 Conserve the largely unsettled slopes above the River Great Ouse Valley that form a rural backdrop to this lower lying, more settled landscape.

⁸ Great Ouse and associated regional park potential, chain of wetland/valley country parks of the Ouse in Bedford Borough and North Buckinghamshire

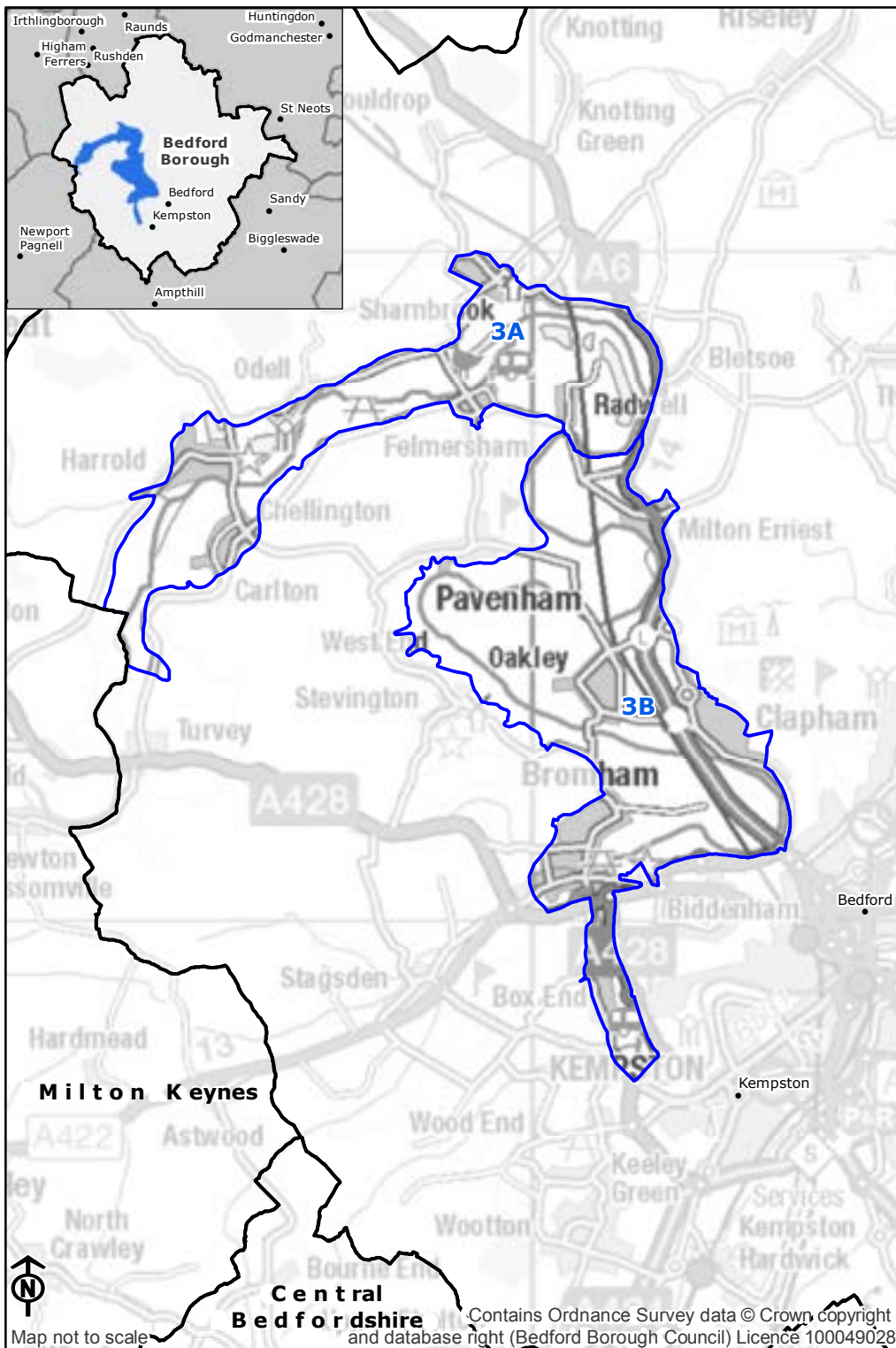
Bedford Borough Landscape Character Assessment



