Chelmsford Green Infrastructure Strategic Plan

RESEARCH & EVIDENCE BASE

Contents

1. A Profile of Chelmsford and its Hinterland

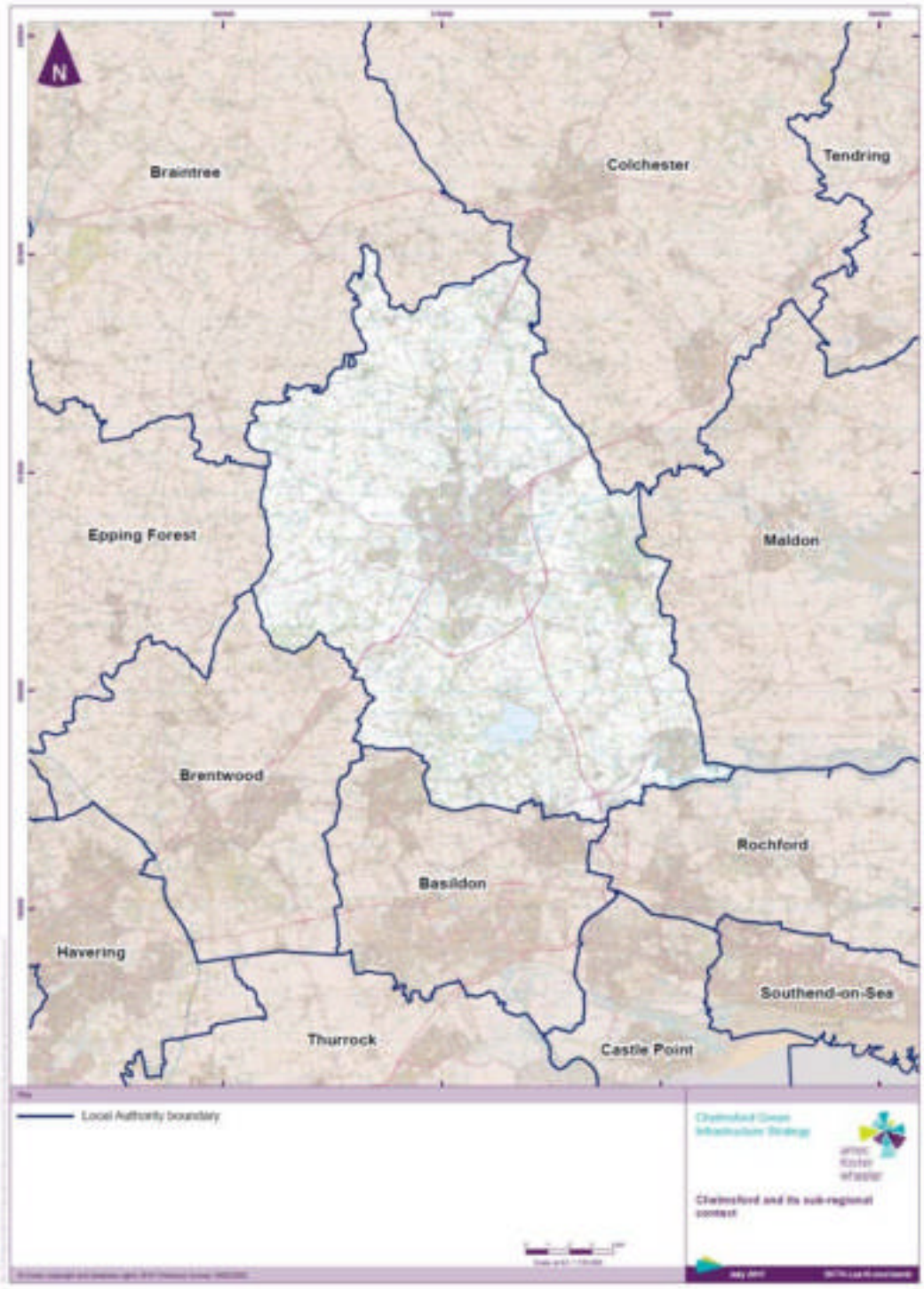
1. The City of Chelmsford and its hinterland lies within the long-settled landscape of Essex and the coastal fringe, with evidence of human activity dating to the immediate post-glacial period, with significant Roman, Medieval and industrial influences. The modern geography of the area can be broadly split into four character areas[1]:
   - The urban area of Chelmsford and surrounding settlements, including numerous villages, hamlets and isolated dwellings of various eras and diverse character.
   - River valley landscapes (main rivers and their tributaries) dissecting overlying boulder clay/chalky till, with flat or gently undulating floors, of wooded and intimate character in places.
   - Farmland plateau landscapes characterised by elevated and gently rolling farmland, offering periodic long distance views across river valleys, of medium to large-scale predominantly arable fields divided by a network of lanes and minor roads, remnants of semi-natural and ancient woodland.
   - Wooded farmland on elevated, undulating hills or ridges and slopes, comprising a mixture arable and pasture, pockets of common land, wooded blocks, mature field boundaries and a mixture of extensive and framed views.

2. The river corridors of the Rivers Chelmer, Can and Wid converge on the City Centre and influence its form and function. They are the focus of much recreational (formal and informal) and biodiversity interest, notably within the urban area along the Chelmer Valley from the City Centre to Springfield, and from Moulsham to Sandford. Wider biodiversity resources are spread across the City Council, with notable concentrations to the south west from Hylands Park to Blackmore, to the south from Galleywood to Hanningfield Reservoir, to the east around Danbury and Little Baddow, and to the north from Little Waltham to Great Notley. Notable focal points for recreational activity are Hylands Park, Galleywood Common, Hanningfield Reservoir, the River Crouch Estuary and the extensive woodland around Danbury (including Danbury Country Park). Heritage resources often coincide with biodiversity and recreational interests, including Hylands Park and Danbury Palace and Langleys (all Registered Parks and Gardens), Conservation Areas along the Chelmer & Blackwater Navigation, Danbury and the Walthams.

3. Agricultural activity dominates much of the City's hinterland, with much of the land is in highly productive arable cultivation (with pasture along the river valleys) where with modern farming practices (notably hedgerow and woodland removal) exerting a significant influence over landscape character. The trend towards a 'simplified' landscape could continue, with more complexity on the immediate urban fringe in the form of small holding, leisure uses and pony paddocks, the latter often characterised by limited hedgerow and grassland management, post and wire/ranch fencing and various structures.

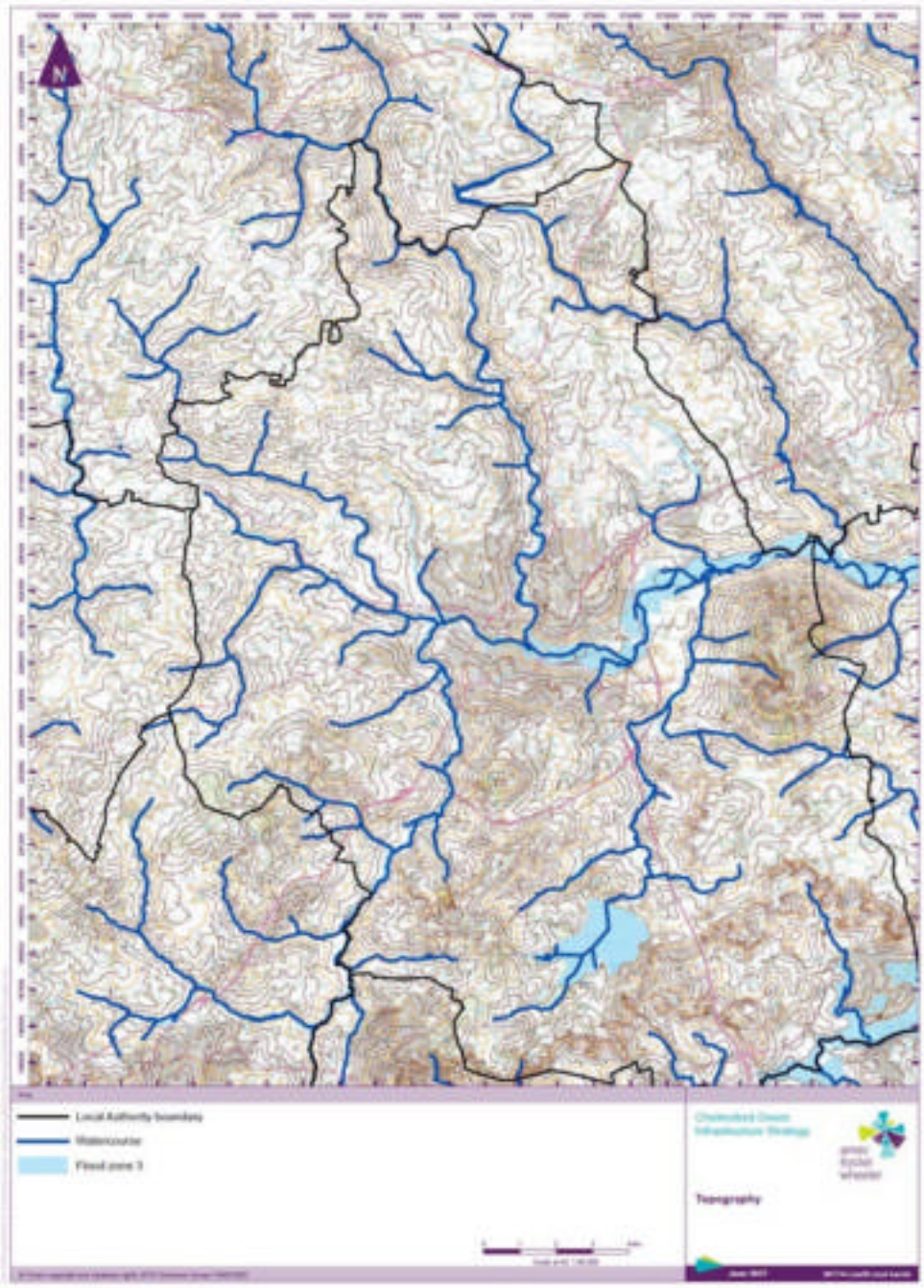
[1] Chris Blandford Associates (2006) Braintree, Brentwood, Chelmsford, Maldon and Uttlesford Landscape Character Assessments

Figure 1.1 Chelmsford and neighbouring Authorities



4. Chelmsford was founded on the confluence of the Rivers Wid and Chelmer (Figure 1.2) and this relationship is expressed today in the important role that the River Valleys play in defining the character and sense of identity of the City and its hinterland, providing the focal point for recreation, biodiversity and cultural heritage, and the starting point for the planning and management of Chelmsford's GI resource.

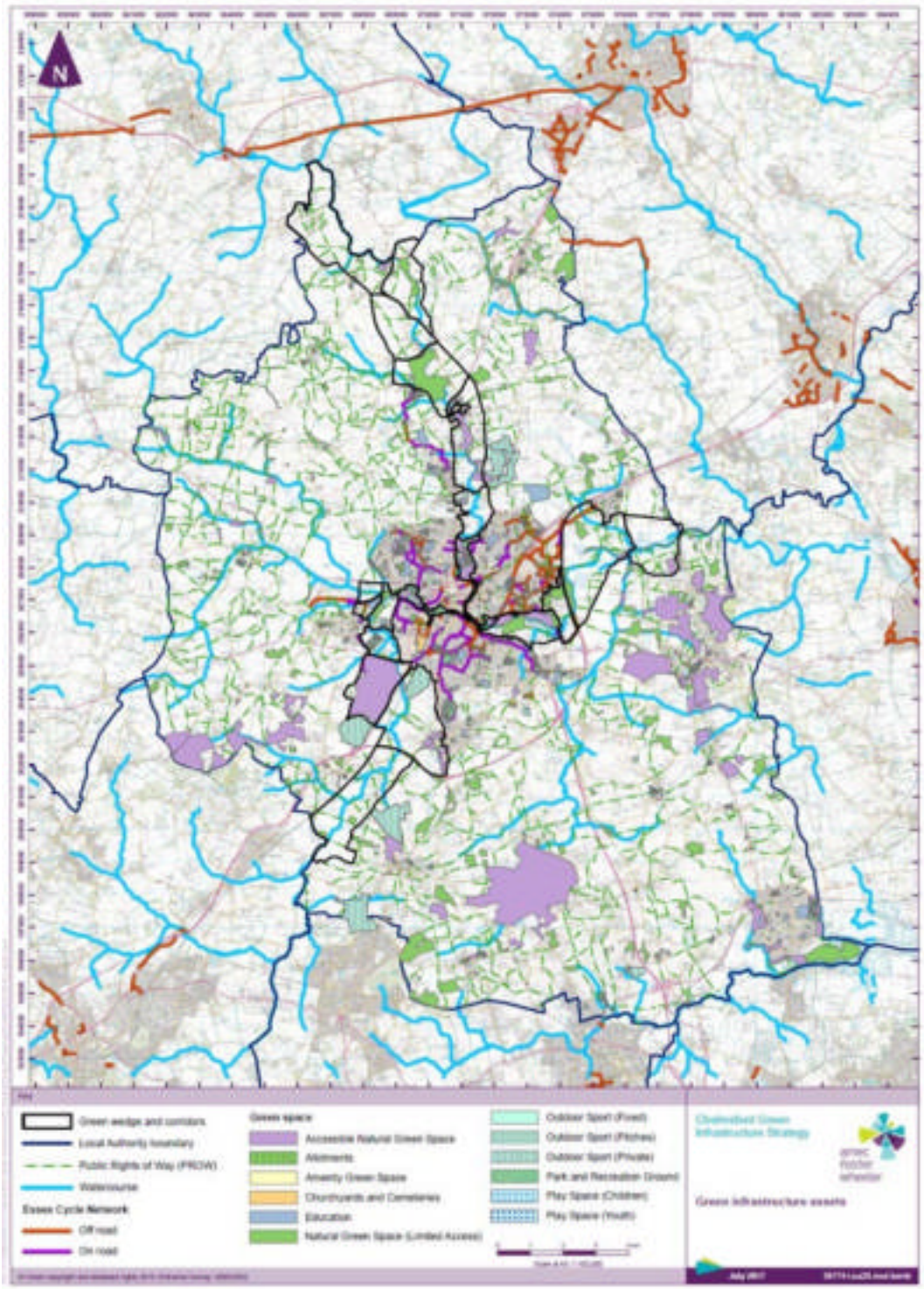
Figure 1.2 Watercourses through and in the vicinity of Chelmsford



5. The proportion of tree cover across Chelmsford as a whole is not known, but the river valleys through the City Centre are generally well-treed, with the suburbs less so. There are extensive, often ancient and biologically important tracts of woodland to the east around Danbury and to the south west of Writtle, with pockets of smaller woods across farmland surrounding the City. The relationship between good air quality and tree cover is well-known and whilst air quality across the City is generally improving, Tree and vegetation cover more generally is also an important aspect of climate change mitigation, helping to slow run-off and provide shade. Flood risk is most extensive to the east of the City along the Chelmer and Blackwater Navigation where the valley bottom opens out.

6. Open space provision across the City is generally good in terms of quantity, quality and accessibility, although inevitably there is variation both within the City and between the City and surrounding settlements. The Green Infrastructure resource as a whole, comprising open spaces, parks and gardens, allotments, woodlands, street trees, green roofs, fields, hedges, water bodies, footpaths and cycleways is complex in its pattern and accessibility.

Figure 1.3 All Green Infrastructure Assets



2. Context and Drivers for Continuity and Change

2.1 Green Infrastructure and its Functions

1. Green Infrastructure (GI) is 'a network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities' (National Planning Policy Framework).

2. GI can be seen as a collection of assets which provide multiple functions and services to people, the economy and the environment. These assets are of a great variety and span various spatial scales and include:

    - Woodland
    - Watercourses
    - Highway verges and railway embankments
    - Parks, playgrounds, allotments and other public open spaces
    - Farmland and market gardens
    - Urban trees
    - Private gardens
    - The grounds of hospitals, schools and business parks
    - Sports pitches and recreational areas

3. These are the places which complement the hard landscape of buildings and roads, bringing nature into the city, giving aesthetic pleasure and being a vital part of health and well-being. GI is a focal point for helping people to lead happier, healthier and more sustainable lives through more accessible, diverse and attractive surroundings. Key attributes of a GI-led approach to resource planning and management are:

    - Conserving and enhancing natural and historic assets
    - Conserving and enhancing the quality of natural resources (water, air and soil)
    - Reversing habitat fragmentation and increasing biodiversity
    - Reinforcing and enhancing landscape character
    - Developing a multi-functional landscape and greenspace resource that meets local needs
    - Providing attractive and sustainable options for flood control and management
    - Providing a focus for community involvement, education, training, health and well-being
    - Providing a context for economic investment
    - Inspiring partnership working across a range of sectors and interests

4. These attributes are commonly recognised in the term 'multi-functionality' which is 'central to the green infrastructure concept and approach. It refers to the potential for green infrastructure to have a range of functions, to deliver a broad range of ecosystem services. Multi-functionality can apply to individual sites and routes, but it is when the sites and links are taken together that we achieve a fully multi-functional GI network' (Natural England). In practice this is typically a network of biodiversity assets which together provide a foundation for other functions such as recreation, good air and water quality (often referred to as 'ecosystem services'), and realised through the practice landscape ecology and landscape planning.

2.2 Interventions: Protection, Enhancement & Restoration

5. A central principle of landscape ecology and landscape planning is the identification of opportunities for conserving and improving the condition of specific sites and broader areas as part of a wider process of enhancing and establishing connections between them. The following

matrix identifies the type of intervention required associated with judgements on character and condition. It forms the basis for management plans, for example, and the recommendations of the Landscape Character Assessment of the City Council area[2]. Typical landscape strategy objectives comprise:

Conserve – seek to protect and enhance positive features that are essential in contributing to local distinctiveness and sense of place through effective planning and positive land management measures.

Enhance – seek to improve the integrity of the landscape, and reinforce its character, by introducing new and/or enhanced elements where distinctive features or characteristics are absent.

Restore – seek to reinforce and/or reinstate historic landscape patterns and features that contribute to sense of place and time-depth by repairing distinctive elements that have been lost or degraded.

Figure 2.1 Landscape Ecology and Landscape Planning Interventions

2.3 Rationale and Strategic Fit

6. The purpose of the GI Strategic Plan is to provide a framework for the identification of outcomes, where interventions are best targeted and which stakeholders should assist delivery. The Strategy is established within a context of constrained resources which demands joint working and demonstrating value within the broader context of delivering multiple outputs.

7. The policy basis for GI is well established: Box 2.2 summarises the principal policy and guidance documents which underpin the need to address GI in a coherent fashion through established principles, summarised by (for example) the TCPA and Wildlife Trusts (July 2012) as follows:

1. Strategically planned to provide a comprehensive and integrated network.
2. Wide partnership buy-in.
3. Planned using sound evidence.
4. Demonstrate 'multi-functionality'.
5. Creation and maintenance need to be properly resourced.
6. Reflect and enhance the area's locally distinctive Character.
7. Contribute to biodiversity gain by safeguarding, enhancing, restoring, and creating wildlife habitats.
8. Achieve physical and functional connectivity between sites at strategic and local levels.
9. Include accessible spaces and facilitate physically active travel.
10. Integrate with other policy initiatives.

[2] Chris Blandford Associates (2006) Braintree, Brentwood, Chelmsford , Maldon and Uttlesford Landscape Character Assessment

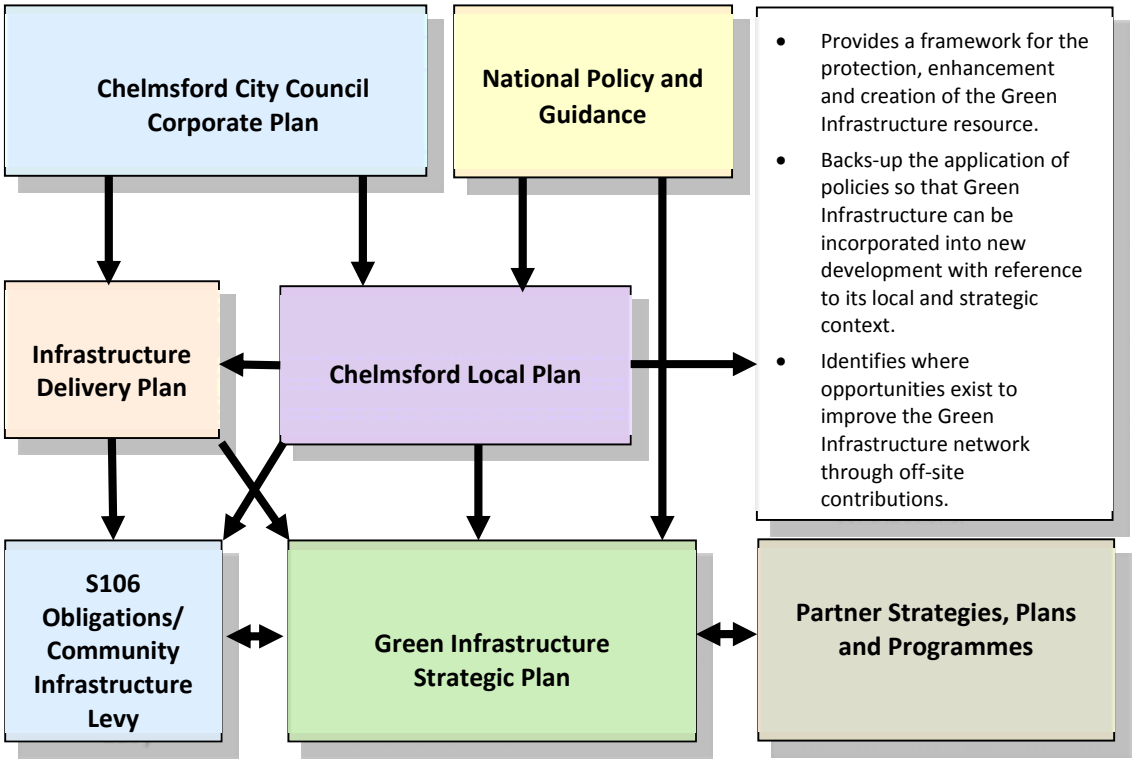
Box 2.1 Policy and Guidance for Green Infrastructure

- **Making Space for Nature: A review of England's Wildlife Sites and Ecological Network (2010) -** dangers of habitat fragmentation - need to create a sustainable and resilient ecological network through greater connectivity.
- **The Natural Choice: Securing the Value of Nature (Natural Environment White Paper) (2011) -** role of planning in protecting and improving the natural environment and facilitating coherent and resilient ecological networks
- **The National Planning Policy Framework (2012) –** 'Planning for places': use the planning system to protect and enhance our natural, built and historic environments, support the transition to a healthy natural environment, and ensuring access to open space and recreational facilities. Para 117: "*plan for biodiversity at a landscape scale across local authority boundaries"* and *"identify and map components of the local ecological networks, including the hierarchy of ... designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation".*
- **Healthy Lives, Healthy People: A call to action on obesity in England (2011) –** helping people to be more active; giving local government the lead role in driving health improvement through Health and Well-Being Boards, transforming the environment for health and the economy.
- **Emerging Chelmsford Local Plan –** various policies make reference to the role of Green Infrastructure across the City (S1, S6, S12, CO1 and MP1), with Strategic Policy S6 (Conserving and Enhancing the Natural Environment) stating that:

  "The Council is committed to protecting and enhancing the natural environment. Sites of international, national, regional and local importance will be protected and, where possible, enhanced. The Council will plan positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure by firstly directing development away from protected sites and landscapes of ecological value. Secondly, in accordance with the Spatial Strategy, the use of brownfield sites will be maximised. Where greenfield sites are developed they should incorporate features capable of creating networks of biodiversity and green infrastructure."
- **Guidance and Evidence** – this is wide-ranging, but includes material developed by: Sustrans, TCPA/Wildlife Trusts, Natural England, Landscape Institute, Chief Medical Officers.