TYPE 3: LIMESTONE VALLEYS



River Great Ouse near Bromham



TYPE 3: LIMESTONE VALLEYS

Key Characteristics

- The River Great Ouse meanders across the flat, wide open floodplain having one of the most natural sections of river remaining in the county.
- Agricultural landscape with a mixed land-use of pasture (grazed by sheep and cattle) and arable land.
- Restored gravel and limestone extraction sites form a series of lakes that bring visual interest and are an important recreational and ecological resource.
- The variation in land cover and dispersed settlement creates a medium scale landscape.
- Some enclosure provided by the sloping valley sides of the adjacent *Wooded Wolds* and *Clay Farmland* landscape types.
- Wetland vegetation including willow and poplar, line the River Great Ouse, picking out the course of the river.
- Meadows and marshes adjacent to the River Great Ouse including Stevington Marsh SSSI.
- Settlement character varies from small scale limestone hamlets and villages to larger settlements with a variety of building materials and considerable modern development.
- An urban fringe character where the western edge of Bedford abuts the landscape type.
- The John Bunyan trail recreational route crosses through the landscape.

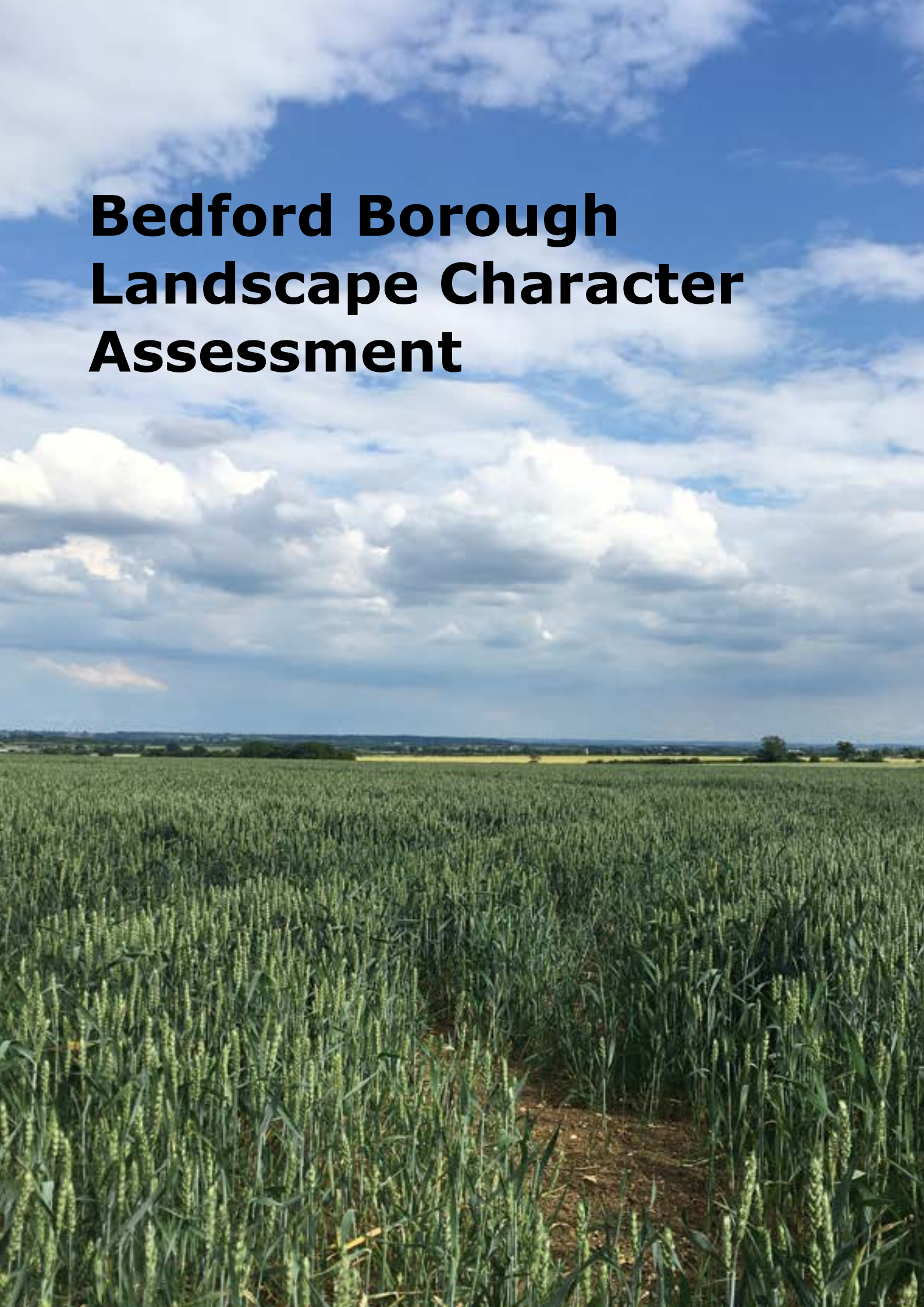
Landscape Character Areas

Landscape character areas within the Limestone Valleys landscape type in the Bedford Borough are:

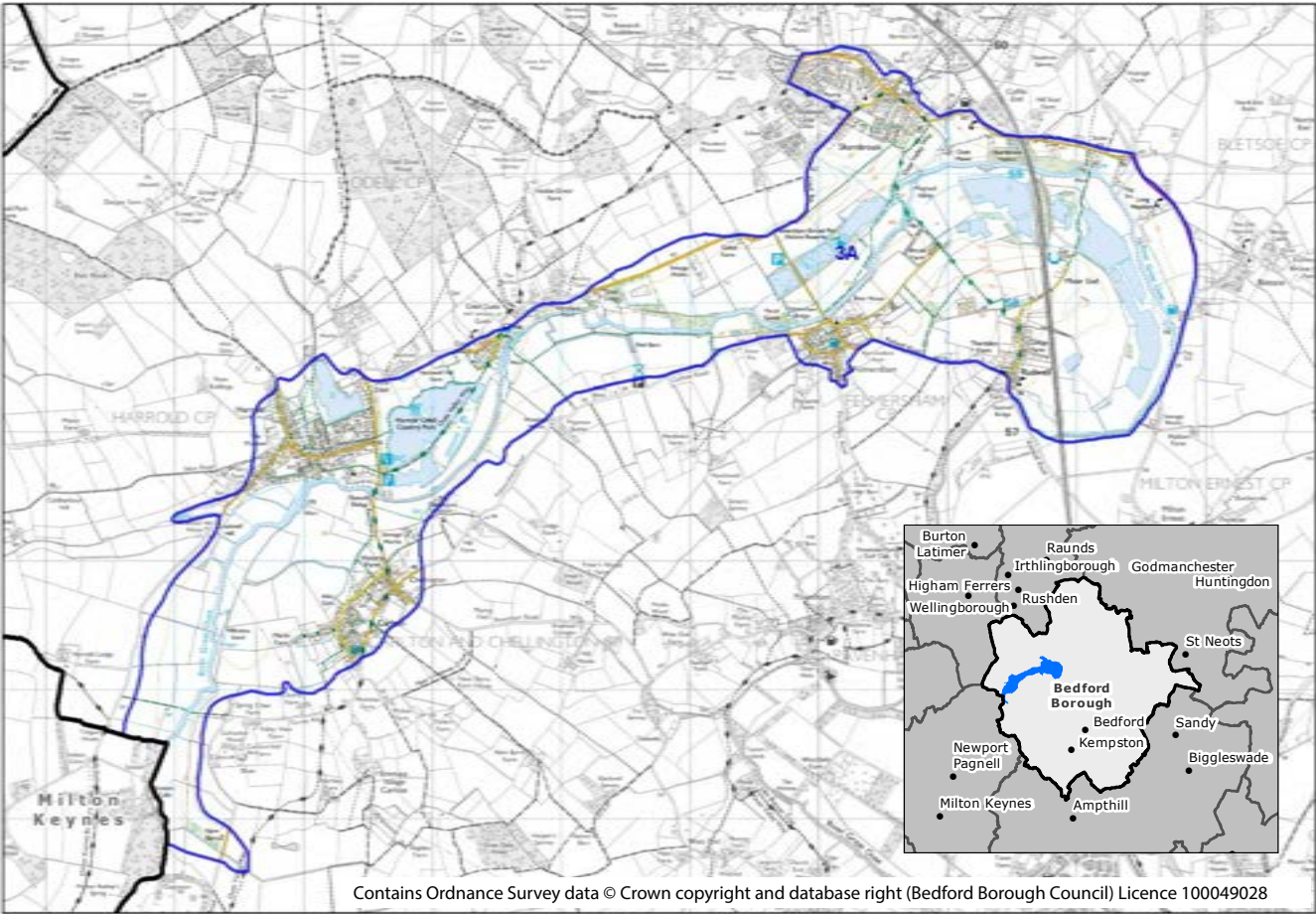
3A Harrold – Great Ouse Limestone Valley

3B Oakley – Great Ouse Limestone Valley

Bedford Borough Landscape Character Assessment



3A Harrold – Great Ouse Limestone Valleys



3A Harrold – Great Ouse Limestone Valley

Location and boundaries

- 3A.1 The *Harrold - Great Ouse Limestone Valley* landscape character area lies at the northwest of Bedford Borough. Its boundaries are delineated by the change in landform - its open, level floodplain met by the sloping side of the *Wooded Wolds* landscape type which rise to the north and south. The area is characterised by extensive lakes on former gravel extraction sites, the most easterly of these beyond Radwell, marking the boundary with the *Oakley - Great Ouse Limestone Valley* character area to the south which contains far fewer large open water bodies.

Summary of landscape character: Key characteristics

- 3A.1.1 Moderately wide shallow valley founded on Oolitic Limestone, with Alluvium along the course of the river and Valley Gravel on the level valley floor.
- 3A.1.2 The River Great Ouse gently meanders from west to east through the valley lined in places by poplar and willow.
- 3A.1.3 Predominantly arable farmland plus pasture grazed by sheep and cattle.
- 3A.1.4 Medium scale geometric fields are enclosed by hedges with some hedgerow trees.
- 3A.1.5 Restored gravel and limestone extraction sites form a series of lakes which are important recreational and ecological resources, as well as important components of the strategic GI network, e.g. Harrold-Odell Country Park.
- 3A.1.6 The River Great Ouse is of significant ecological interest and represents one of the most natural sections of river remaining in the county.
- 3A.1.7 The sloping valley sides of the Odell and Pavenham Wooded Wolds provide a sense of enclosure and a rural backdrop to the area.
- 3A.1.8 Settlements located at the edges of the valleys above the floodplain vary from small scale limestone hamlets and villages to larger villages with a variety of building materials and considerable modern development.
- 3A.1.9 The tall spires of stone built churches form distinctive landmarks in views across the valley, both within the character area and in the wider valley just beyond the Borough boundary.
- 3A.1.10 Rural roads travel across the floodplain, carried over the river by stone bridges, some with distinctive raised pedestrian walkways.
- 3A.1.11 The Ouse Valley Way long distance route crosses the landscape.

Landscape character description

Physical and natural landscape character

- 3A.2 This is a broad valley, with the rising slopes and woodland of the adjacent Wooded Wolds providing enclosure and a largely unsettled rural backdrop to the character area. The River Great Ouse follows a meandering course through the unsettled valley floor with multiple channels, drainage ditches and tributaries lined in places with willows and poplars. The river has significant ecological value and is flanked along its much of its length by the large areas of open water - a legacy of previous sand and gravel extraction sites. In some cases the size and scale of areas of open water is at odds with the pattern and grain of this valley landscape; they are, however,

often enclosed by woodland belts and blocks. Pastoral fields grazed by sheep and cattle characterise the lower ground with arable farmland on the gravel terraces and gently rising limestone valley sides. Fields are generally medium to large in size and bounded by hedgerow and hedgerow trees. In places the hedgerows have been removed and replaced by post and wire fencing creating a more open character. In some sections of the area lack of active management of land surrounding the flooded gravel pits has led to invasion of grassland by scrub and the installation of more urban style fencing and signage.