8. The GI Strategic Plan will perform a variety of roles: being part of the planning process, helping to deliver policy (as a Supplementary Planning Document), contributing to partner strategies and corporate delivery programmes and being a strategic delivery plan in its own right (Figure 2.5).

Figure 2.5: Connections between the GI Strategic Plan and Partner Policy Documents



2.4 The Emerging Chelmsford Local Plan

9. The City's Local Plan will provide the fundamental reference point for the Green Infrastructure Strategic Plan, reflecting its role in the control of land use. The two documents will work together to ensure that the interests of the various components of Green Infrastructure are appreciated and work to best advantage in the context of the sustainable use of land and resources.

10. The emerging Local Plan seeks to weave direct references to the role of Green Infrastructure in delivering sustainable growth across the City and its hinterland whilst enhancing quality of life for existing residents. There are direct and indirect references to the role of Green Infrastructure in delivery the aspirations of the Local Plan in the following policies:

STRATEGIC POLICY S1 – SPATIAL PRINCIPLES

STRATEGIC POLICY S2 – SECURING SUSTAINABLE DEVELOPMENT

STRATEGIC POLICY S3 – ADDRESSING CLIMATE CHANGE AND FLOOD RISK

STRATEGIC POLICY S4 – PROMOTING COMMUNITY INCLUSION AND NEIGHBOURHOOD PLANNING

STRATEGIC POLICY S5 – CONSERVING AND ENHANCING THE HISTORIC ENVIRONMENT

STRATEGIC POLICY S6 – CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT

STRATEGIC POLICY S7 – PROTECTING AND ENHANCING COMMUNITY ASSETS

STRATEGIC POLICY S12 – INFRASTRUCTURE REQUIREMENTS

STRATEGIC POLICY S13 – THE ROLE OF THE COUNTRYSIDE

POLICY SPA3 – HANNINGFIELD RESERVOIR SPECIAL POLICY AREA

STRATEGIC POLICY SPA5 - SANDFORD MILL SPECIAL POLICY AREA

STRATEGIC POLICY SPA6 – WRITTLE UNIVERSITY COLLEGE SPECIAL POLICY AREA

POLICY CO1 – GREEN BELT, GREEN WEDGES, GREEN CORRIDORS AND RURAL AREAS

POLICY HE1 – DESIGNATED HERITAGE ASSETS

POLICY NE1 – ECOLOGY AND BIODIVERSITY

POLICY NE2 –TREES, WOODLAND AND LANDSCAPE FEATURES

POLICY NE3 – FLOODING/SUDS

POLICY MP2 – DESIGN AND PLACE SHAPING PRINCIPLES IN MAJOR DEVELOPMENTS

2.5 Strategic Growth Proposals and Strategic Site Allocations

11. Chelmsford has plans for significant levels of housing, employment and infrastructure growth. The Local Plan spatial strategy (Figure 2.5) seeks to deliver the bulk of the development in eight strategic development locations. This creates opportunities for the strategic planning of GI, both as part of the developments themselves as well as linking to the surrounding GI resource and contributing to off-site provision.

Figure 2.5: Chelmsford Local Plan Proposed Spatial Strategy

12. The spatial strategy includes a series of strategic housing allocations (Figures 2.6, 2,7 and 2.8) which will incorporate Green Infrastructure as a core principle of their development form, including links to the wider landscape context in which they will be located. The scale of these developments is such that they will exert a considerable influence on the localities in which they are located, introducing significant built form into primarily agricultural landscapes. The opportunities associated with masterplanning are potentially significant, both on- and off-site, through connections to the surrounding GI resource.

Figure 2.6: Proposed Strategic Sites – NE Chelmsford, Great Leighs/Moulsham, Maldon Road

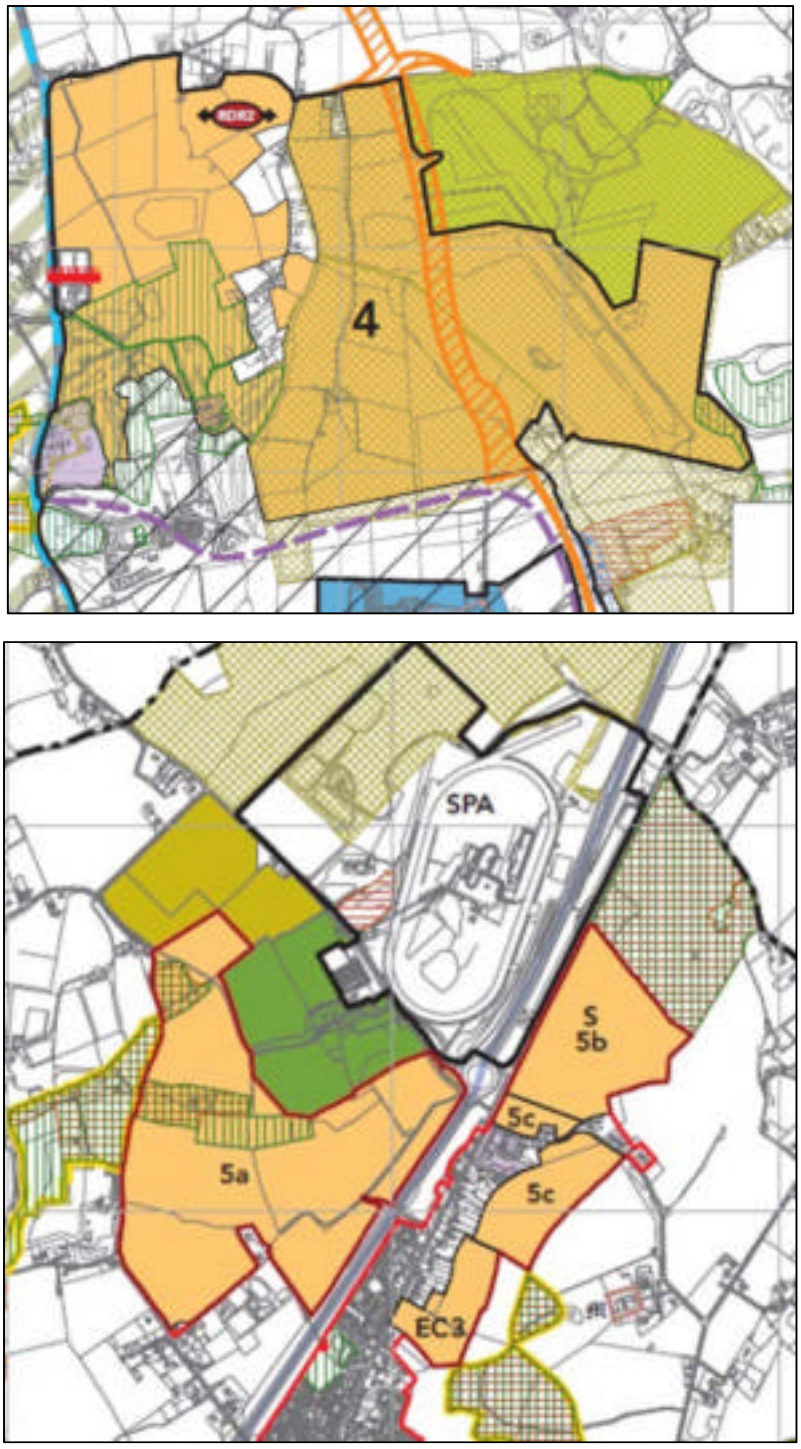


Figure 2.7: Proposed Strategic Sites – Sandon/Great Baddow, Chelmsford West, Broomfield

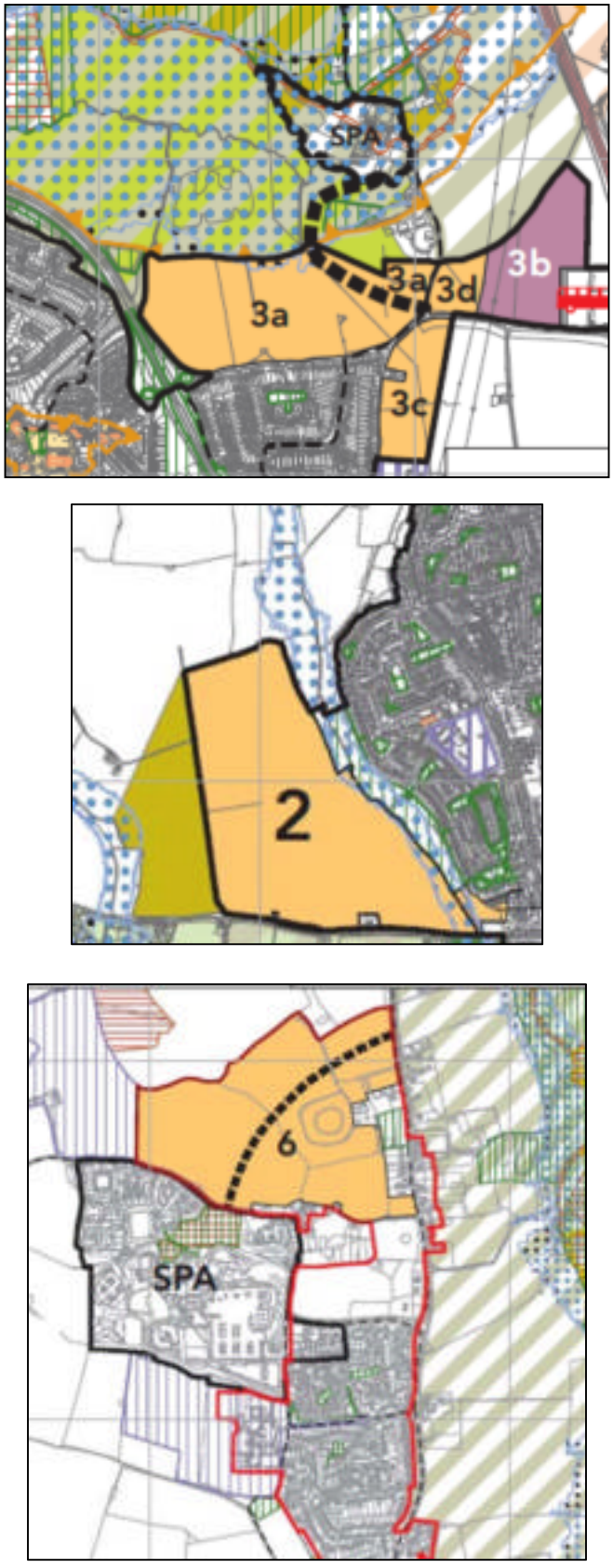
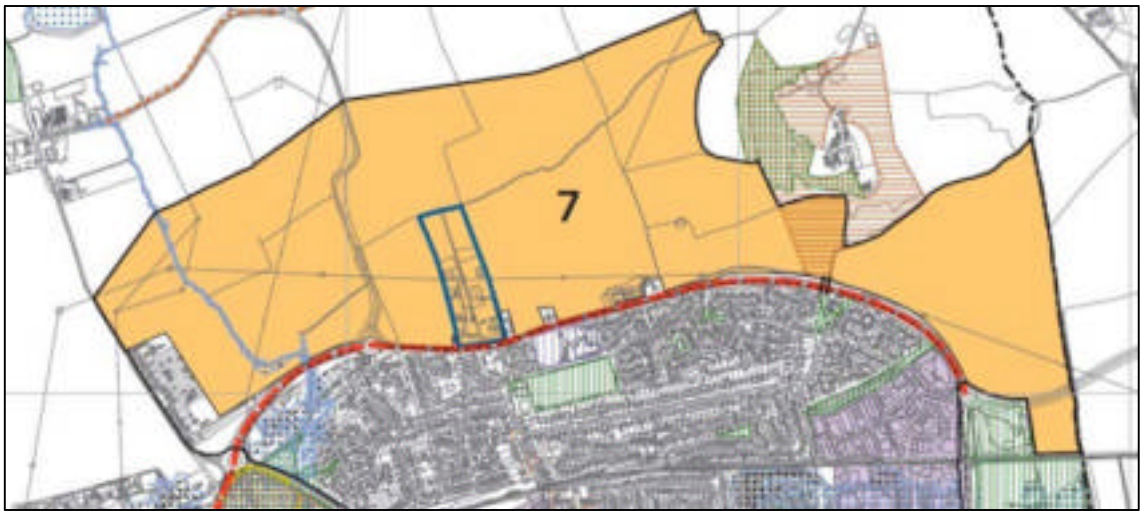


Figure 2.8: Proposed Strategic Sites – South Woodham Ferrers



2.6 Garden Village Principles

13. The concept of 'Garden Villages' are the latest attempt to realise significant new development (1,500 to 10,000 homes) as part of a central government initiative[3] to stimulate housing provision within the context of encouraging the creation of sustainable communities. Such developments are important for Green Infrastructure not only in respect of the opportunities to make meaningful provision for a variety of open spaces to serve the immediate needs of the new community, but also to add value to the surrounding context by introducing new resources and connections into a locality.

14. The following Garden City principles[4] are used as a guide for the masterplanning of garden villages, and which more broadly are being adopted by developers and councils as a benchmark for the design of large-scale new developments:

- Land value capture for the benefit of the community.
- Strong vision, leadership and community engagement.
- Community ownership of land and long-term stewardship of assets.
- Mixed-tenure homes and housing types that are genuinely affordable.
- A wide range of local jobs in the Garden City within easy commuting distance of homes.
- Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food.
- Development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and energy-positive technology to ensure climate resilience.

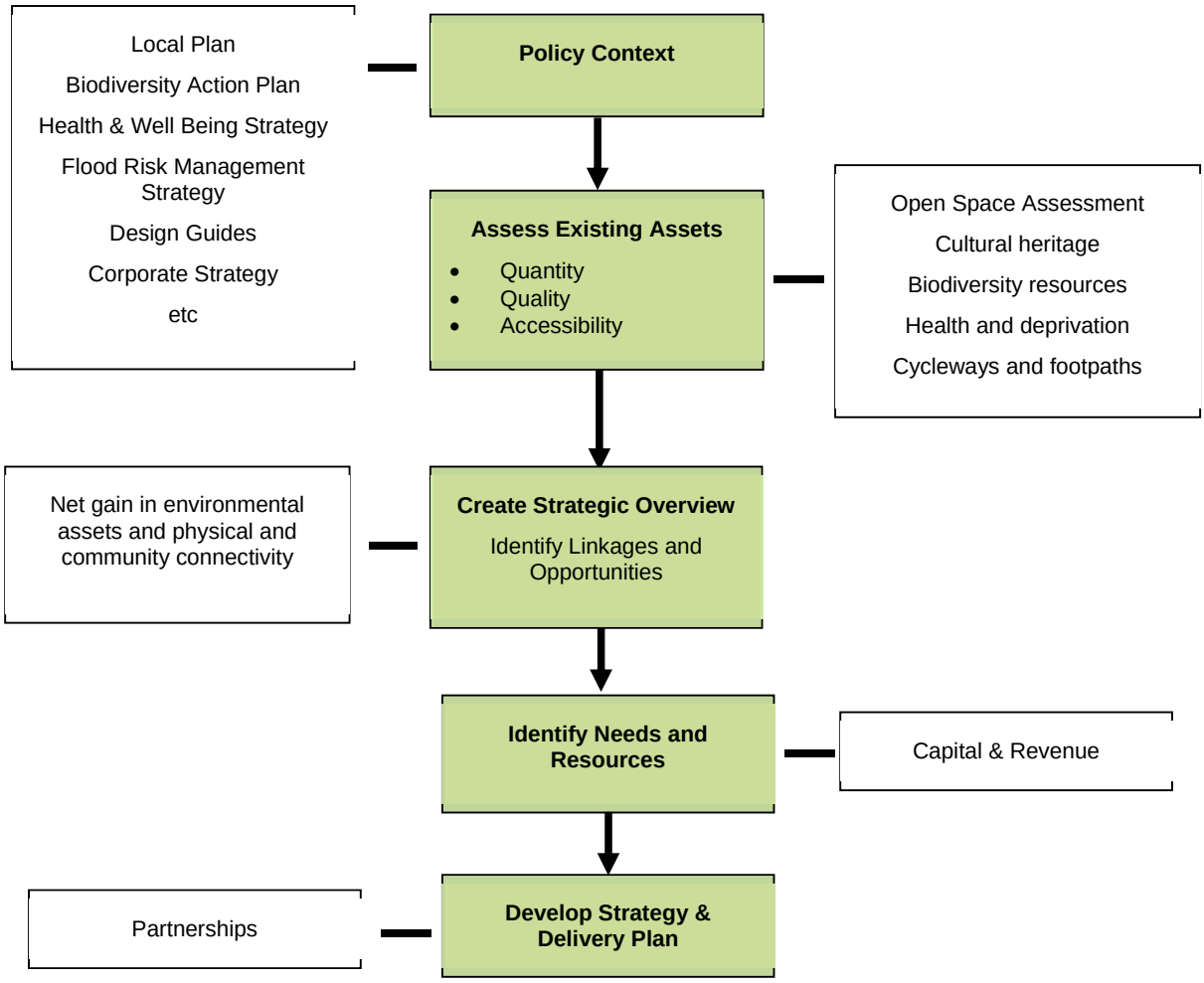
[3] https://www.gov.uk/government/publications/locally-led-garden-villages-towns-and-cities
[4] https://www.tcpa.org.uk/garden-city-principles

- Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.
- Integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport.

2.7 Developing the Green Infrastructure Strategic Plan

15. Figure 2.9 presents an overview of the process of developing the GI Strategic Plan, from assessment of contextual matters to identification of the means by which needs and aspirations can most effectively and efficiently be delivered.

Figure 2.9: The Green Infrastructure Strategic Plan Development Process

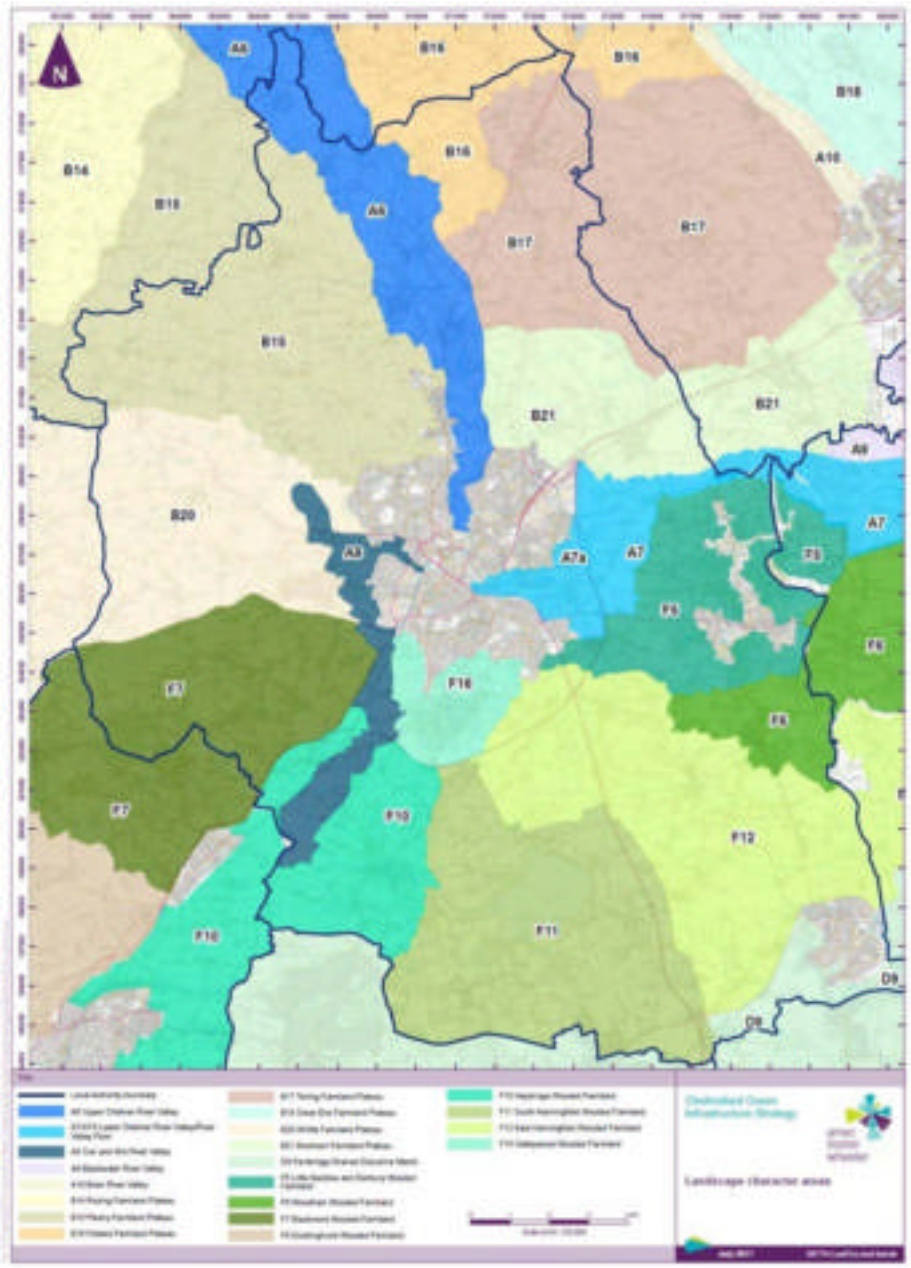


3. Green Infrastructure Assets and Functions

3.1 Landscape Character

1. Chelmsford's landscape, outside the principal built-up areas, is dominated by a combination of river valleys and wooded farmland areas, many of these shared with adjacent districts (Figure 3.1). These areas form the basis of local landscape character and in turn set an agenda for land management interventions at a landscape scale and for the biodiversity resources which they contain. Recognising the character of this mosaic of landscapes across Chelmsford's hinterland helps to form the basis for landscape management through protection, enhancement and restoration, along with the sensitive introduction of development in specific areas, such that local distinctiveness is not eroded.

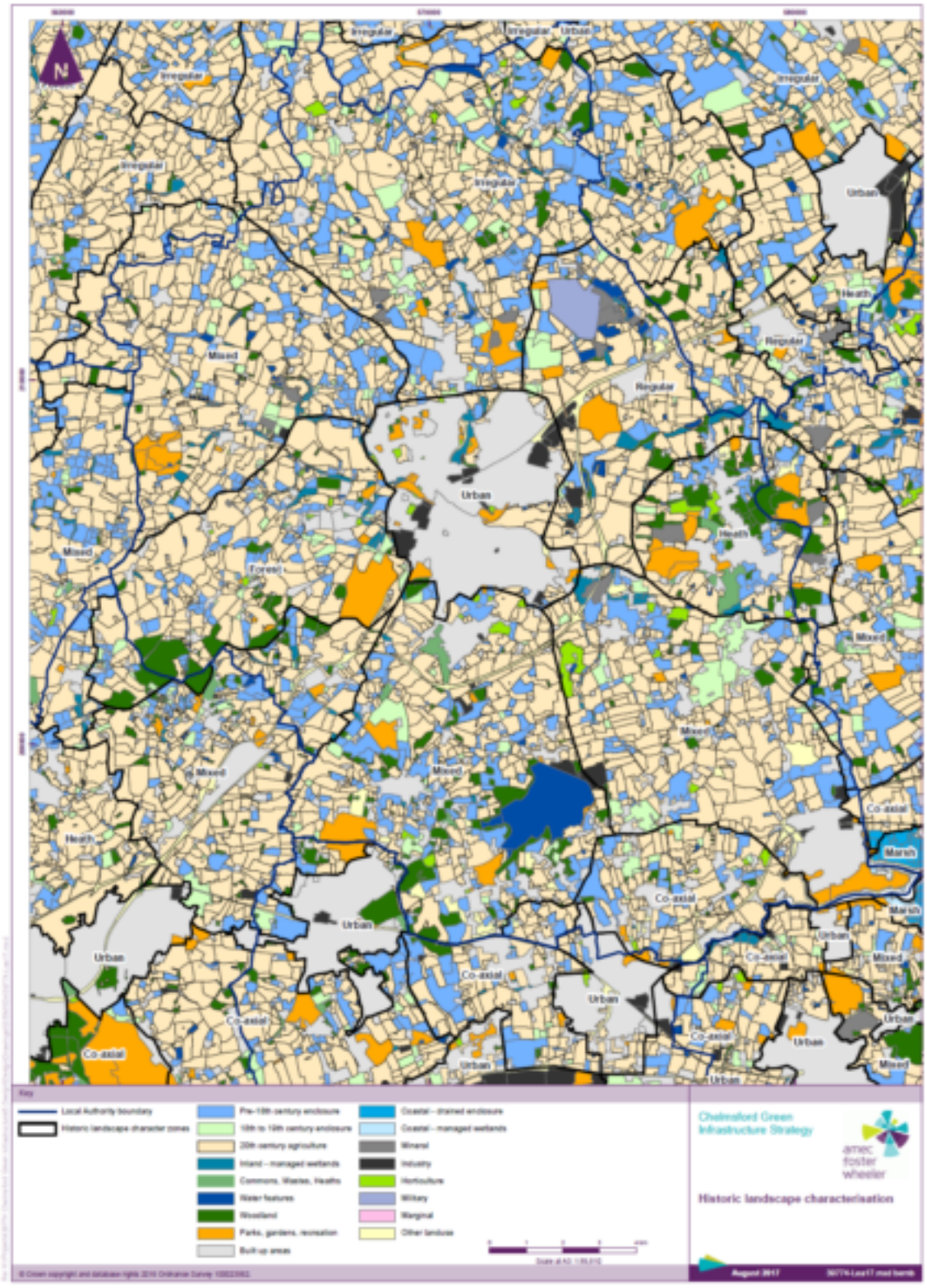
Figure 3.1 The Landscape Character of Chelmsford



3.2 Historic Landscape Character

2. The historic landscape character of the City's hinterland is illustrated in Figure 3.2.

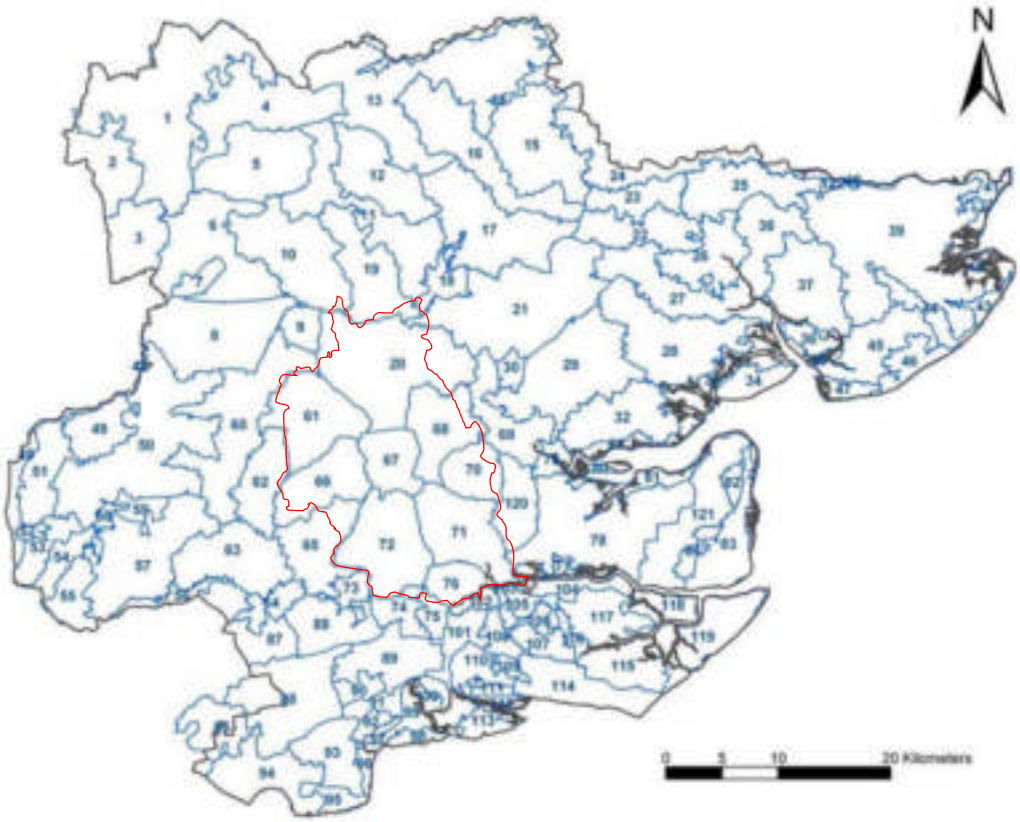
Figure 3.2 Historic Landscape Characterisation



3. Whilst twentieth century agriculture is unsurprisingly dominant, reflected in large arable fields which have been created by hedgerow removal, there are important pockets of pre-18th Century, 18th and 19th Century enclosure, particularly immediately to the north of the urban area and around Hanningfield. The elevated land around Danbury retains a distinctive mixed character, in particular commons (see profile below). Also of note is the cluster of Ancient Woodland associated with Writtle Forest to the south west of City.

4. Figure 3.3 shows the historic landscape character zones across Essex, and those which relate to Chelmsford City Council in particular. Profiles of the zones are set out below[5].

Figure 3.3 Historic Landscape Character Zones



20. North of Chelmsford encompassing the Chelmer and Ter valleys

Undulating countryside forming the Chelmer and Ter valleys and the ridge between them. The geology comprises boulder clay on the interfluvial ridge and head and glacial sand and gravel deposits in the river valley. Modern uses appear to have cut across the landscape, with a major road running north from Chelmsford, two golf courses, the Essex show ground, areas of gravel extraction and an airfield. Much 20th century development has occurred in the south of the area, particularly in and around Broomfield, Little Waltham, and Boreham. The historic pattern of dispersed settlements and scattered farmsteads survive. Some settlements would have been focussed on greens. A historic pattern of irregular fields of various sizes exists across the area,

[5] English Heritage/Essex County Council (2011) The Historic Landscape Characterisation Report for Essex

these are medieval or earlier in origin. Despite moderate to significant boundary loss, the boundary pattern survives. There are several areas of ancient woodlands, particularly in the Ter valley. The line of the Roman road from Chelmsford to Braintree effectively bisects the zone.

65. Ingatestone area

A gently undulating area to the north of Brentwood, bisected by the A12. The geology consists of London Clay, overlain in part by head deposits and boulder clay with occasional patches of gravel. It is a largely rural landscape with Ingatestone village forming the only substantial built-up area. The field pattern is rather mixed. To the east and south is an extensive area of pre-18th century coaxial enclosure, to the north and north-east is an area of pre-18th century irregular fields (these are probably of medieval origin and some maybe even older), some of which may be the result of intermittent woodland clearance along the edges of Writtle Forest. To the north of Henley Green were several, possibly medieval, strip fields until the twentieth century; these were long and narrow in plan. The placename evidence suggests that the area encompassing Ingatestone and the adjoining parishes of Mountnessing, Margaretting, Fryerning and Buttsbury in the upper Wid valley formed a single Saxon estate. Historically the settlement pattern has been very dispersed, with Ingatestone itself forming the only exception to the rule. There are a number of areas of ancient woodland, the largest is of which is Thoby Wood. There are also a few small areas of parkland attached to mansion houses. There are some patches of enclosed meadow along the River Wid.

66. Hylands Park, Writtle and Highwood

This area is located on the south facing side of the rolling plateau which lies between the River Wid to the south and the River Can to the north. The geology comprises Boulder Clays in the western half of the area, with head deposits to the north and outcrops of Claygate Beds to the south and east. Anciently, this area was part of Writtle Forest, a medieval hunting forest. Substantial pockets of woodland survive, as does the historic settlement pattern of dispersed villages focussed on greens and commons, and scattered farmsteads in an irregular field and woodland pattern. Only within Writtle itself has development gradually spread to encompass two greens and take on the characteristics of a nucleated settlement in relatively modern times. There has been moderate boundary loss, creating some areas of large, but still irregular, fields. Hylands Park has been the focus of greatest boundary loss, but the park itself adds considerable character to the area.

67. Chelmsford urban area

The modern urban area of Chelmsford, this incorporates the historic Roman, medieval and post-medieval town as well as the historic villages of Widford, Great Baddow and Springfield.

68. East of Chelmsford, encompassing the Middle Chelmer valley

Rolling countryside dropping down to the middle Chelmer valley, bounded on the southeast by Danbury Hill. Geologically this area is very complex, the northwestern corner comprises Boulder Clays, and to the south and east in the valley of the Chelmer there are brickearths, glaciofluvial sands and gravels, head deposits and alluvium. There is a historic dispersed settlement pattern of scattered farmsteads, with nucleated settlement at Boreham. The historic field pattern shows a predominance of medium to large fields with straight boundaries, including 18th to 19th-century enclosure in the south of the area, and with a pocket of small irregular fields to the northeast. There were also water meadows along the river valley and a historic park and gardens around New Hall School and Boreham House. Moderate to significant boundary loss has created larger fields, but these still respect the historic pattern. The area contains an airfield, the modern

arterial route of the A12, and areas of gravel extraction. Modern development is focussed round Boreham. The level of post 1950s loss can be described as moderate to high on some farms.

69. Lower Chelmer and Blackwater valleys

An area to the north of Maldon comprising the floodplain and valley-sides where the lower reaches of the Chelmer and Blackwater rivers converge. Geologically this area is very complex, the northern edge comprises Boulder Clays, and to the south and east in the valley of the Blackwater there are brickearths, glaciofluvial sands and gravels, head deposits and alluvium, with outcrops of London Clay on the southern edge of the area. The fieldscape largely comprises pre-18th century fields (these are probably of medieval origin and some maybe even older), mostly regular in plan. On a micro-scale there is a considerable degree of co-axiality in their layout, usually relating directly to the immediate topography. The river valleys are marked by enclosed meadow. There are some areas of ancient woodland, primarily along the eastern side of the area. There are also a number of parks of medieval origin; these include Langford Park and the former site of Hatfield Peverel Priory. Historically the settlement is dispersed, comprising church/hall complexes, isolated manors, farms, moated sites and small hamlets. The only nucleated settlement of any size is Hatfield Peverel. Post 1950s boundary loss can be described as moderate, however the overall grain of the historic landscape is still clearly visible. There has also been extensive modern mineral extraction to the south-west of Witham.

70. Danbury Hill

This is a prominent hill in the east of the Borough. The hill top is occupied by the villages of Danbury and Little Baddow, together with several Nature Reserves and a Country Park in the grounds of Danbury Palace. Historically, the settlement was dispersed around several commons and greens, with a small nucleation around the church in Danbury. This settlement pattern has been added to, mostly along the roads, with the commons preserved as nature reserves. The field pattern in the remaining small areas are small and irregular, of ancient origin. There are also areas of ancient woodland on the hill.

71. Southeast of Chelmsford, between Great Baddow and the Crouch

This area lies on the watershed between the Chelmer and the Crouch, being gently rolling in the north, but dropping steeply down into the Crouch valley to the south. The new town of South Woodham Ferrers has been built just north of the river Crouch. Historically, the settlement pattern was dispersed, some of it being focussed on commons. There were also scattered farmsteads. This pattern has survived with more recent nucleations of settlement at Bicknacre, East Hanningfield and Rettendon. There are irregular fields mixed in with the predominant co-axial fields of ancient origin. The co-axial fields are mostly aligned east to west. The commons were mostly enclosed by the 19th century, but part of their extent can be seen in the surviving field boundary pattern. Significant boundary loss has resulted in the creation of larger fields, but these still respect the general alignment of the co-axial field system in most cases. There are a few ancient woodlands on the north of the area. Marsh Farm Country Park preserves areas of salt marsh and grazing marsh adjacent to the River Crouch, thus retaining much of its original character.

72. South of Chelmsford, around Hanningfield Reservoir, Stock and Margaretting

This is a hilly area forming a ridge between the River Wid and the Sandon Brook, both of which drain northwards to the Chelmer valley. The geology comprises head deposits and Claygate beads, topped with sands and gravels. The valley of the Sandon Brook was dammed to form

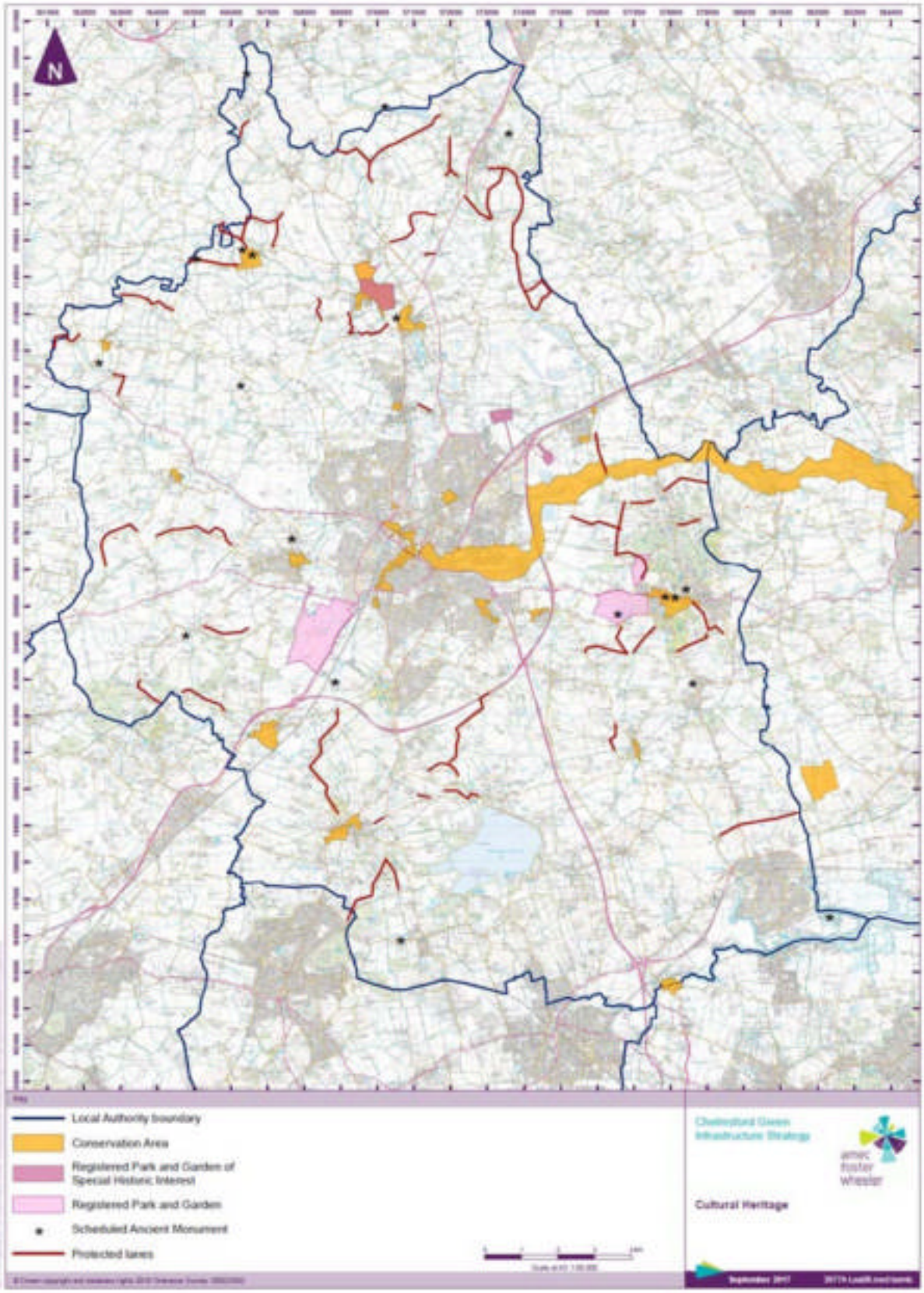
Hanningfield Reservoir. The area is also cut through by the A12 Chelmsford bypass and the main line railway from London up through Chelmsford. The historic settlement was dispersed with scattered farmsteads, some of the settlement being focussed on commons, which lay along the highest ground. Some of the villages have seen more recent development, creating a more nucleated appearance. Galleywood in particular has grown considerably, but it has also retained its common. The field pattern consists of many small fields of ancient origin, both grid-like co-axial and irregular in shape. Moderate to significant boundary loss in the north of the area has created larger fields. There are many small patches of ancient woodland through the area. Post 1950s boundary loss can be described as moderate in the northern half of the area, dropping to low in the southern half, it is of course total in the area of the reservoir.

3.3 Cultural Heritage

5. Designated cultural heritage assets are illustrated in Figure 3.4, showing the importance of the river valleys both within the City centre and along the Chelmer & Blackwater Navigation (and its extension to Maldon), the extensive registered parks and gardens of Hylands Park, Danbury Palace, Riffhams, Boreham House and New Hall and complementary assets such as Lingwood Common (Danbury) and Langleys (the Walthams).

6. Not shown on the map, but of significance, are the historic City Centre parks and gardens of Oaklands and Admirals, village greens at Broomfield, Writtle and Stock, and Bronze Age sites at Springfield and Great Baddow, the WWII defence line along the Upper Chelmer Valley, and the numerous Listed Buildings both inside and adjacent to the City Council area.

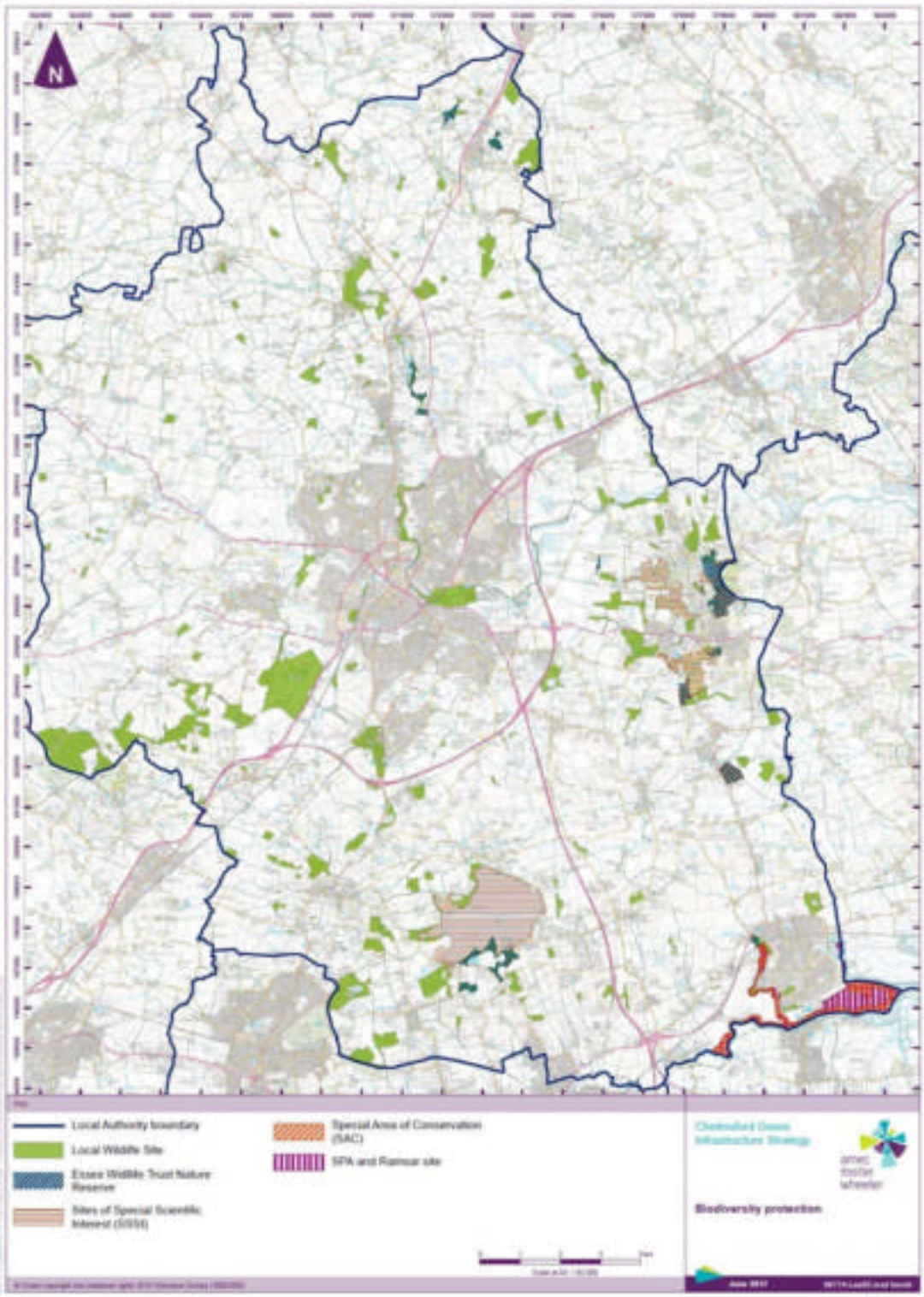
Figure 3.4 Cultural Heritage Assets



3.4 Biodiversity

7. Figure 3.5 illustrates the designated biodiversity resources across the City Council area, showing notable clusters around Writtle, Danbury, Hanningfield, South Woodham Ferrers, the Walthams/Great Leighs, the City Centre River Valleys and Galleywood to Stock.