Biodiversity

- 3A.3 Restored sites such as Harrold-Odell Country Park which is important for its range of breeding and overwintering wetland birds, and the Felmersham Gravel Pits SSSI have become important recreational and ecological resources. The Felmersham lakes support a rich variety of associated habitat types, including open water, tall fen, neutral grassland, scrub and broadleaved woodland and are especially important for aquatic flora, birds and dragonflies.
- 3A.4 Substantial villages are located on the slightly higher ground above the flood plain and are often associated with river crossings. Rural roads cross the valley with limestone bridges forming landmarks as at Oakley and Stafford. The towers of stone built churches are distinctive features in views.
- 3A.5 Relatively little woodland is present apart from willow and poplar plantations. Scrub and secondary woodland, including wet woodland communities, have also developed in many of the disused gravel pits such as Felmersham Gravel Pits SSSI and Harrold-Odell Country Park, and along the river.



Lakes and geometric fields in the east of the character area (Photo taken overlooking the lakes south of Sharnbrook/Bletsoe)

Visual and perceptual character

- 3A.6 The sloping valley sides of the adjacent Odell and Pavenham Wooded Wolds provide a sense of enclosure and a rural backdrop to the area. The tall spires of stone built churches form distinctive landmarks in views across the valley. A simple, predominantly arable landscape although wetlands associated with restored mineral workings create textural and visual variety and interest.

Cultural pattern and historic character

- 3A.7 Early occupation of the valley floor is demonstrated by cropmark evidence of ploughed-out Bronze Age barrows. There was also extensive Iron Age and Roman settlement, particular on the gravel terraces; an Iron Age and Roman farmstead was excavated in advance of the gravel quarrying which formed the lake within Harrold-Odell Country Park.
- 3A.8 The historic use of the land on the alluvial flood plain was for hay production and grazing, with regularly spaced water mills exploiting the flow of the river. The slightly higher land on the river gravels formed part of the open fields of the adjoining parishes, and was reorganised into regular rectilinear fields at enclosure in the late 18th/early 19th century.
- 3A.9 The nucleated villages which are located at the edge of the valley floor are often associated with major monuments. Harrold Church was associated with a medieval nunnery which may have

been partly responsible for the construction of Harrold Bridge. A series of dammed fishponds in a side valley south-west of the village may have belonged to the nunnery, or to the former Harrold Manor. In Odell, the castle occupies a strategic position overlooking the valley. The church and former tithe barn at Felmersham are an indication of the importance of the village to Trinity College, Cambridge, who held the advowson of the church (the right to appoint the rector).

- 3A.10 Harrold Bridge (a scheduled monument) with its long pedestrian causeway is a major monument not just in its own right, but also because it lies on the ancient routeway which ran from Pavenham through the deserted village of Chellington, then towards the Roman town at Irchester. The construction of the bridge by the 12th century, and the increase of traffic which followed, drew the settlements of Carlton and Chellington towards the road. The stone bridges at Radwell and Felmersham were constructed as part of a general move toward road improvements, in 1766 and 1818 respectively.



Church spire at Harrold provides a local landmark in views from Chellington



Historic settlement of Harrold

Settlement pattern and built character

- 3A.11 Settlement consists of a few isolated farmsteads generally located on the valley floor, close to the course of the River Great Ouse and a number of nucleated villages and hamlets sheltering at the base of the valley sides. Limestone is the main building material with clay tile and occasionally thatched roofs. Red brick, some yellow brick, and blue slates are also present for instance at Harrold. Here boundary walls, of stone but also red brick are distinctive features and the green forms the focus of the village. Sharnbrook has a core of older limestone dwellings while housing estates were added during the later 20th century. Carlton and Chellington lie on a gravel terrace above the floodplain of the Ouse with their older cores of stone built dwellings to north and south joined by modern development. Mills and bridges form distinctive landmarks linking the settlements to the river landscape and the towers of churches such as at Harrold, Sharnbrook, Carlton and Felmersham are key features in views across the valley.