Figure 3.5 Designated Biodiversity Assets



8. Sites of European importance (Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)) are designated to conserve natural habitats and species of wildlife which are rare, endangered or vulnerable in the European Community (EC). In the UK, these form part of the 'Natura 2000' network of sites protected under the EC Habitats Directive (1992). There are three European sites within the jurisdiction of Chelmsford City Council: Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA; Crouch and Roach Estuaries Ramsar; and the Essex Estuaries SAC together with four additional sites within approximately 10km.

9. Within the Chelmsford City Area there are eight Sites of Special Scientific Interest (SSSI) covering an area of 2,412.77ha, including:
    - River Ter
    - Newney Green Pit
    - Blake's Wood & Lingwood Common
    - Woodman Walter Common
    - Danbury Common
    - Thrift Wood, Woodham Ferrers
    - Hanningfield Reservoir
    - Crouch and Roach Estuaries

10. The condition of each SSSI, as assessed by Natural England, are summarised in **Table 3.1**.

Table 3.1 Condition of SSSIs within the Chelmsford City Council Area

SSSI	Size (ha)	Condition
River Ter	6.41	100% favourable
Newney Green Pit	0.082	100% favourable
Blake's Wood & Lingwood Common	87.33	100% favourable
Woodhan Walter Common	79.65	100% favourable
Danbury Common	70.96	48.36% favourable; 51.74% unfavourable but recovering
Thrift Wood, Woodham Ferrers	19.45	100% favourable
Hanningfield Reservoir	402.91	100% favourable
Crouch and Roach Estuaries	1,745.98	22.87% favourable; 76.46% unfavourable but recovering; 0.67% unfavourable no change

Source: Natural England (various) *Designated Sites Condition Summaries.*

11. The most recent comprehensive habitat survey for the Chelmsford City Area was undertaken on behalf of the Council by Essex Ecology Services Ltd. (EECOS) during 2004 (a new habitat or Local Wildlife Sites survey has been commissioned although the findings of this are not yet available). The survey evaluated the existing network of important wildlife sites and identified a total area of semi-natural habitat equating to 9,272 ha, with the remaining 24,953 ha being arable or urban land. The proportion of non-arable / urban semi-habitat land accounted for 27.1% of the total land area in Chelmsford.

12. The total amount of woodland in the Chelmsford City Area increased from 2,041.7 ha (5.97%) in 1992 to 2,060.1 ha (6.02%) in 2004. However, the national average is 8.4% coverage for England and 11.6% for the UK as a whole which indicates that woodland coverage in Chelmsford falls below national averages.

Table 3.2 Areas of Habitat

Habitat	Area (ha)
Broadleaf Woodland	1,333.1
Mixed Woodland	12.5
Broadleaf/Coniferous Parkland	181.1
Planted Broadleaf Woodland	392.7
Planted Mixed Woodland	99.8
Planted Coniferous Woodland	40.9
Total Woodland	**2,060.1**
Scattered/Dense Scrub	165.7
Tall Ruderal	98.3
Short Perennial	92.7
Orchard	82
Allotment/Horticulture	47.1
Lake/Reservoir	551.1
Swamp	30.3
Quarry	174.1
Waste/Bare ground	67.3
Scattered Saltmarsh	17.1
Saline Water Body	2
Intertidal Mud	66
Total	**9,272.2**
Number of Ponds	796

Source: EECOS Review of Wildlife Sites in Essex 2004 in Chelmsford City Council (2014) *Authority Monitoring Report 1st April 2013 - 31st March 2014*. http://www.chelmsford.gov.uk/annual-monitoring-report

13. The Chelmsford Biodiversity Action Plan (BAP) 2013-2017[6] highlights that the Chelmsford City Area has a diverse biodiversity and contains examples of 14 of the 20 habitats included in the Essex BAP (EBAP)[7]. Action Plans have been developed for the following habitats: hedgerows; traditional orchards; lowland meadows; lowland dry acid grassland and heathland; lakes and ponds; rivers; lowland raised bog; reed beds; lowland mixed deciduous woodland; wet woodland; wood pasture and parkland; and urban.

14. Clusters of protected sites and potential for their connection are recognised in the Essex Wildlife Trust Living Landscapes Initiative[8] (Figure 3.6). They present important focal points for the consideration of the way in which biodiversity interests sit within a wider landscape and socio-economic context.

15. A survey of potential local wildlife sites[9] considered the following:

- Ashwood Spring, Roxwell 0.35 ha
- Road Verge 2, Roxwell 0.04 ha
- Skreens Park, Roxwell 20.73 ha

[6] Chelmsford Biodiversity Forum (2013) *Chelmsford Biodiversity Action Plan for the City of Chelmsford 2013-2017*. http://www.chelmsford.gov.uk/sites/chelmsford.gov.uk/files/files/files/documents/files/Chelmsford%20Biodiversity%20Action%20Plan%202013-18.pdf

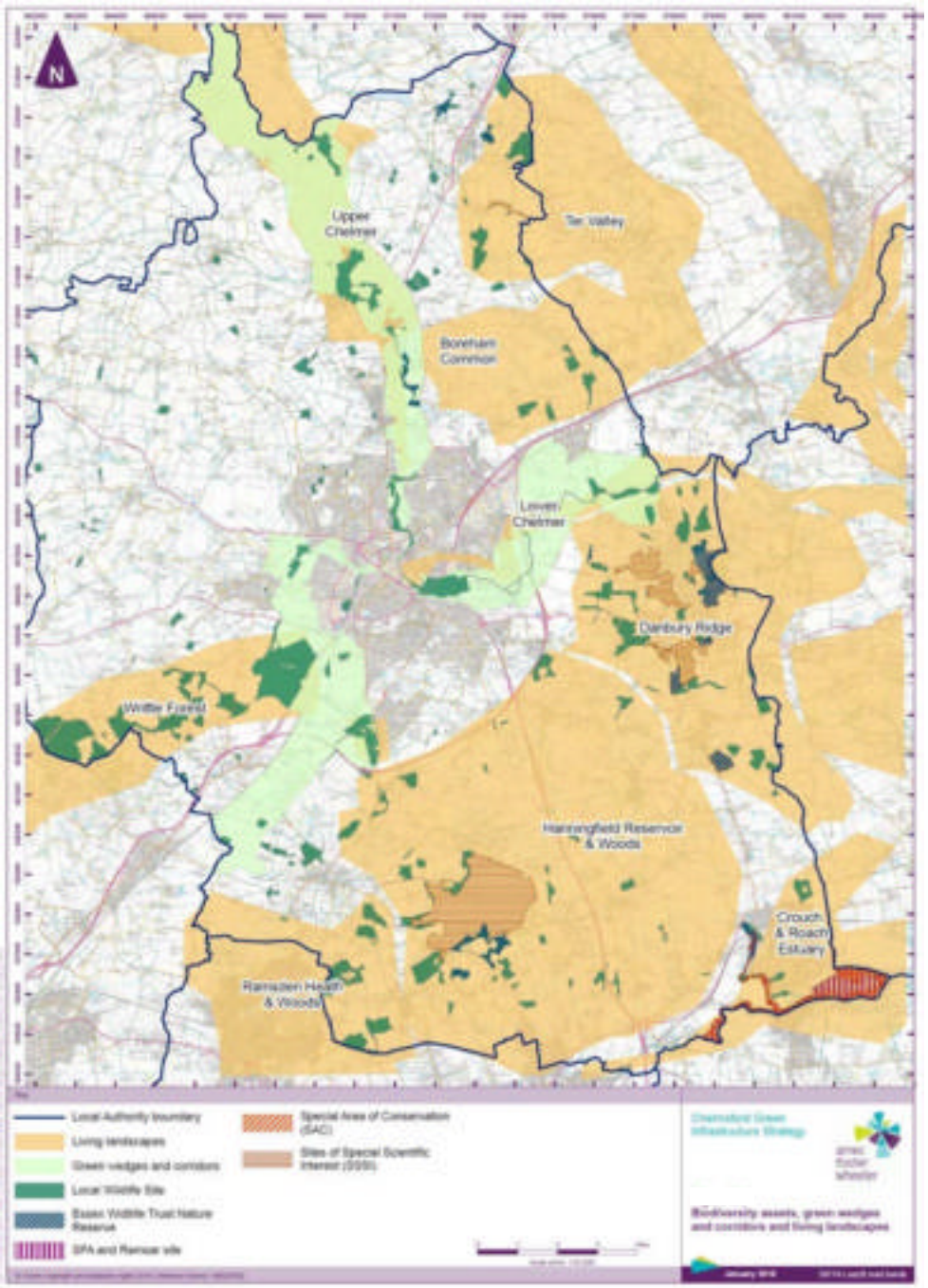
[7] Essex Biodiversity Project (2012*) The Essex Biodiversity Action Plan 2010 – 2020*. http://www.essexbiodiversity.org.uk/biodiversity-action-plan

[8] http://www.essexwt.org.uk/living-landscapes

[9] Chelmsford City Council (2016) Survey of Potential Local Wildlife Sites

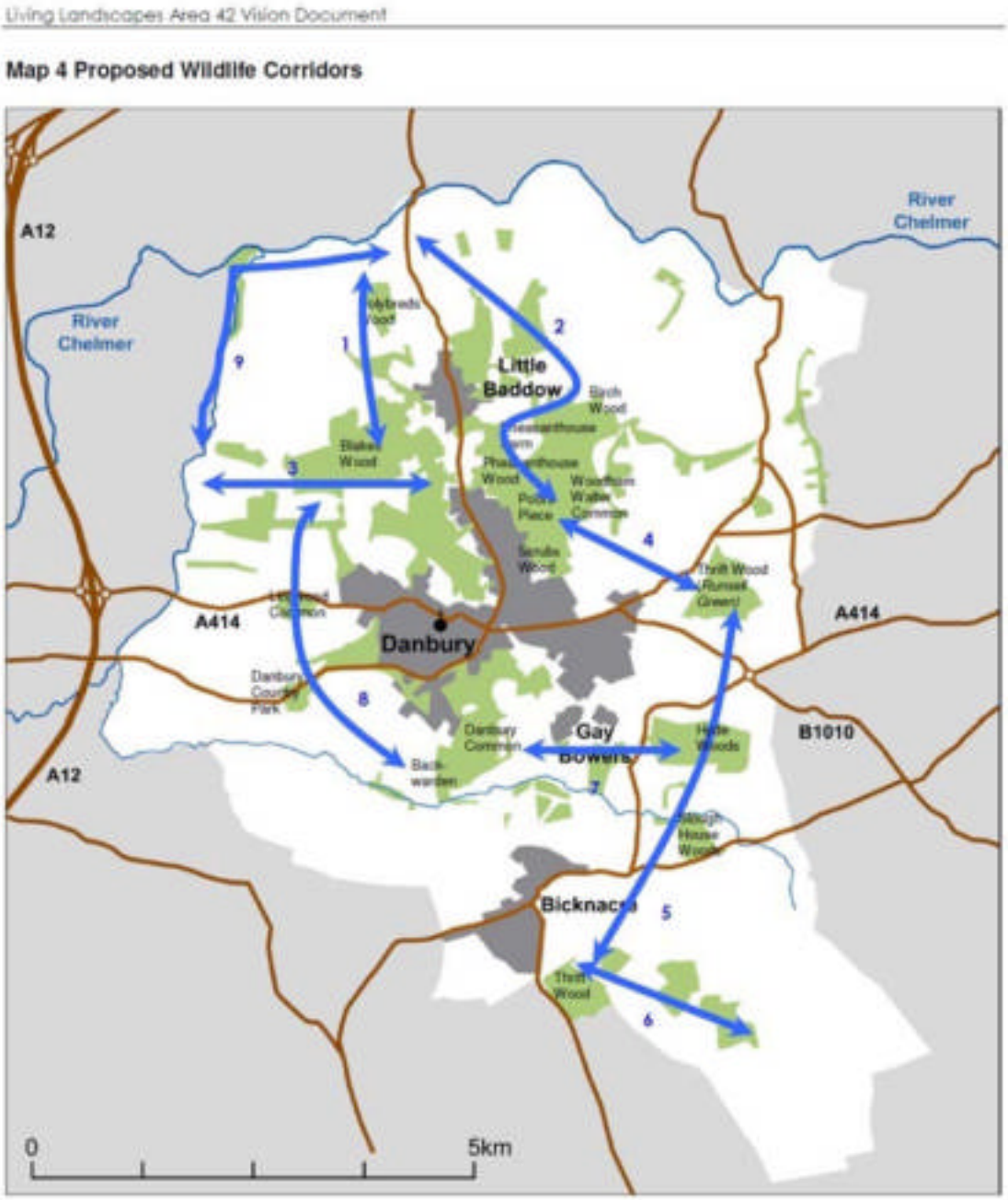
- Newland Osiers, Roxwell 6.27 ha
- Canterburys Meadows, Margaretting 2.91 ha
- Chignall Smealy Meadow 5.04 ha
- Wellhope Meadow, Ford End 1.40 ha
- Seven Ash Green Brownfield, Chelmsford 8.24 ha
- Channels Golf Course, Chelmsford 75.00 ha
- Vicarage Lane Grasslands, Chelmsford 4.95 ha
- Airfield Apron, Boreham 1.74 ha
- Sandon Riverside, Chelmsford 13.44 ha
- New Lodge, Little Baddow 0.42 ha
- St Mary's Churchyard, Woodham Ferrers 0.80 ha
- Bushy Hill East, South Woodham Ferrers 2.45 ha

Figure 3.6 Designated Biodiversity Assets and Living Landscapes Initiative Areas



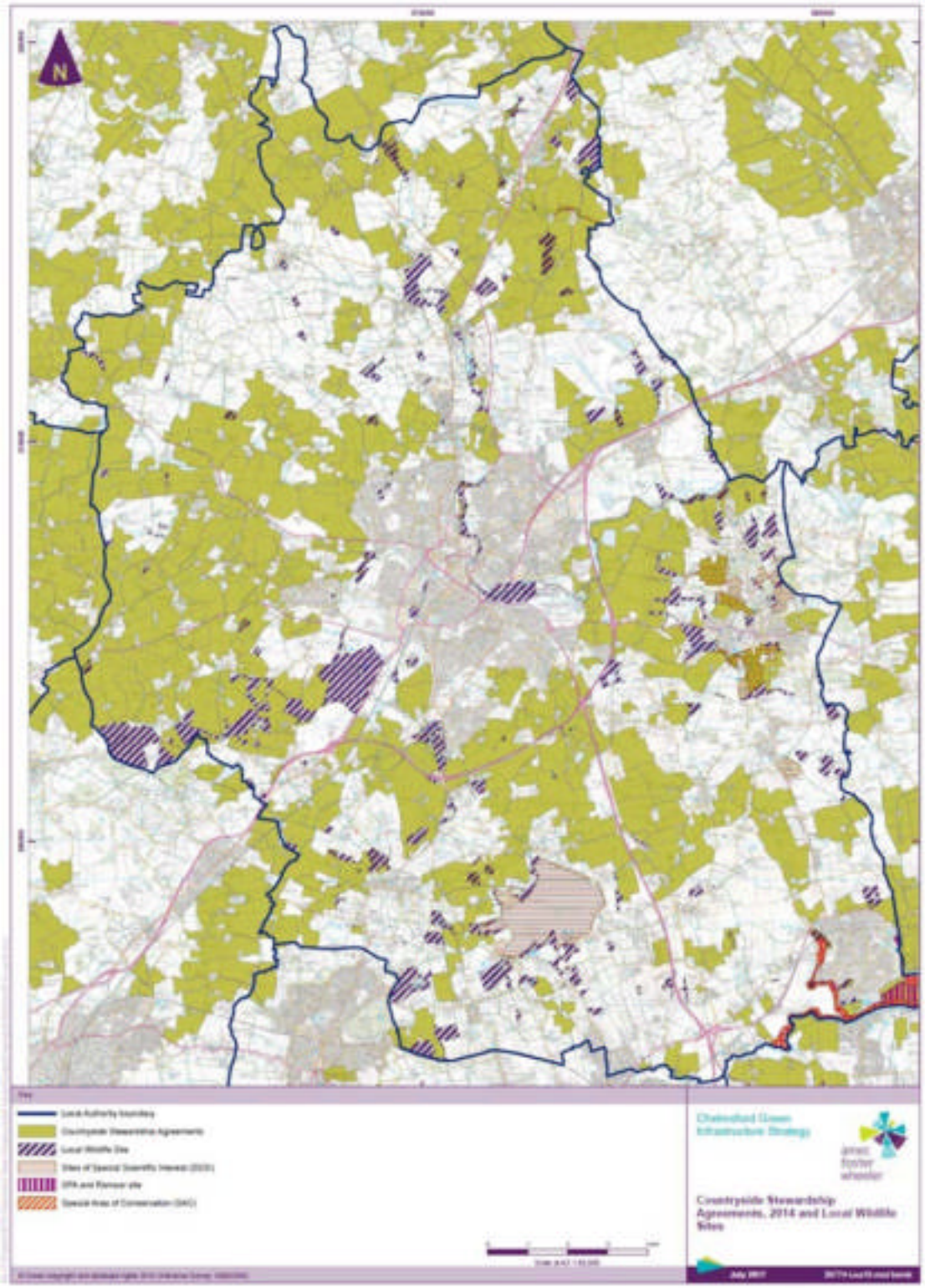
16. Detailed Vision Documents have been produced for Danbury Ridge and the Upper Chelmer. The documents are a rich source of detail on biodiversity, landscape character and cultural heritage features as well as detailed actions on the conservation, enhancement and restoration of biodiversity and heritage assets, and recreation and local economic development opportunities. Suggestions for locally important wildlife corridors are also presented (Figure 3.7). They complement the strategic approach to biodiversity set out in the Biodiversity Action Plan for Chelmsford (currently being updated).

Figure 3.7 Danbury Ridge Proposed Wildlife Corridors



17. Figure 3.8 presents the extent of land under Countryside Stewardship (CS), along with their relationship with biodiversity resources. Notable is the broad extent of land under CS, along with the presence of significant gaps, being land to the north of Chelmsford and between Hanningfield and South Woodham Ferrers.

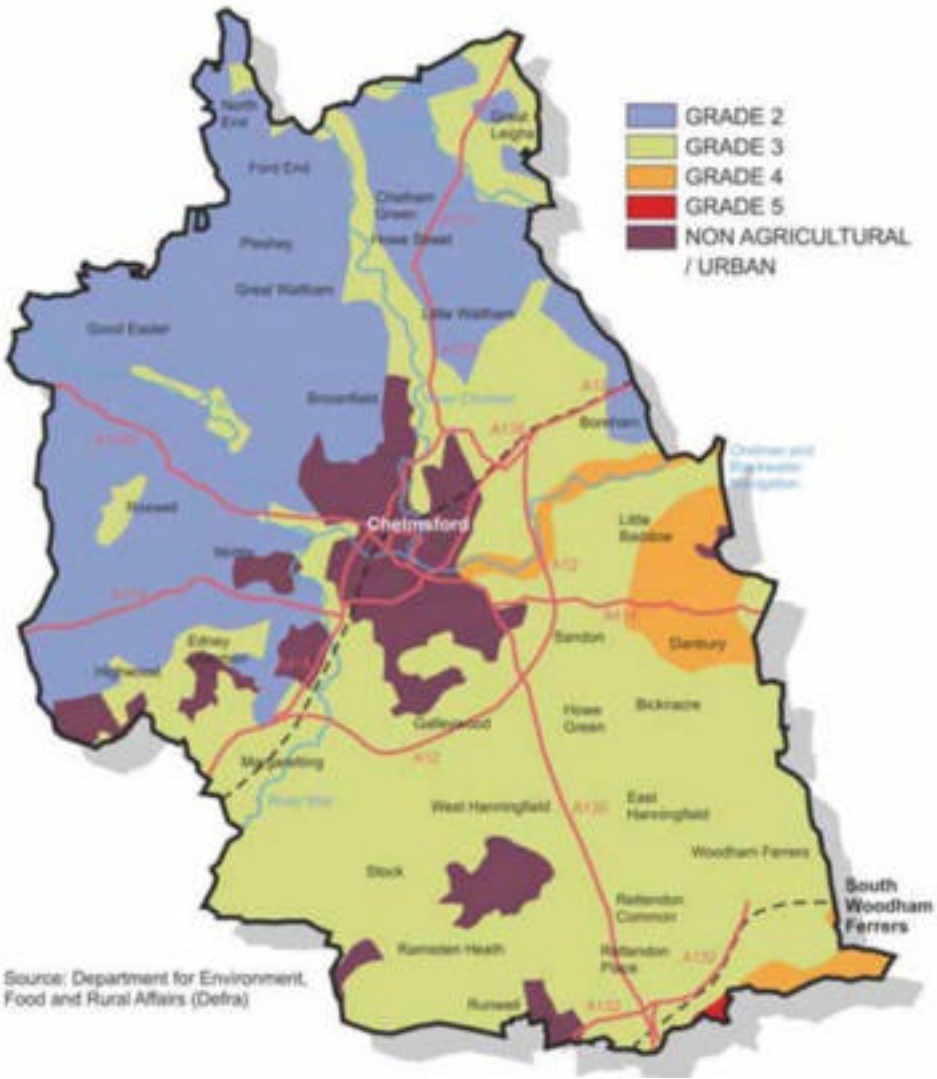
Figure 3.8 Land under Countryside Stewardship and Designated Biodiversity Assets



3.5 Agricultural Land Quality

18. Figure 3.9 maps agricultural land quality, with the extensive tract of Grade 2 land to the north west of the City of particular note. Protection of these valuable soils is great importance for biodiversity, climate change and economic reasons, and Government has developed a code of practice[10] on how this is best achieved.

Figure 3.9 Agricultural Land Quality



[10] Defra (2009) Protecting our Water, Soil and Air: A Code of Good Agricultural Practice for farmers, growers and land managers https://www.gov.uk/government/publications/protecting-our-water-soil-and-air

3.6 Walking, Cycling and Horse-riding

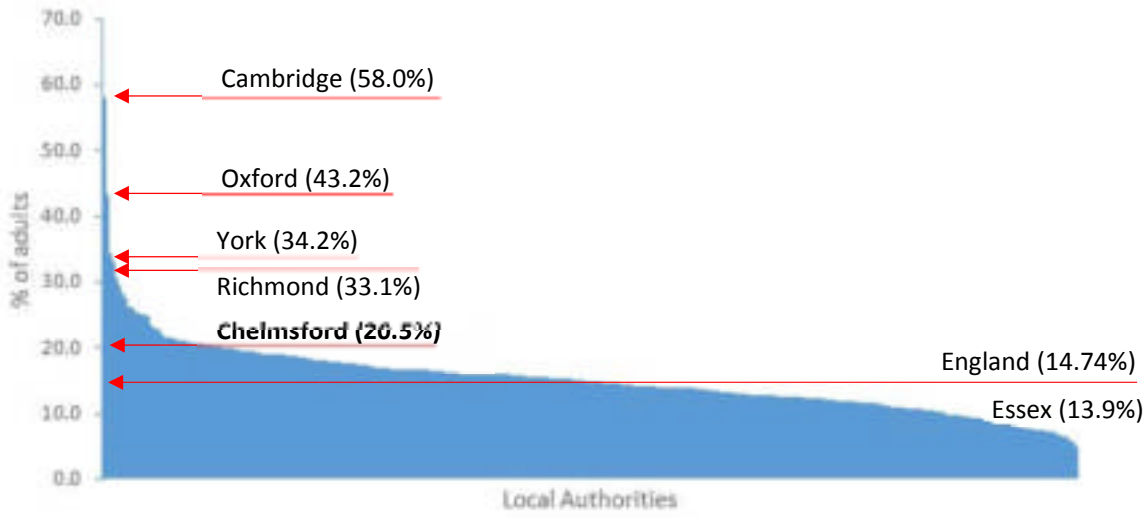
19. The profile of physical activity (as represented by walking) in Chelmsford is not untypical against that of the County and the Country as a whole (Table 3.2). By contrast, cycling activity (Figure 3.10) is above average, perhaps related to the City's network of cyclepaths, but some way behind the best performing cities.

Table 3.2 Walking Activity Rates: England, Essex and Chelmsford

	% of adults that walk at least ...				*% of adults that walk for recreational purposes at least ...*				*% of adults that walk for utility purposes at least ...*			
Area	**1 x per month**	**1 x per week**	**3 x per week**	**5 x per week**	**1 x per month**	**1 x per week**	**3 x per week**	**5 x per week**	**1 x per month**	**1 x per week**	**3 x per week**	**5 x per week**
England	86.3	80.6	61.8	50.6	53.9	43.3	24.6	16.9	60.4	53.2	36.4	24.6
Essex	85.5	78.9	59.7	48.4	52.0	42.9	24.5	17.0	59.0	50.8	34.6	22.6
Chelmsford	86.3	75.2	55.8	46.3	51.9	40.9	21.2	14.5	60.2	49.8	34.1	21.7

Source: Department for Transport statistics Table CW0105, Proportion of how often and how long adults walk for (at least 10 minutes) by local authority, 2014/15

Figure 3.10 Proportion of adults cycling at least once per month by Local Authority (England) 2014/2015



Source: derived from https://www.gov.uk/government/collections/walking-and-cycling-statistics

20. There are proposals (Figures 3.11 & 3.12) for addressing missing links in the cycle network, whether as cycle lanes or advisory on road routes within the urban area e.g. Chelmsford Road between Writtle and Chelmsford, Broomfield Road, between Galleywood and Great Baddow and Mill Lane needing a connection across Essex Regiment Way, Chelmer Valley Road and connecting Beaulieu with the rest of Chelmsford.

Figure 3.11 Existing and Proposed Cycle Routes – Authority-wide

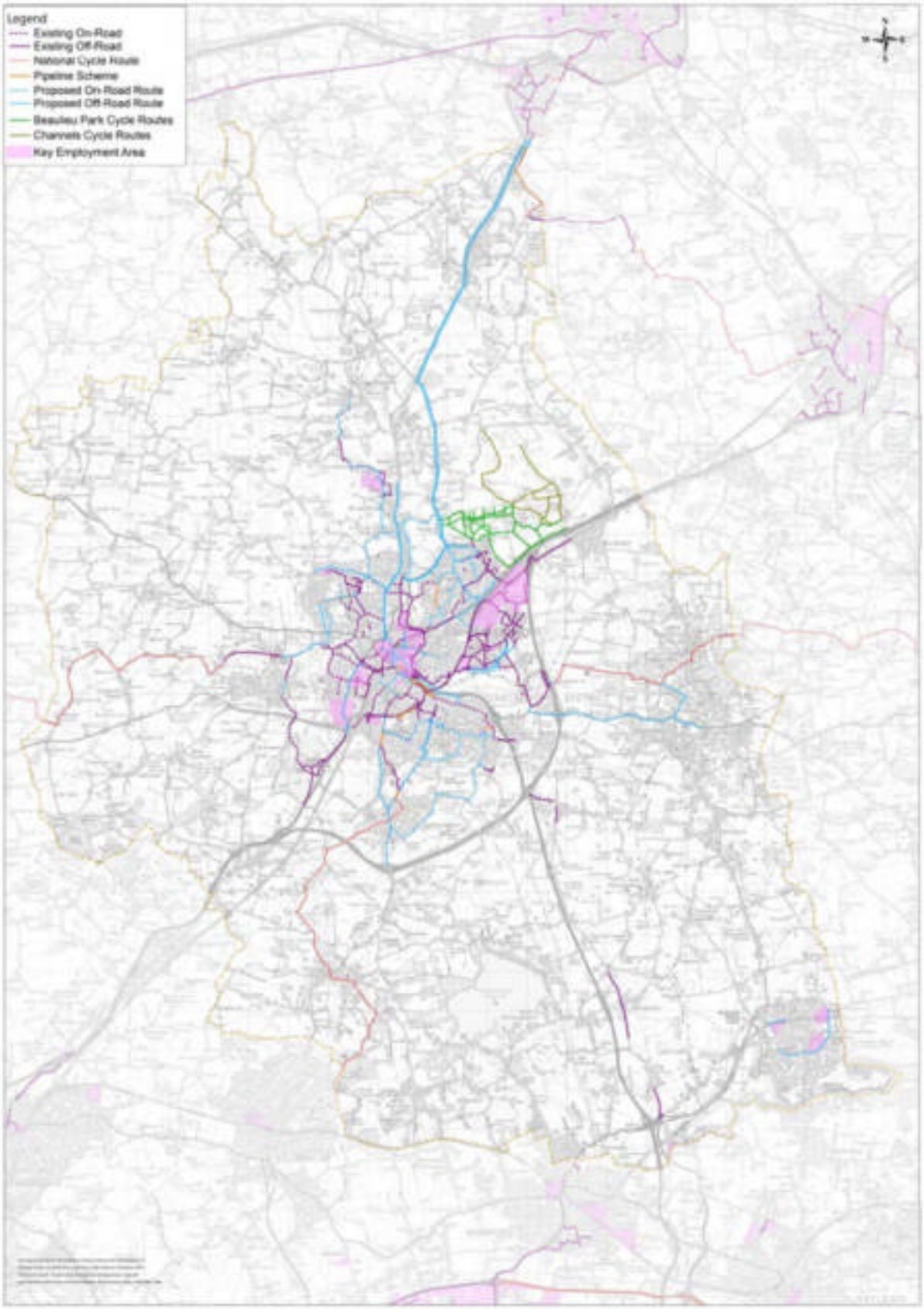


Figure 3.12 Existing and Proposed Cycle Routes – City Centre

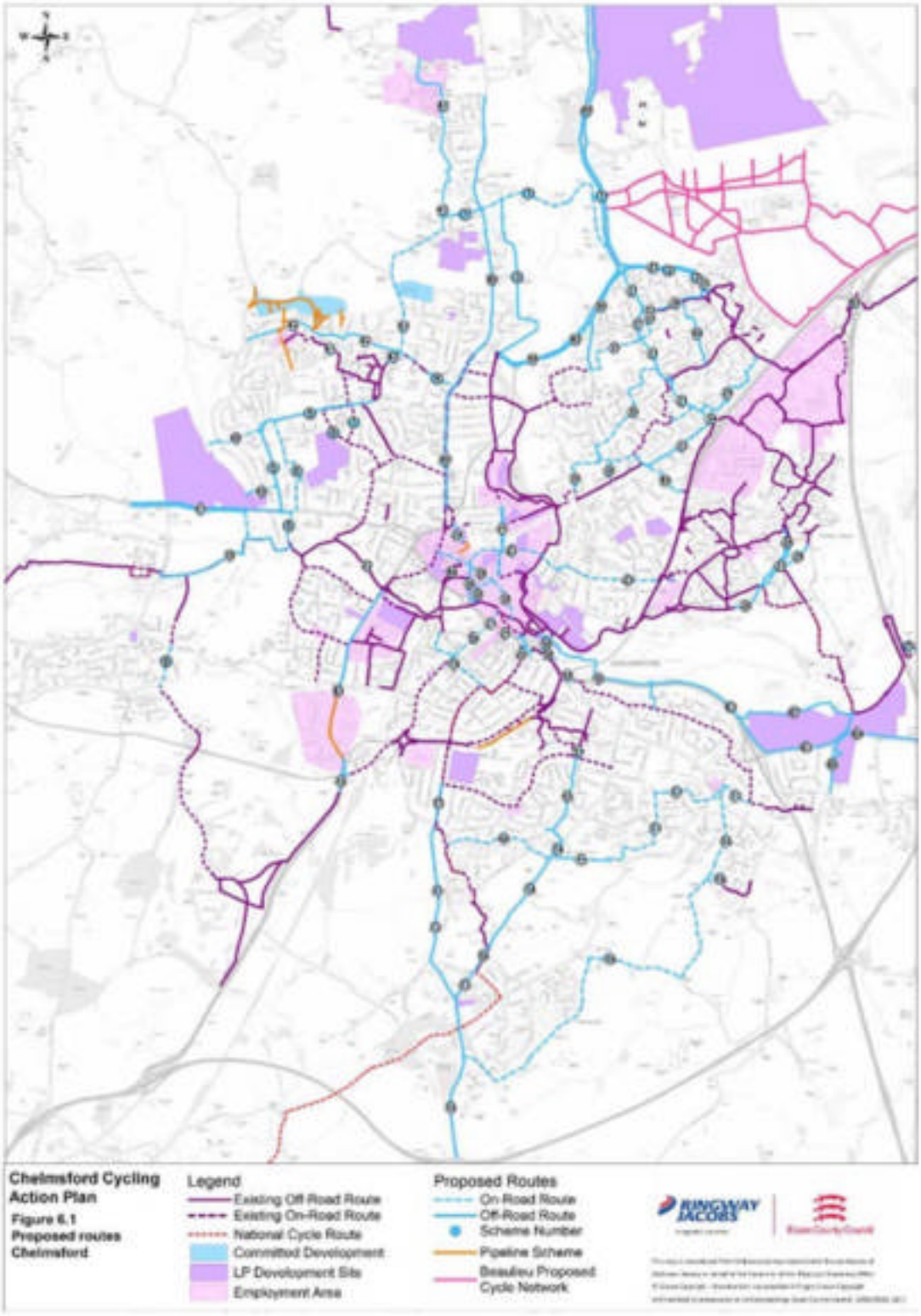


Figure 3.13 Public Rights of Way and Cycle Routes

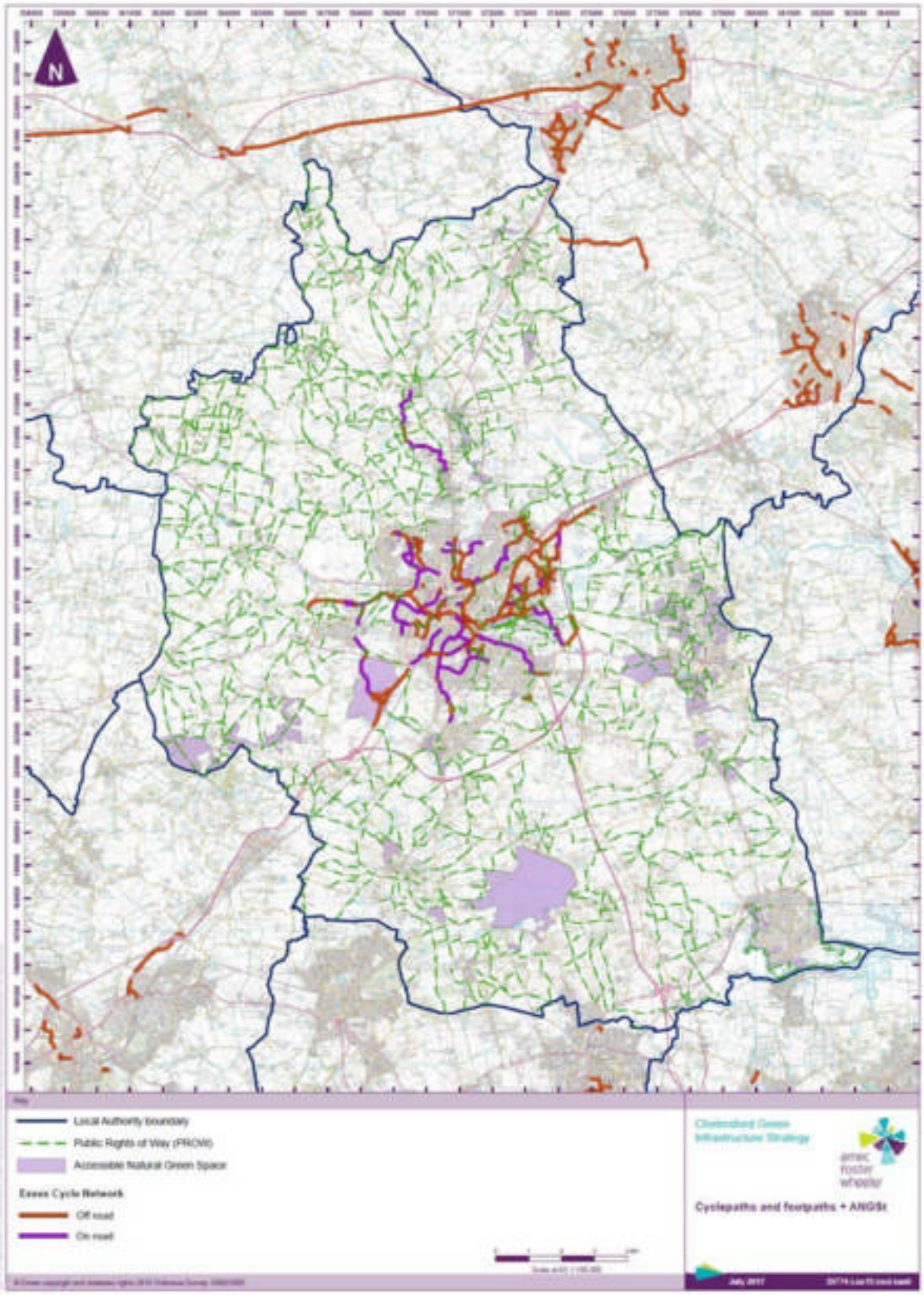
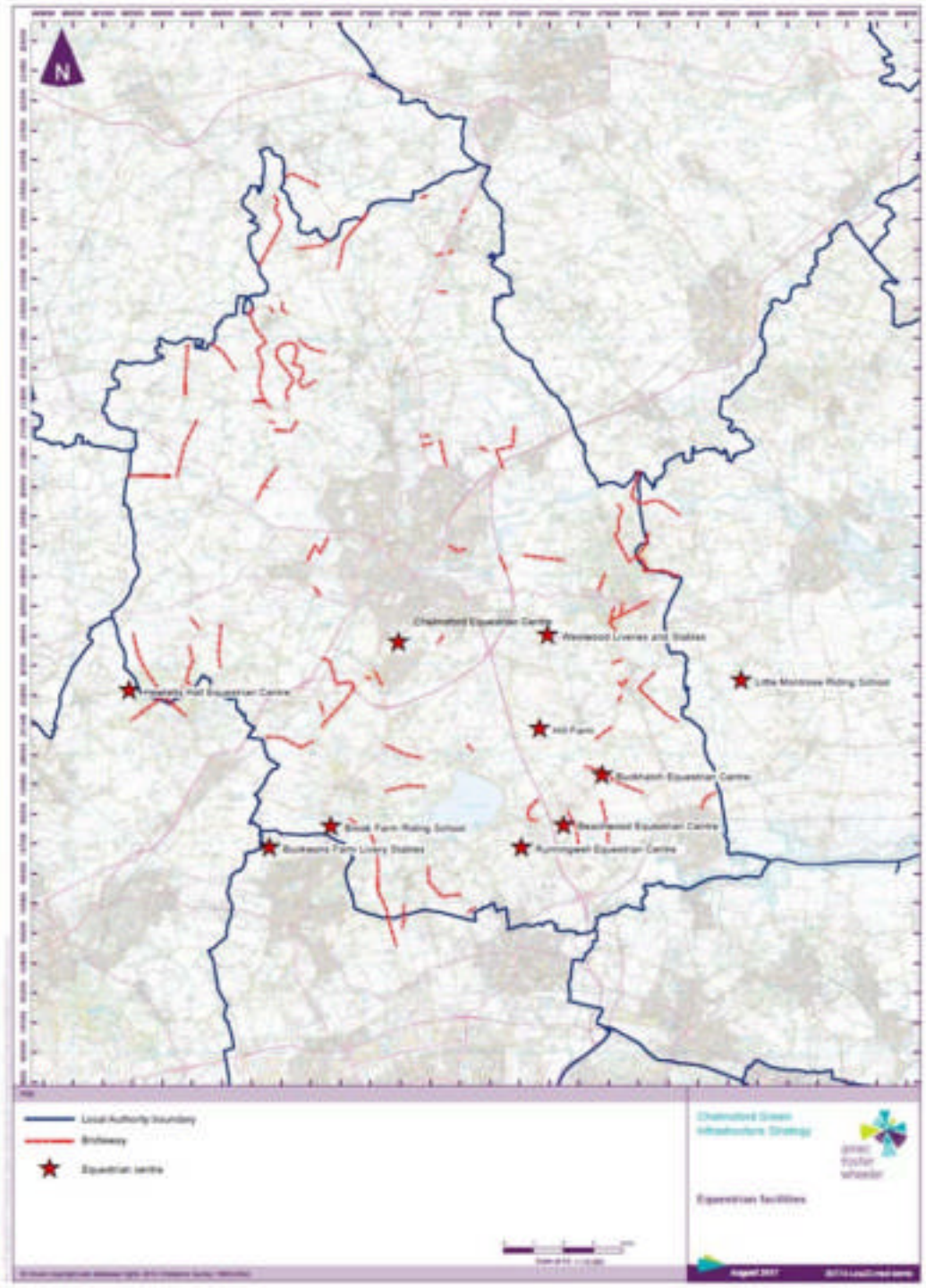


Figure 3.14 Bridleways and Equestrian Facilities

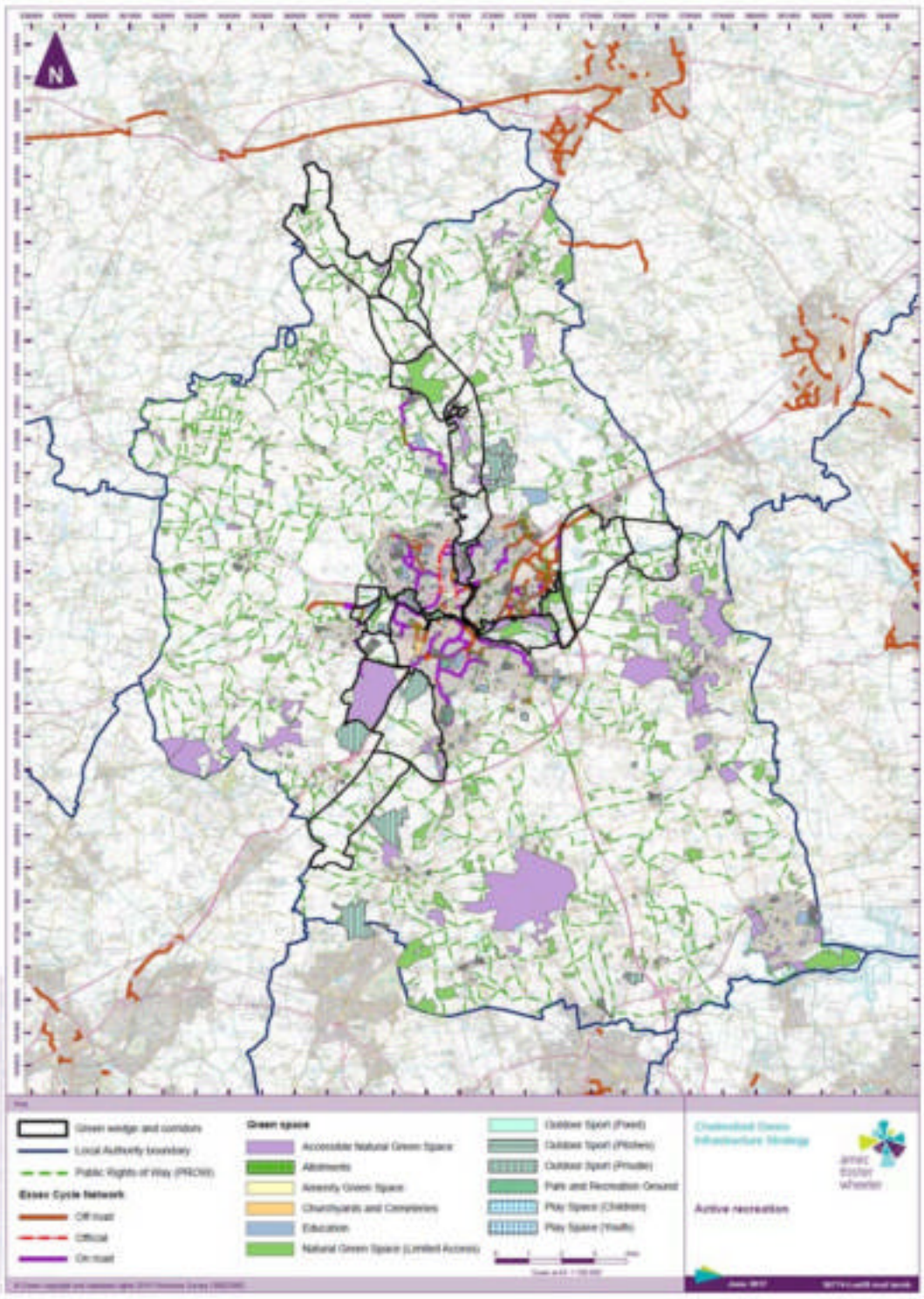


21. Whilst the network of footpaths and cycleways across Chelmsford appears substantial (Figures 3.11, 3.12, 3.13), and notwithstanding some quality and connectivity issues and proposals for further investment, there are clear deficiencies in relation the extent and connectivity of the bridleway network (Figure 3.14) affecting both horse-riders and off-road cyclists.

3.7 Open Space Provision

22. The Chelmsford City Council area has some 692ha of parks and green spaces managed and maintained, including 490 ha of parks, gardens and amenity areas, 93ha of sports and playing fields and 78ha of natural space (Figure 3.15). The Council has been awarded fourteen Green Flag awards for fifteen of its parks and gardens. Marconi Ponds Nature Reserve and Chelmer Valley LNR have each been awarded a Green Flag Community Award.