Evaluation

Landscape Change

Past change	Potential future change
Housing development within and to the edge of rural villages, which departs from established vernacular	Transport upgrades/road improvements
Construction of trunk roads	Agricultural/cropping changes – biofuels and biomass
Loss of water meadows and riparian pastures	Wind energy developments
Loss of hedgerows	Souldrop solar farm
Mineral workings and wetland creation upon cessation	

Key positive landscape features/strategic sensitivities of the landscape

- 3A.1.12 The nucleated, limestone villages with historic cores.
- 3A.1.13 The naturalistic vegetated banks of the River Great Ouse which is sensitive to lack of management or changes associated with intensive leisure uses.
- 3A.1.14 Meadow land and riverside pastures on the valley floor which are an indication of historic land use and important landscape and biodiversity resource.
- 3A.1.15 Significant sites and structures which contribute to landscape character: the stone bridges, Harrold fishponds, Odell Castle, churches and Felmersham Tithe Barn
- 3A.1.16 The minor roads and bridges over the River Great Ouse which reinforce the rural character of the area.
- 3A.1.17 Open water bodies and associated wetland habitats providing a recreational resource and biodiversity interest.

Visual sensitivities

- 3A.1.18 Views to the wooded backdrop of the Wooded Wolds.
- 3A.1.19 Views to the spires of churches located on the lower reaches of the valley sides.
- 3A.1.20 The tranquil, rural views across the lakes enclosed by woodland for instance at Harrold-Odell Country Park.
- 3A.1.21 Open views across the floodplain to limestone bridges.

Landscape Strategy

The overall landscape strategy for the *Harrold - Great Ouse Limestone Valley* character area is to **conserve** the historic limestone villages, the riverside features such as stone bridges and mills and the tranquil river flanked by trees and lakes enclosed by woodland belts and ecological diversity. Elements to be **enhanced** include the field boundaries where these are in poor condition or lost and the management of the riverside pastures and wetland vegetation.

Landscape management guidelines

- 3A.1.22 Conserve and enhance the distinctive floodplain landscape and habitats with areas of marshland, wet meadow/riverside pasture and features such as mature willows, to enhance connectivity and contribution to the green infrastructure network.
- 3A.1.23 Conserve the natural river course of the River Great Ouse and associated wetland biodiversity.
- 3A.1.24 Conserve enclosure boundaries, the hedgerow and hedgerow trees, enhancing the network of hedgerows and hedgerow trees where these has become degraded or lost.
- 3A.1.25 Safeguard the landscape settings of the historic bridges and other monuments.
- 3A.1.26 Conserve the rural character of the network of minor roads, discourage the introduction of suburban style materials e.g. kerbs and extensive lighting.
- 3A.1.27 Ensure that new infrastructure for leisure use such as paths, signage and seating is sympathetic in character to the rural setting of the river valley.
- 3A.1.28 Enhance new and recently disused gravel workings to provide a source of new wetland habitats such as marshland, wet meadow and wet woodland as well as open water bodies and to strengthen the rural riverside landscape character.

Development guidelines

- 3A.1.29 Conserve views to church towers and spires.
- 3A.1.30 Conserve and protect the form and setting of the limestone bridges crossing the River Great Ouse.
- 3A.1.31 Consider scale and integration of open water bodies arising from mineral extraction, within this enclosed valley landscape, seeking to ensure that any tourism infrastructure associated with country parks respects this open and expansive character (recessive materials colour palette, low rooflines etc).
- 3A.1.32 Conserve the nucleated stone built villages and avoid linear extension along roads which may threaten the individual identity of the villages.
- 3A.1.33 Improve settlement edges where these form an unsympathetic relationship with the open countryside – planting of floodplain woodland is a key opportunity.
- 3A.1.34 Maintain landscape buffers around existing areas of open space including the Harrold-Odell Country Park and Felmersham Pits.
- 3A.1.35 Enhance access including physical links to the Ouse Valley Way.