Figure 3.15 Open Space Provision across the City Council Area



23. The quality and accessibility of Chelmsford's parks and open spaces is a notable feature of the City's character. Fourteen City Parks have Green Flag status, and three have achieved Green Heritage Status. They are the focal point for multifunctional activity as per the award criteria set out in Box 3.1 & Box 3.2.

Green Flag Awards

	Hectares
Oaklands Park, Moulsham Street, Chelmsford	4.8
Boleyn Gardens the Grand Vista and Beaulieu Park, Chelmsford	9.12
Admirals Park, Tower Gardens and the adjoining West Park, Chelmsford	29.4
Chelmer Park and Jubilee Park	16.99
Hylands Estate	232
Coronation Park	5.72
Compass Gardens and Saltcoats Park	10.08
Melbourne Park and Andrews Park	25.77
Brook End Gardens and Chancellor Park	8.11
Central Park	14.87
Lionmede Recreation Ground	2.0
Chelmsford Cemetery and Crematorium	7.8
Springfield Hall Park	14.40
Chelmer Valley Local Nature Reserve	16.00
Total	**397.06**

Green Flag Community Award

Marconi Ponds

Green Flag Heritage Awards

	Hectares
Oaklands Park, Moulsham Street, Chelmsford	4.8
Hylands Estate	232
Admirals Park, Tower Gardens and the adjoining West Park, Chelmsford	29.4
Total	**266.2**

Source: Chelmsford City Council Parks and Green Space Services, 2017

Box 3.1 Green Flag Award Designation Criteria

Section 1: A welcoming Place
This section recognises the culmination of everything done well. A welcoming place is one that invites and draws people into it. This means creating a space which, through its visual appearance, range of facilities, standards of maintenance and ease of access, makes people feel that they are in a cared-for place.
1. Welcome
2. Good and Safe Access
3. Signage
4. Equal Access for All

Section 2: Healthy, Safe and Secure
This section looks at how well managers understand their users' needs, encouraging them to enjoy healthy activities using appropriate, safe-to-use facilities and activities, and to feel personally safe and secure.
5. Appropriate Provision of Quality Facilities and Activities
6. Safe Equipment and Facilities
7. Personal Security
8. Control of Dogs/Dog Fouling

Section 3: Well Maintained and Clean
For aesthetic as well as health and safety reasons, issues of cleanliness and maintenance must be addressed, in particular:
+ litter and other waste management issues must be adequately dealt with;
+ grounds, buildings, equipment and other features must be well maintained;
+ policies on litter, vandalism and maintenance should be in place, in practice, and regularly reviewed.

9. Litter and Waste Management
10. Horticultural Maintenance
11. Arboricultural Maintenance
12. Building and Infrastructure Maintenance
13. Equipment Maintenance

Section 4: Environmental Management
This section seeks to ensure that the way the site is managed has a positive impact on the environment, locally and globally, both now and for the future. Where choices can be made for future procurement, landscaping or buildings, they should aim to minimise energy and resource consumption and waste, and design in benefits to the local and global environment. Policies should seek to eliminate the use of peat and chemicals to control pests and as fertilisers. Horticultural and arboricultural decisions should reflect an understanding of the impacts of climate change.
14. Managing Environmental Impact
15. Waste Minimisation
16. Chemical Use
17. Peat Use
18. Climate Change Adaption Strategies

Section 5: Biodiversity, Landscape and Heritage
Attention should be paid to the appropriate management and conservation of natural features, wildlife and flora; landscape features; and buildings and structures. Their particular character and requirements should be identified and appropriate management strategies put in place to conserve and enhance them.
19. Management of Natural Features, Wild Fauna and Flora
20. Conservation of Landscape Features
21. Conservation of Buildings and Structures

Section 6: Community Involvement
This section examines the extent to which the managing organisation:
+ understands the community it seeks to serve;
+ actively and appropriately involves members of the community in making decisions about the site's development;
+ provides opportunities for active participation in site projects; and
+ ensures that there is appropriate provision of recreational facilities and activities for all sectors of the community.

22. Community Involvement in Management and Development
23. Appropriate Provision for Community

Section 7: Marketing and Communication
This section seeks to examine the ways that managers understand the key benefits of the site and how they use this information to promote it appropriately. They should understand who the main user groups are, could be or should be, and use a fitting range of interpretation and engagement techniques to communicate with them. This basis ensures that appropriate facilities, events and activities can be offered and most effectively promoted, and forms a solid foundation for development now and in the future.
24. Marketing and Promotion
25. Appropriate Information Channels
26. Appropriate Educational and Interpretational Information

Section 8: Management
This section evaluates how well the management plan is implemented on site.
27. Implementation of Management Plan

Box 3.2 Green Heritage Site Accreditation Criteria

Condition of historic features

Good Conservation Standards
- Relevance of the Conservation and Management Plans to what they see evidenced.
- Practical conservation work carried out to high standards (e.g. repointing).
- Staff, contractors and volunteers understand the conservation standards and work to them.

Historic features given prominence
- Historic features are a celebrated part of the landscape, whether that be subliminally or overtly.
- Historic features are regarded as an integral part of the site operation as a whole, not boxed off or hidden

Restoration / re-creation of landscape features
- Evidence that what has been identified in the Conservation Plan has been put into practice on the ground in accordance with the Plan.
- Good quality outcome - demonstrated through the finish, use of materials, reflection of original design features.

Use and enjoyment of historic features

Historic features intact and in use
- Architectural features, detailed design elements and buildings (for example, sporting features, fountains, drinking fountains, bandstands, bedding displays) should be still in use and not derelict.
- Where adequate maintenance is impossible, records should be kept of their existence and measures put in place to retain the essence of what was there. For example, rather than trying to retain large areas of poor bedding displays, it would be better for some areas to be recorded and grassed over, and reduced but strategically located areas of bedding maintained. Future aspirations should be recorded in the Conservation Plan.

Historic Features integrated into the life of the site
- Buildings should be used by groups or businesses that add to the vibrancy of the site - for example leased or offered to a Friends' Group rather than leased as a private office.
- If prior decisions prohibit this, steps should be laid out in the Conservation Plan to show how this might be rectified in the future (e.g. at lease renewal build in requirements for open days to open the buildings to the public).

Information available & evidence that historic features are enjoyed by the public
- Lists of events and relevant interpretation information should be made available.
- People can be seen actively enjoying the historic features.

Maintaining historic character & appearance

Relevance of Historic Landscape design integrity understood and interpreted
- Evidence that staff know the importance of original features even if they are not currently useable or visible - for example, views, avenues and water features, as well as it being documented in the Conservation Plan.
- It is important to understand what was once there to inform long term management, for example many sites have trees growing in the wrong place that cannot currently be felled, but it means that when the tree is eventually lost, another will not be replanted there and the vista renewed.

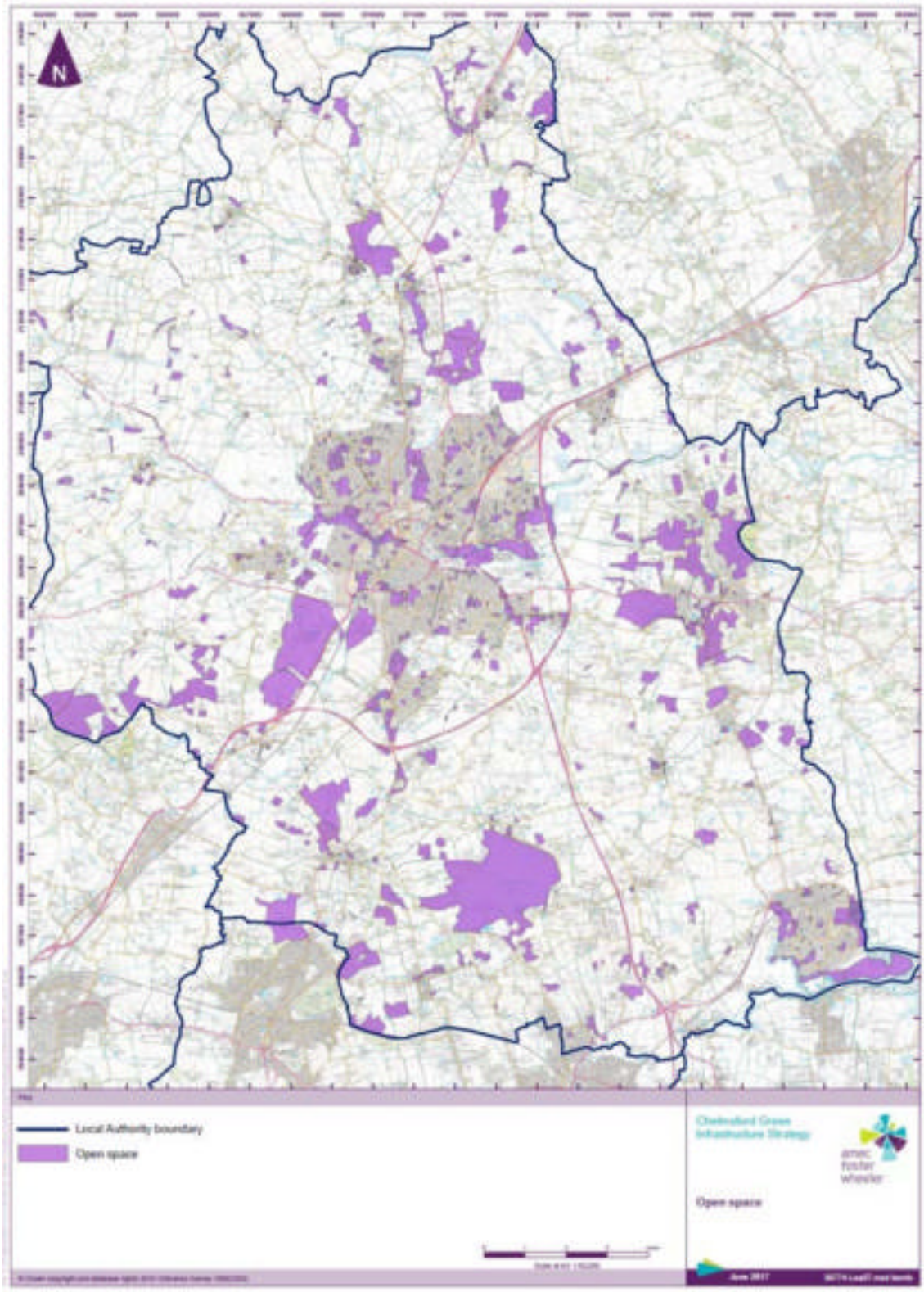
Horticultural displays contribute to historic character
- Displays should be in keeping with the character of the site and can reflect multiple periods in its development.
- People should be able to understand why displays are as they are.

Recognition and appropriateness of historic tree & plant collections
- All collections should be recognised, maintained, and enhanced.
- What is in the Conservation Plan should be evidenced on site.

New and replacement features conserve or enhance the historic character and appearance
- Judges are interested in the process of consultation and decision-making undertaken rather than offering personal opinion on the look of the features themselves.

24. Figure 3.16 maps the extent of the City's Open Space resource, both publicly accessible and of limited access (such as private sports grounds). Clusters of open space resources are identifiable throughout the City Centre and suburbs and also to the southwest and south, east and north.

Figure 3.16 Open Space (accessible and limited access) across Chelmsford



25. The 2016 Open Space survey undertook an extensive survey of the patterns of use and perceptions of supply, accessibility and quality. The following points present a summary of the principal outputs of the user survey:

Use of leisure facilities and open spaces

- It is Chelmsford's parks, gardens and recreation grounds that are most commonly used by most respondent households on a regular monthly basis (81%); followed closely by rights of way - footpaths, bridleways and cyclepaths (79%).
- Sports and Leisure Centres are used regularly by significant numbers (61% of respondent households report using them at least monthly) as are the areas' swimming pools and gym/health and fitness facilities (around 48%).
- Over 30% of respondent households use village halls/community sports centres at least monthly.
- Other spaces used at least weekly by at least 30% of respondent households are country parks/countryside and woodlands and informal open spaces (for ball games, picnics, hobbies, dog walking etc.).
- Play areas, areas for water recreation and wildlife areas/nature reserves are also fairly frequently used but with fewer respondent households (at least 40%) using them on a regular basis (at least monthly).

Quantity

- Other than for youth facilities and footpaths, bridleways and cyclepaths, a majority of respondent households reported that there were currently enough of all of the various kinds of open space, sport and recreational facilities.
- A clear majority (67%) of respondent households think there is a need for more facilities for teenagers and a majority (54%) thought that there are not enough footpaths, bridleways and cyclepaths. In addition just over 47% highlighted a need for more wildlife areas /nature reserves.
- Following this, other aspects where there was considered to be a shortfall by many were: play areas; artificial turf pitches; allotments and informal open spaces (for ball games, picnics, hobbies, dog walking etc.). 40% or over indicated a need for more of such facilities.
- It is noted that Country Park provision in the city is heavily used at peak periods, with limited access during large-scale events. This leads to over usage in the summer.
- Applying the Woodland Trust – Woodland Access standard in Chelmsford, and comparing to nearby local authorities, Chelmsford has comparatively low access to woodland.
- Chelmsford currently only has 2 Local Nature Reserves, (one further site due to be declared) falling short of the Natural England ANGSt target.
- National Trust research indicated an increasing (unsustainable) pressure on existing wildlife sites and SSSI's. People are less willing to travel long distances, increasing the use of local sites.

Quality

- 42% respondent households highlighted the quality of outdoor facilities for teenagers as being either poor or very poor; and over 25% said the same in relation to swimming pools. Around 21% thought that the quality of allotments was poor or very poor.
- Outdoor facilities/open spaces with high levels of satisfaction noted are parks/recreation grounds (over 70% rate quality as good or very good); and country parks/ countryside/ woodlands (67%).
- Indoor facilities commonly regarded as being of good or very good quality are gym/health and fitness facilities (72%); and the sports and leisure centres (62%).
- Other facilities where a majority of respondent households rate quality as being good (or better) are play areas and wildlife areas/nature reserves (55%).
- The quality of the Chelmsford Parks included in the study is considered to be of a high standard with 82% giving park overall design and appearance a top score of 1 or 2, 87% for maintenance and 67% rating cleanliness at the same standard demonstrating the overall feel of the parks are positive and welcoming.
- Infrastructure also has a positive review with 56% of respondents giving a score of a5 – extremely satisfied, or a 4. Paving and fencing received 60% rating and benches and seating 57%.
- Qualitative feedback praises Chelmsford Parks as being well maintained and looked after.
- 68% of user groups surveyed are happy with the overall quality of their local recreation grounds and parks (rating them as good or very good).
- 50% were happy with the overall quality of wildlife areas, nature reserves and accessible woodlands and 47% with Country Park provision.
- The quality of footpaths, bridleways and cyclepaths are not considered high with 37% rating them adequate and 27% rating them poor, or very poor. General comments support these findings noting that infrastructure issues (drainage and overgrown) and poor connectivity of cycle and footpaths make them problematic to users.
- All respondents who considered allotment provision relevant reported standards to be either adequate 45% or good 15%.
- The high standards of maintenance and management of parks and recreation grounds stands out amongst respondent's comments. This is particularly relevant to city centre sites such as Central Park, Bell Meadow and Admirals Park.
- The quality of parks and recreation sites in Chelmsford is high, with a large number of green flag and green heritage sites; the aspiration to continue achieving more green flags demonstrates the drive to improve quality.
- A good working relationship between the key stakeholders working to protect biodiversity and nature conservation is evident, facilitating access to sites and making improvements.
- The integrity of the natural landscape at Danbury Common / Blakes Wood has been raised as a concern due to overuse of footpaths by mountain bikers. A need for a separate dedicated facility is something that should be considered.

Access

- There is great variance in respondent households' willingness to spend time travelling to different types of facility and open space.
- A majority of respondents report having excellent access to their nearest park, travelling less than 5 minutes to reach the site. It is also evident that people are willing to travel to reach the facilities they require. 50% or more of users are prepared to travel 16 minutes or more to use some facilities such as wildlife areas/nature reserves (71%); country parks, countryside and woodlands (65%); areas for water recreation (55%); and specialist indoor sports facilities (50%).
- In contrast, for a significant number of respondent households, facilities need to be much more locally accessible before they will be used (for example, play areas, allotments, and informal open space areas informal open spaces - for ball games, picnics, hobbies, dog walking etc.), with respondents less willing to travel, for example, 63% of users would expect allotments to be within a 10 minute travel time, of which 27% would not wish to travel more than 5 minutes.
- 55% of users would expect informal open spaces to be within a 10-minute travel time, of which 23% would not wish to travel more than 5 minutes.
- Respondent households are more likely than not to drive to many facilities most notably specialist sports facilities; swimming pools; country parks, countryside and woodlands; and wildlife areas/nature reserves
- Walking and cycling are the norm for facilities such as play areas; parks and recreation grounds; and informal open spaces for ball games, picnics, hobbies, dog walking etc.
- Ensuring good foot and cycle path access to facilities is likely to encourage residents to walk/cycle further to access facilities and to use them more often.
- There is a wide variance in the maximum travel times people are willing to undertake and this should be taken into consideration when setting access standards.

Priorities and other issues

- The categories highlighted by the largest number of respondent households (58%) as a high priority for potential improvement/new provision was for swimming pools; followed by better footpaths, bridleway and cyclepath provision (55%).
- Other notable high priorities for improvement noted by significant numbers were children's play areas (39%); outdoor facilities for teenagers (38%); parks/gardens/local recs. (34%); and informal open spaces (33%).
- The only category where it is clear cut that the primary need identified is for more facilities is provision for teenagers (73%).
- For others quality/access improvements to existing provision is clearly the more common kind of improvement suggested e.g. churchyards (89%); swimming pools (73%); grass playing fields (72%); and sports and leisure centres (67%).
- Improved access is particularly significant for some categories e.g. access to country parks, woodland etc; water recreation; and wildlife areas/nature reserves.
- Providing opportunities for physical activity by developing and maintaining appropriate facilities such as sports and leisure centres, parks and open spaces is very important in relation to promoting better public health and reducing health inequalities.

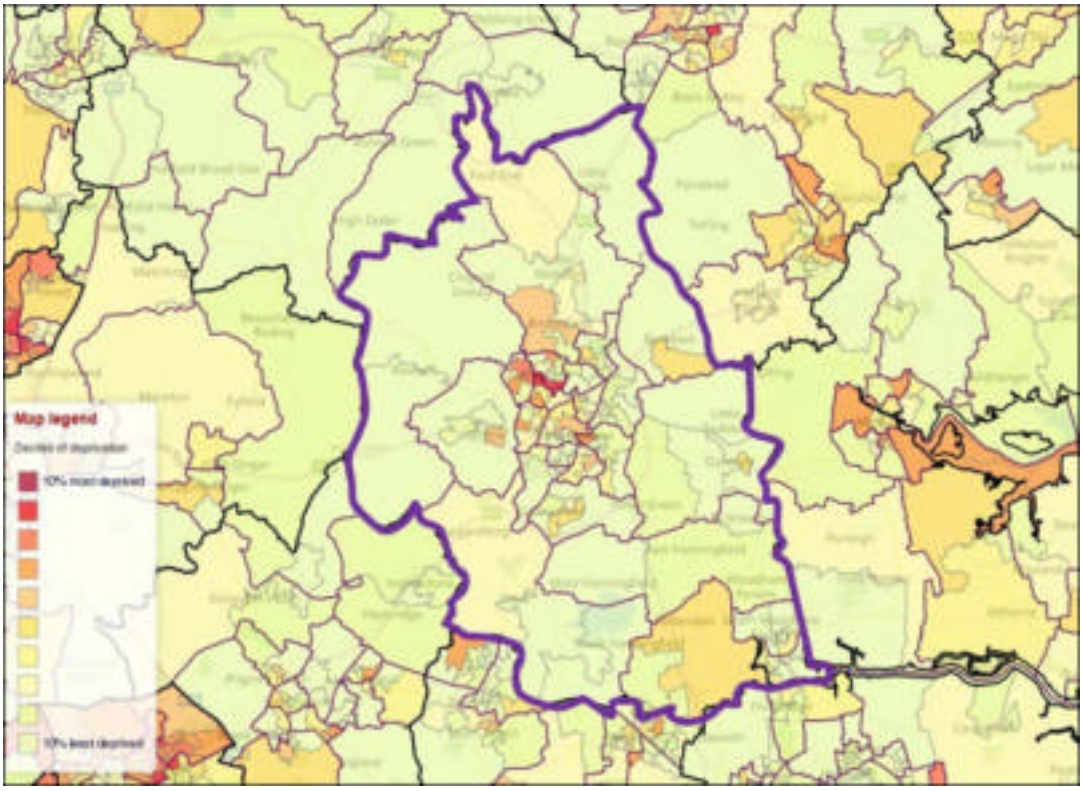
- Some sectors of the community face particular barriers to access such as disabled people; children and young people; households in the more isolated rural areas and those in the more deprived urban wards of the study area.
- The opportunity to develop 'Bulls Quarry' in Boreham into recreational facilities including a country park has been identified by stakeholders as a long term aspiration that should be included in planning policy.
- Chelmsford has no formal green infrastructure policy and this should be addressed.
- The presence of canals and rivers is part of the City's identity and offers good recreational value. A fully functioning 'honeypot' water-based facility is an aspiration including marina moorings and visitor facilities. Increased use of the river by canoe and local educational groups is putting pressure on existing facilities.
- There is considerable interest in improving links between the Chelmer and Blackwater Navigation and River Chelmer – through infrastructure projects such as improving bridges, and in particular the provision of a new 'cut'.
- Clear need for development of facilities for horse riders given the existing significant limitations noted on access to bridleways. New developments to give access to horse riders.
- Good, safe cycle access to open spaces is highlighted as a priority by many stakeholders including Natural England and Sustrans. This is supported with a majority of stakeholders commenting on poor provision in specific areas.
- The need for good provision of public transport linking the natural environment to rail or bus stations is important when considering improvements and development
- There is very poor and very limited access for the horse-riding community to bridleways and generally poor facilities for horse riders.
- Limited access to interpretation materials/boards and general information in wildlife areas and nature reserves is a repeated comment made by local organisations.
- General direction and access information is also considered lacking directing visitors to Wildlife sites and Natures reserves.
- Long term provision of natural open space – Boreham Airfield and the quarry provides a good future development opportunity considered by a number of key stakeholders.
- River access is hampered on both wildlife and recreational levels by old weirs and structures that have a negative impact and disrupt river flow rates.
- Planned improvements by the PRoW team in 2015 should improve efficiency in programming and producing clear and digitised cutting maps and schedules.
- It is considered that some sites of SSSI such as Hanningfield Reservoir should only give limited access to the general public – protecting the habitat located there.

26. The implications of these observations and conclusions are considered in respect of addressing GI provision and access issues in Section 6.

3.8 Deprivation, Health and Well-Being

27. Figure 3.16 illustrates the comparative deprivation (England-wide), as measured by health and disability, of wards across Chelmsford.

Figure 3.16 Deprivation: Health & Disability Domain



Source: http://dclgapps.communities.gov.uk/imd/idmap.html

Health-Related Findings from the Open Space Survey

- Although Chelmsford City is a relatively affluent area, there are notable health inequalities in some wards with issues such as alcohol consumption, obesity, smoking and the need to increase physical activities.
- A Chelmsford Public Health initiative has secured £26k for three years to support projects for health promotion and health improvement. This can include leisure, sport and recreation initiatives such as the GP referral scheme.
- Providing local people with opportunities for participation in a wide range of sport, leisure, active recreation, and play activities can have a significant impact on improving health and wellbeing and in preventing a wide range of illnesses – both mental and physical. This could also lead to savings in NHS budgets.
- There needs to be a range of options for physical activity that fit within people's lifestyles and preferences. The kind of activity undertaken is less important than the fact that the person is taking part in some sort of physical activity on a regular, frequent basis.

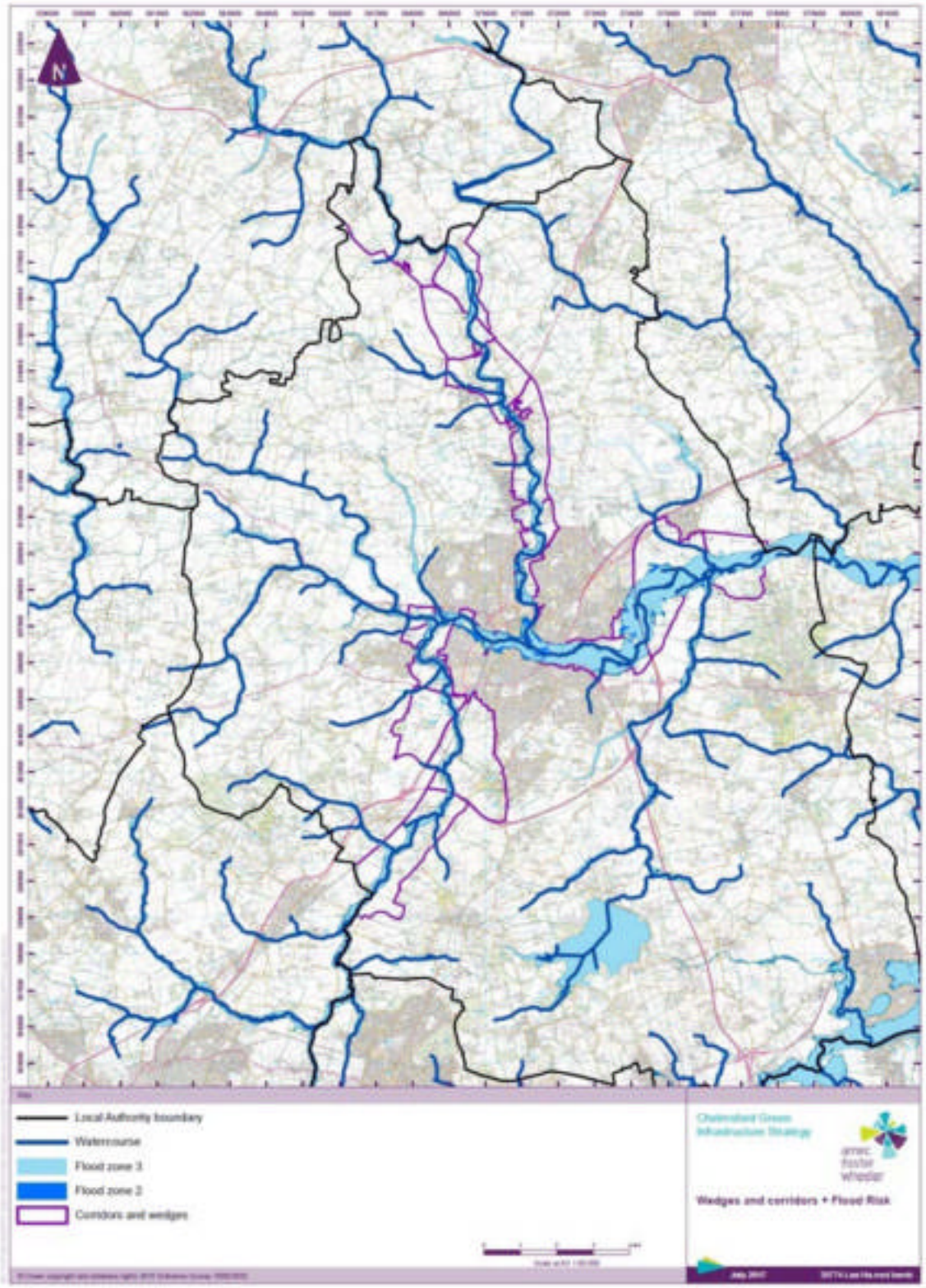
- Parks, open spaces and rights of way are important elements of infrastructure. Chelmsford has an excellent array of such and it is important to provide good information and publicity so that people are aware of all the opportunities they offer. Park Run is a good example of a successful leisure initiative that many people have taken up.
- Access to good outdoor play opportunities and informal youth facilities is important. For many children and young people sport is not a primary interest to them so providing opportunities for informal outdoor activity is important. There is a need to recognise that young people have a right to "hang out" in parks and public open spaces and that their presence there is welcome.
- Cost can be a barrier to some sectors of the population in relation to participation at sports and leisure centres so providing some kind of targeted subsidy scheme would be likely to help promote improved health and wellbeing for more people.
- Another barrier arises around motivation and confidence. If people have not been active and are unfit they may need a lot of support and encouragement in making a change in their lifestyles. Publicity and promotion is also important to ensure that people realise that the health benefits highlighted in research are directly relevant to them rather than simply being an interesting set of statistics. Outreach projects may help in this respect e.g. for young people and heavy alcohol users.
- As well as providing leisure/recreation facilities and programmes it is also important to provide good access links to these. A key consideration in this respect is to plan for good, safe footpath and cyclepath access to facilities and also between them.
- More people walking and cycling will in itself lead to improved health. The City Council's Leisure Plus card system has a very large membership. Access to and analysis of data collected through the scheme could potentially be of great value in relation to planning for public health initiatives.
- Another suggestion is that the planning process should include a public health assessment so that all significant planning proposals should include an assessment of their public health impact - how benefits can be maximised and detrimental impact minimised.
- Active Essex have been commissioned by the County Council's Public Health service to promote and deliver programmes of activity to improve health and wellbeing. The aim is to increase physical activity, particularly in priority areas regarding health inequality.
- Initiatives supported include *Let's get Moving* and *Park Run*[11].
- Promoting regular and frequent participation in active recreation, such as walking, cycling and outdoor play, are just as important as sports in relation to health benefits. The "facility" infrastructure for these kinds of physical activity needs to be considered alongside provision for sports.

[11] *Let's get moving* is a service based at local GP surgeries supporting people to be more physically active being rolled out in local GP surgeries. *Park Run* is a national initiative provided locally at Central Park. It is a community based scheme open to all that provides free, weekly, 5km timed runs throughout the year.

3.9 Flood Risk and Water Management

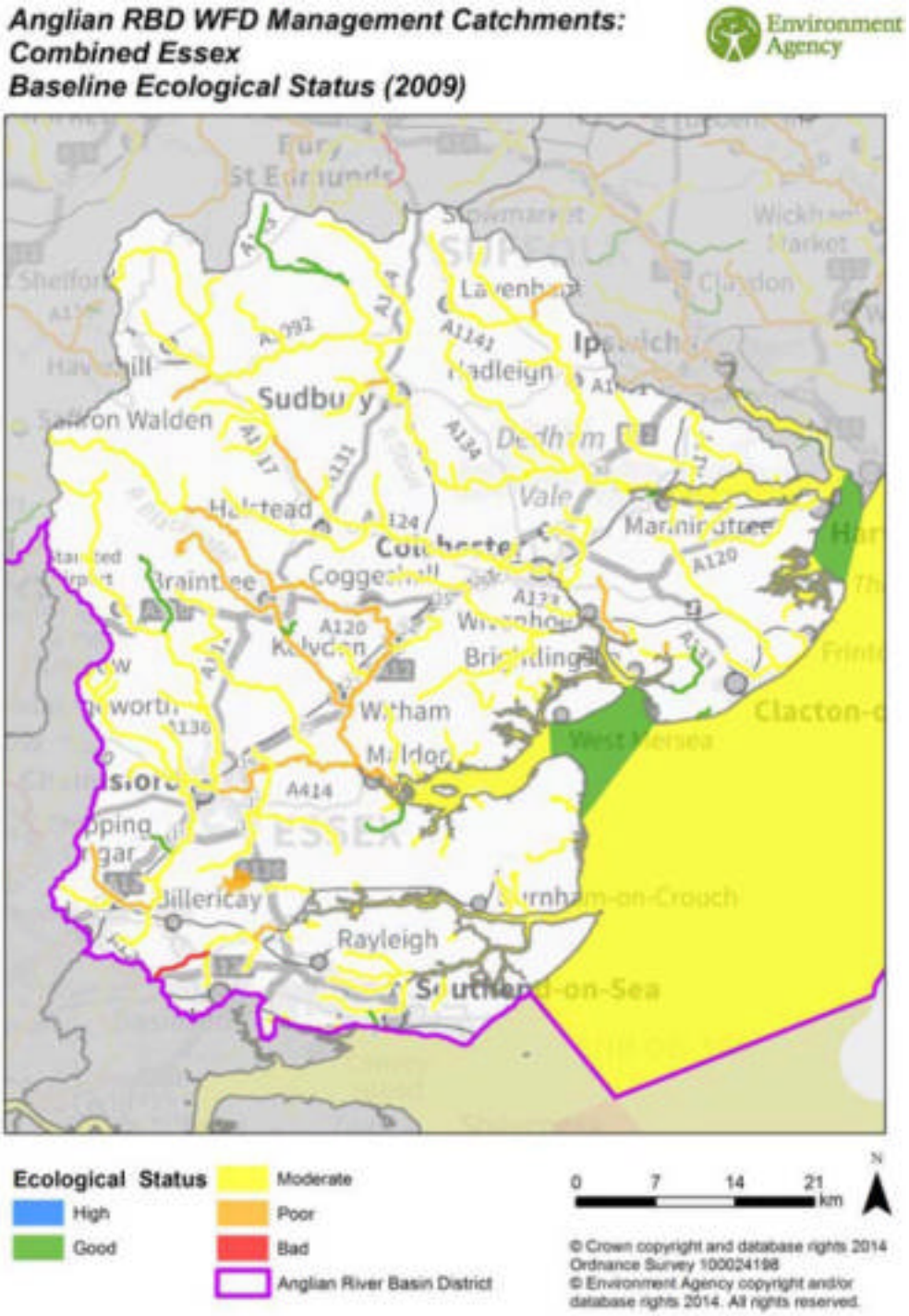
29. The pattern of flood risk is shown in Figure 3.17, dominated by the Wid and the Chelmer, particularly from their confluence in the centre of Chelmsford and eastward.

Figure 3.17 Watercourses and Flood Risk



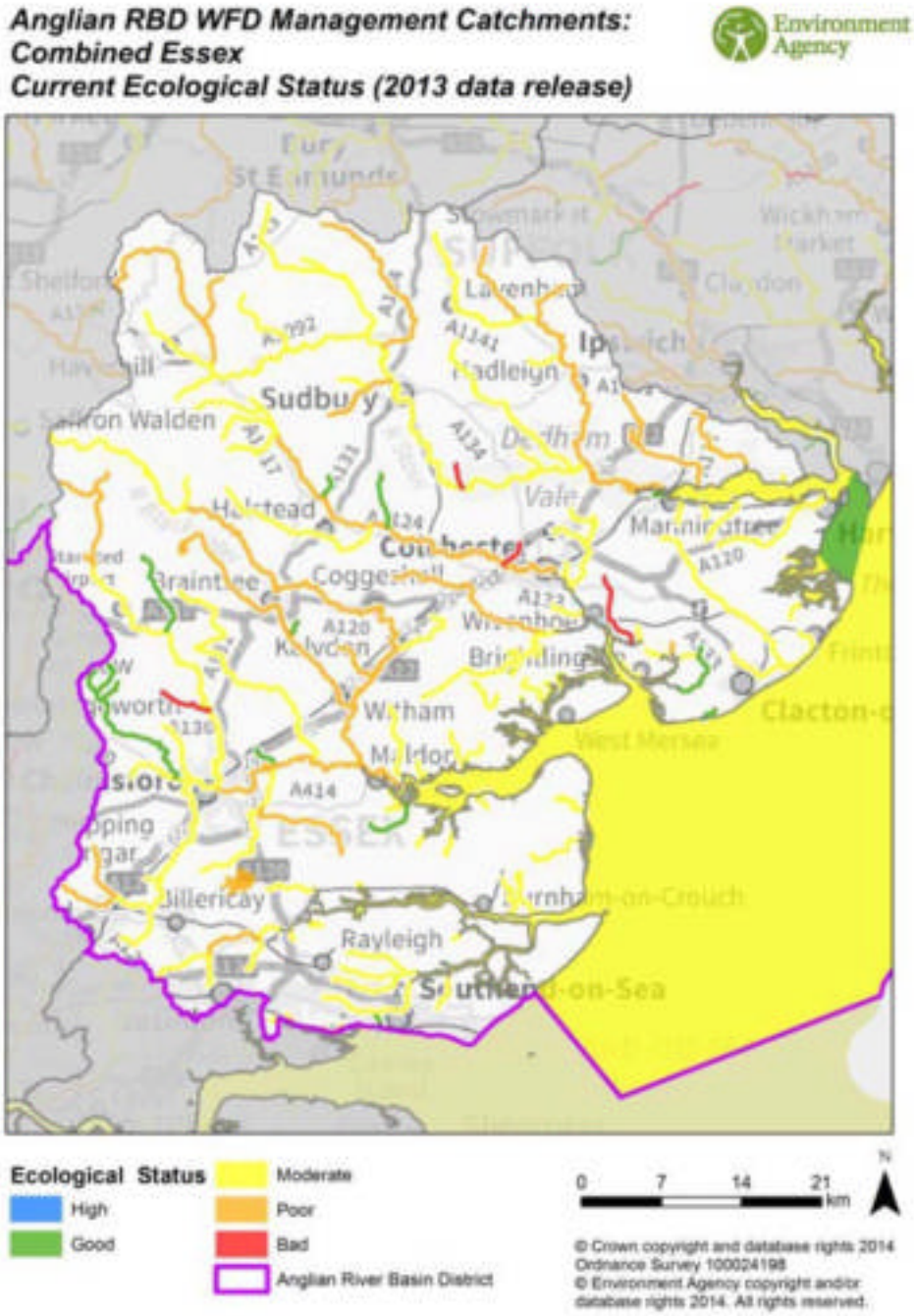
30. Unfortunately, the trends in water quality appear to be mixed, with some improvements but declines along other watercourses between 2009 and 2013 (Figures 3.18 and 3.19).

Figure 3.18 Baseline Ecological Status



Source:
http://essexrivershub.org.uk/images/FactSheets/Combined%20Essex%20catchment_dashboard_23%2010%2014%20postLP.pdf

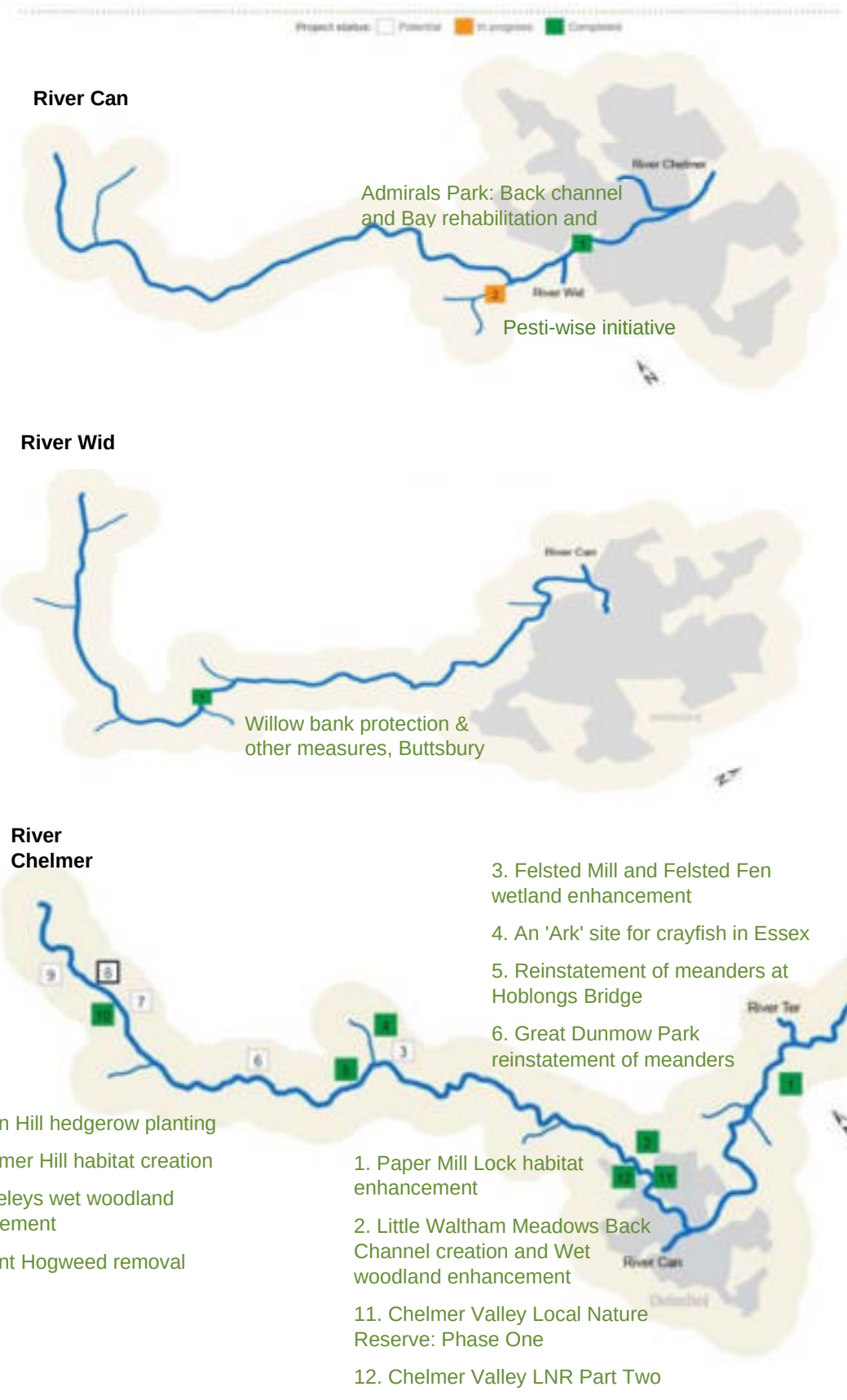
Figure 3.19 Current Ecological Status



Source:
http://essexrivershub.org.uk/images/FactSheets/Combined%20Essex%20catchment_dashboard_23%2010%2014%20postLP.pdf

31. Various local projects carried out under the Water Framework Directive (Figure 3.20) have attempted to reverse some of the decline and potentially serve as exemplars in developing targeted responses to enhance the quality of watercourses across the catchment.

Figure 3.20 Projects by River Corridor (http://essexrivershub.org.uk/**)**



32. The Chelmer and Blackwater Catchment Partnership covers the majority of City of Chelmsford. Supported by the Environment Agency it *"works with land managers to help them reduce the amount of diffuse pollutants from their land and entering the Rivers Chelmer and Blackwater. This will help meet drinking water quality standards and the Water Framework Directive targets for rivers and streams to achieve both good water quality and good ecological status. The partnership supports land managers and their advisors by providing advice on the storage, handling and application of pesticides, fertilisers and manure; soil management; water course protection; environmental stewardship and general farm environmental management."*[12]

33. A recent review of activity noted that:

- 60% of farmers who were surveyed in the study said the Catchment Partnership is an advantage to their farm business.
- 76% of farmers who have been along to an event or had a visit from the Partnership believe they have taken up mitigation measures to improve water quality as a result.
- One-to-one farm visits were perceived as the most useful source of advice, with events also rated very highly.
- Some 7 out of 10 farmers stated that they would go to members of the Partnership for advice on how to manage their effect on catchment water quality.
- Farmers surveyed said that they were making changes on their farm for the following reasons: makes sense for farm productivity; to meet quality assurance scheme standards; to help water quality in Chelmer and Blackwater and to prevent pesticide bans.
- Statistical analysis of the water quality results showed an upward or at best stable trend in the concentration of pesticides, but a more general downward trend of nitrate and phosphorous.
- Some 79% of the catchment's agricultural area have now been in contact with the Partnership, whether that be via an event, one-to-one farm visit, receiving maps or taking part in a study. This equates to 57% (366 of a total of 670) of the holdings in the catchment
- In the last 6 years, 1,016 farmers have attended events and the Partnership has carried out 1,641 farm visits in the catchment on a range of topics from nutrient management planning, farm compliance, watercourse protection and soil husbandry.
- The Partnership has supported 57 successful Grant Scheme agreements through Catchment Sensitive Farming. This has brought £344,728.71 of grant money into the catchment to fund projects such as new sprayer filling areas and watercourse fencing.

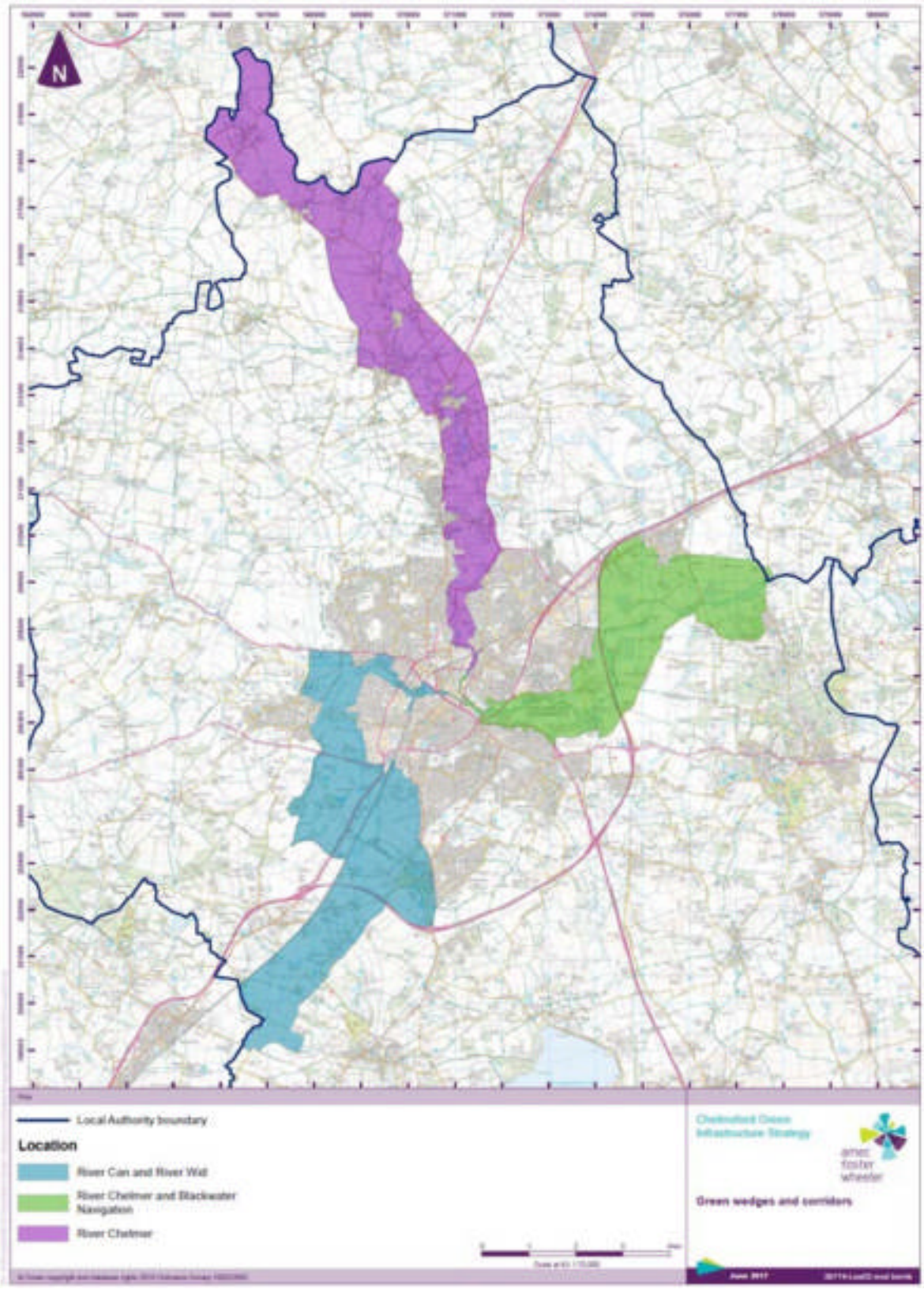
3.10 The River Valleys: Green Wedges & Corridors

33. As part of the preparation of the Chelmsford Local Plan, detailed attention has been paid to the extent and function of the principal river valleys which converge on Chelmsford (Figure 3.21). Definition of their extent[13] helps to act as a focus for attention to connectivity of these important landscape, biodiversity and recreational resources.

[12] http://www.chelmerandblackwater.org.uk/

[13] Amec Foster Wheeler (2017) Green Wedges and Green Corridors: Defining Chelmsford's River Valleys

Figure 3.21 The Extent of Chelmsford's Principal River Valleys

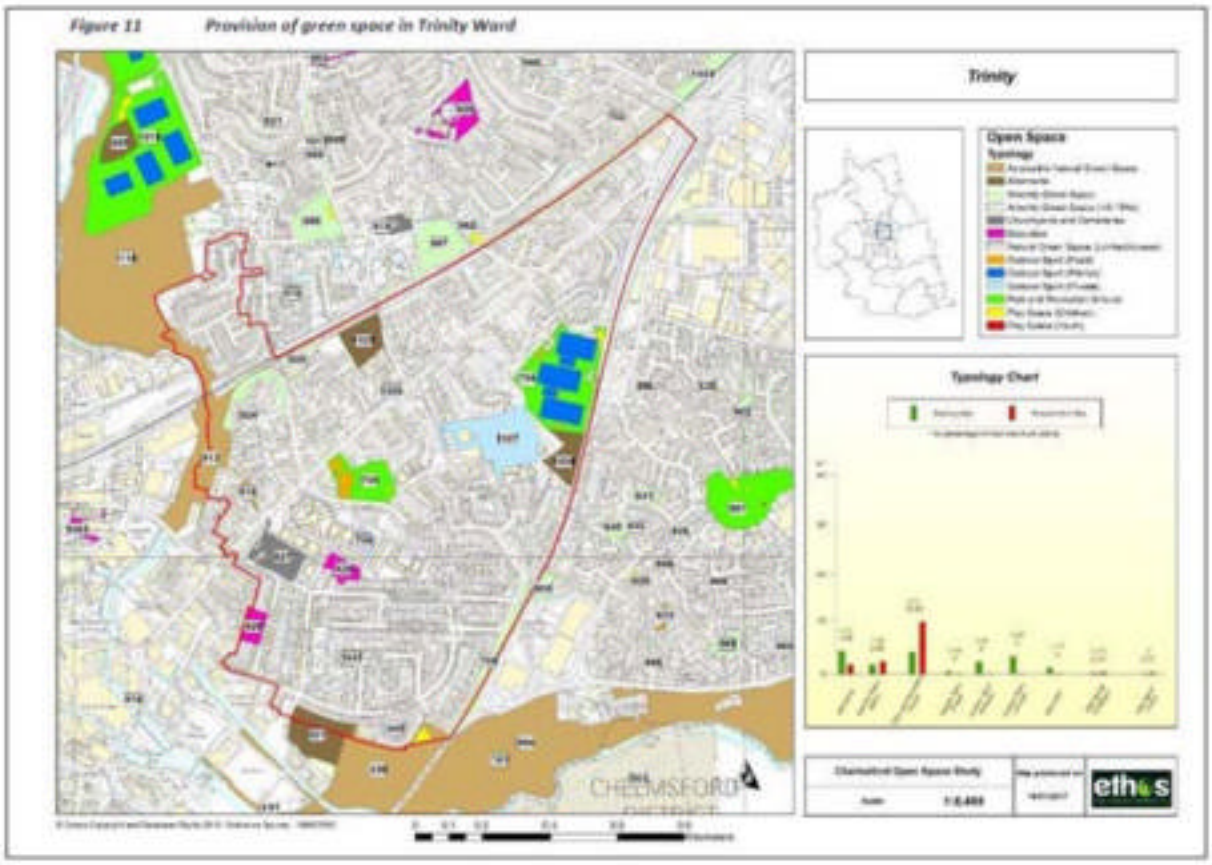


4. Standards for Provision, Access and Connectivity

4.1 Open Space

1. The 2016 Open Space Study provides a considerable volume of detail on the current provision of recreation and open space resources. Provision is mapped by Ward and whilst all the mapped outdoor resources are part of the GI resource.

Figure 4.1 Example: Open Space provision in and around Trinity Ward



2. Table 4.1 summarises the open space standards which have been recommended for adoption in the Local Plan.

Table 4.1 Summary of Open Space Standards

Typology	Quantity Standard (ha/1000 population)	Access Standard
Allotments and Community Gardens	0.3	720m or 15 min walk time
Amenity Green Space	0.4	480m or 10 min walk time
Parks & Recreation Grounds (public and private)	1.65	600m or 12/13 min walk time
Play Space (children)	0.05	480m or 10 min walk time

Play Space (youth)	0.05	600m or 12/13 min walk time
Natural Green Space	1	ANGSt and WASt

4.2 Accessible Natural Greenspace

3. The standards set for access to natural greenspace and woodlands are set out in Figure 4.2. These are widely used as a benchmark for provision. Strategically access to ANGSt resources across Essex appears to somewhat patchy, particularly in respect of 100ha+ and 500ha+ sites (Figure 4.3), although Chelmsford has comparatively few areas with no provision.

Figure 4.2 Standards for Access to Natural Greenspace and Woodlands

The Natural England Accessible Natural Greenspace Standards (ANGSt)

- No person should live more than 300 metres from their nearest area of natural green space of at least 2 hectares in size.
- At least 1 hectare of Local Nature Reserve should be provided per 1,000 population.
- There should be at least one accessible 20 hectare green space site within 2 kilometres from home.
- There should be one accessible 100 hectare green space site within 5 kilometres.
- There should be one accessible 500 hectare green space site within 10 kilometres.

The Woodland Trust Woodland Access Standards

- No person should live more than 500 metres from at least one area of accessible woodland of no less than 2 hectares in size.
- There should also be at least one area of accessible woodland of no less than 20 hectares within 4 kilometres (8 kilometres round-trip) of people's homes.

This standard was based on data collected and analysed annually since 2004 and is supported by the Forestry Commission.

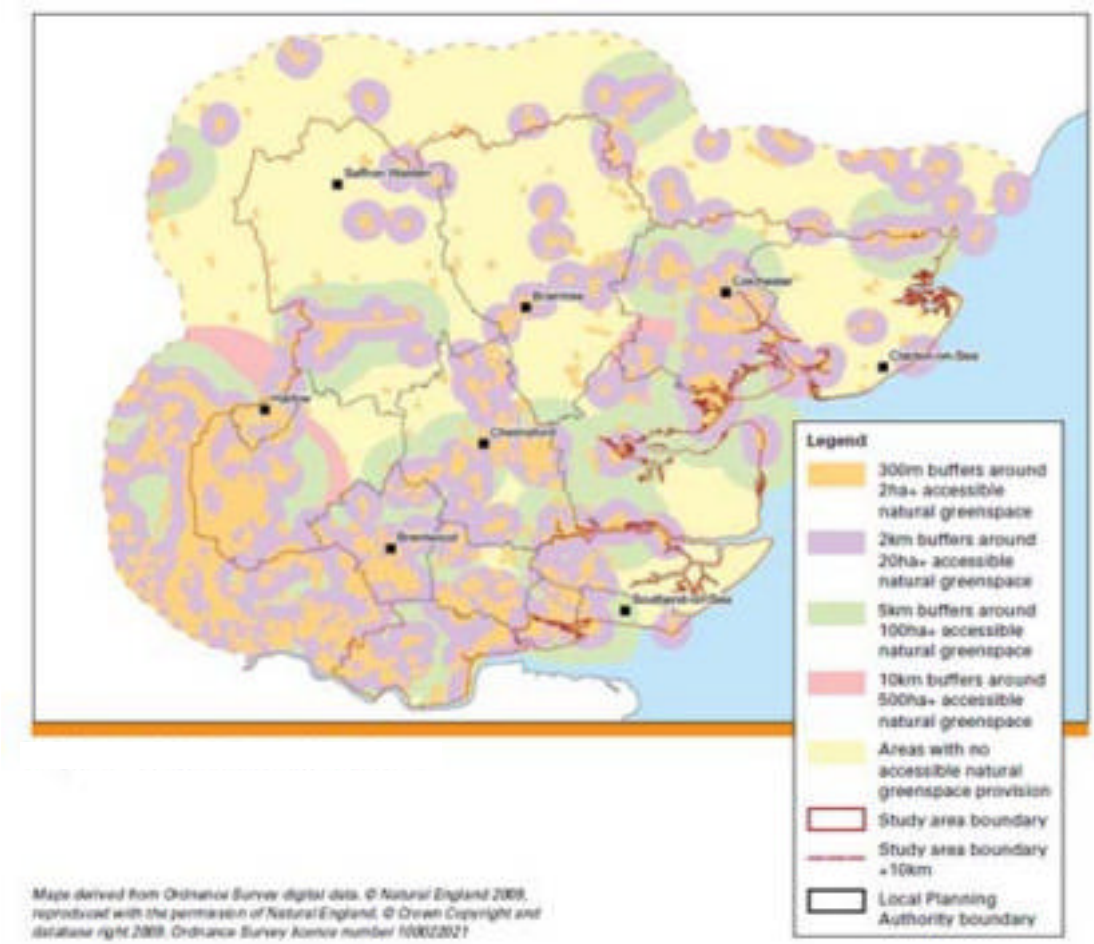
4. A summary of the extent to which ANGSt standards is set out in Table 4.2. Locally, mapping for the 2016 Open Space Study (Figures 4.2 and 4.3) reveals that there are deficiencies in City-wide access to open space, particularly in remoter countryside areas, although access to larger open spaces shows a clear southern bias.

Table 4.2 Meeting of the ANGSt Standards across Chelmsford

ANGSt Standard	Meeting of Standards
At least one accessible 20ha site within 2km of home	Standard met across approximately half the study areas with the largest gaps in the rural north, west and south and the eastern part of the urban area.
One accessible 100ha site within 5km of home	Standard met across half the study area with gaps largely in the north and east and part of the west.
One accessible 500ha site within 10km of home	Provision met across Chelmsford, rural south and South Woodham Ferrers. No provision in the rural north and gaps in rural west and urban areas.
At least one hectare of Local Nature Reserve per 1,000 population	Very limited provision – 3 LNRs (Chelmer Valley, Galleywood Common and Franklands Fields)

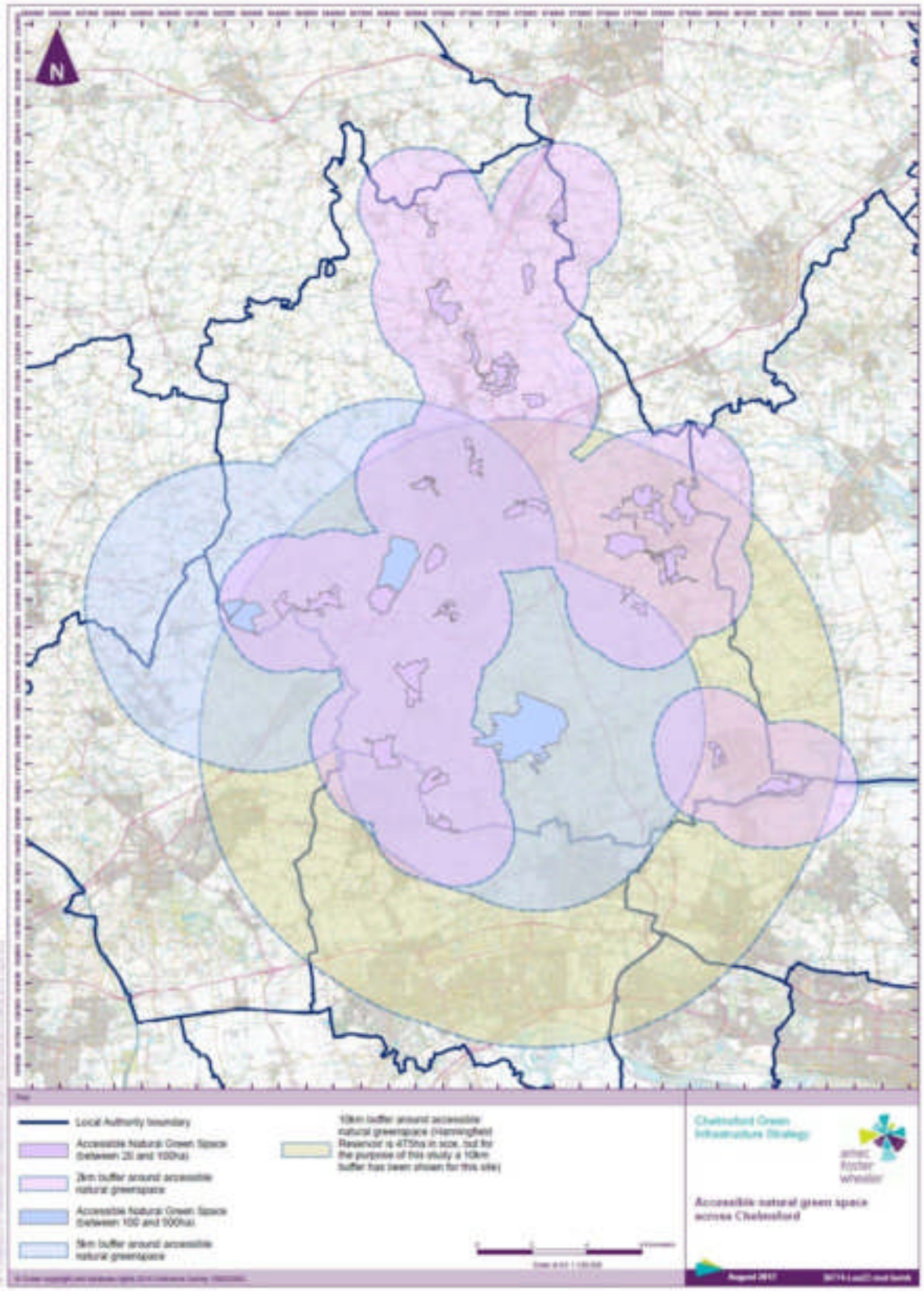
Source: Chelmsford Open Space Study 2016

Figure 4.2 Accessible Natural Greenspace across Essex



Source: EWT/EN (2009) Analysis of Accessible Natural Greenspace Provision for Essex, including Southend-on-Sea and Thurrock Unitary Authorities

Figure 4.3 Accessible Natural Greenspace across Chelmsford: 20ha, 100ha, 500ha



4.3 Access to Woodlands

5. Data on fulfilment of the Access to Woodlands Standard (Table 4.3) shows a mixed performance for Chelmsford, with only 11% of the population within 500m of a 2ha+ wood, but almost two thirds within 4km of a 20ha+ wood.

Table 4.3 Meeting of WASt by Authorities in Essex

	Accessible woods		Inaccessible woods		Woodland creation	
District	% of population with access to a 2ha+ wood within 500m	% of population with access to a 20ha+ wood within 4km	% extra population with access to a 2ha+ wood within 500m if existing woods opened	% extra population with access to a 20ha+ wood within 4km if existing woods opened	%population requiring new woodland to be able to access a 2ha+ wood within 500m	% population requiring new woodland to be able to access a 20ha+ wood within 4km
Basildon	23.9	91	45.9	8.6	30.2	0.4
Braintree	9.2	24.6	38.7	57.4	52.1	18
Brentwood	29	94.2	52.6	5.8	18.4	0
Castle Point	24.5	72.2	19.6	27.4	55.9	0.4
Chelmsford	11	63.9	22.7	17.8	66.3	18.3
Colchester	14	92.7	49.6	2.8	36.4	4.4
Epping Forest	33.7	88.5	34.2	9.4	32.1	2.2
Harlow	42.5	96.9	29	2.9	28.5	0.2
Maldon	0.9	4.7	37.5	50.8	61.6	44.5
Rochford	21.2	84.9	36.6	9.4	42.2	5.8
Tendring	4.3	24.3	22.4	53.3	73.3	22.4
Uttlesford	3.8	47.7	46.2	45.7	50	6.5

source: Woodland Trust (2017) Space for People

6. Figures 4.4 and 4.5 map these data across Chelmsford and its surrounding authorities, and Chelmsford respectively. They show both the limited extent of woodland cover generally, and the paucity of smaller woodlands in and around Chelmsford urban area in particular. Accessibility to larger woodlands is biased towards the south, notably around Danbury, Writtle and Hanningfield. Some of the larger woods within Chelmsford City Council's jurisdiction provide access opportunities for residents of neighbouring Boroughs, notably Writtle Forest for residents of Ingatestone and Hanningfield for residents of Billericay and Wickford.

Figure 4.4 Access to Woodlands: Chelmsford and Surrounding Authorities

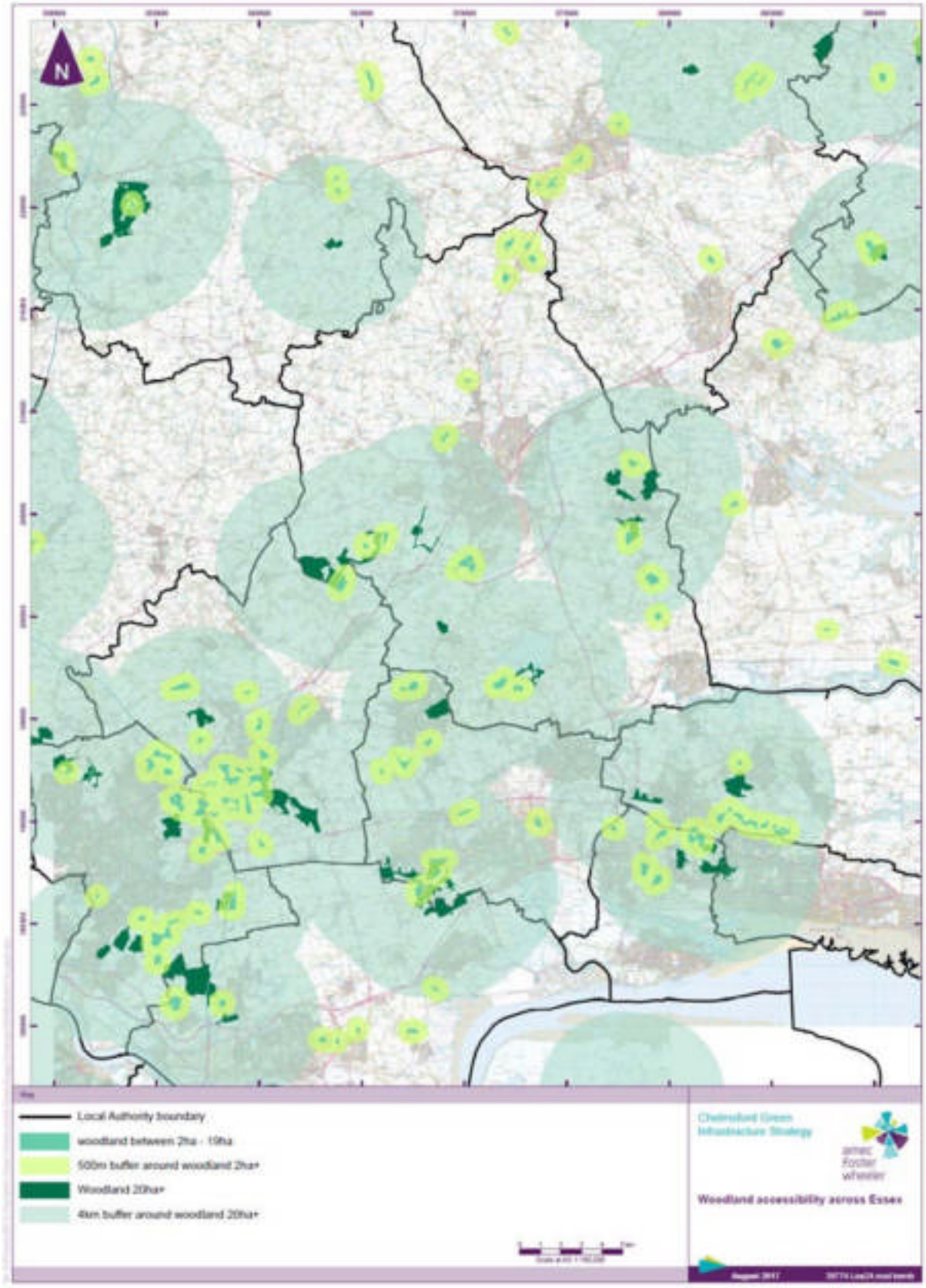
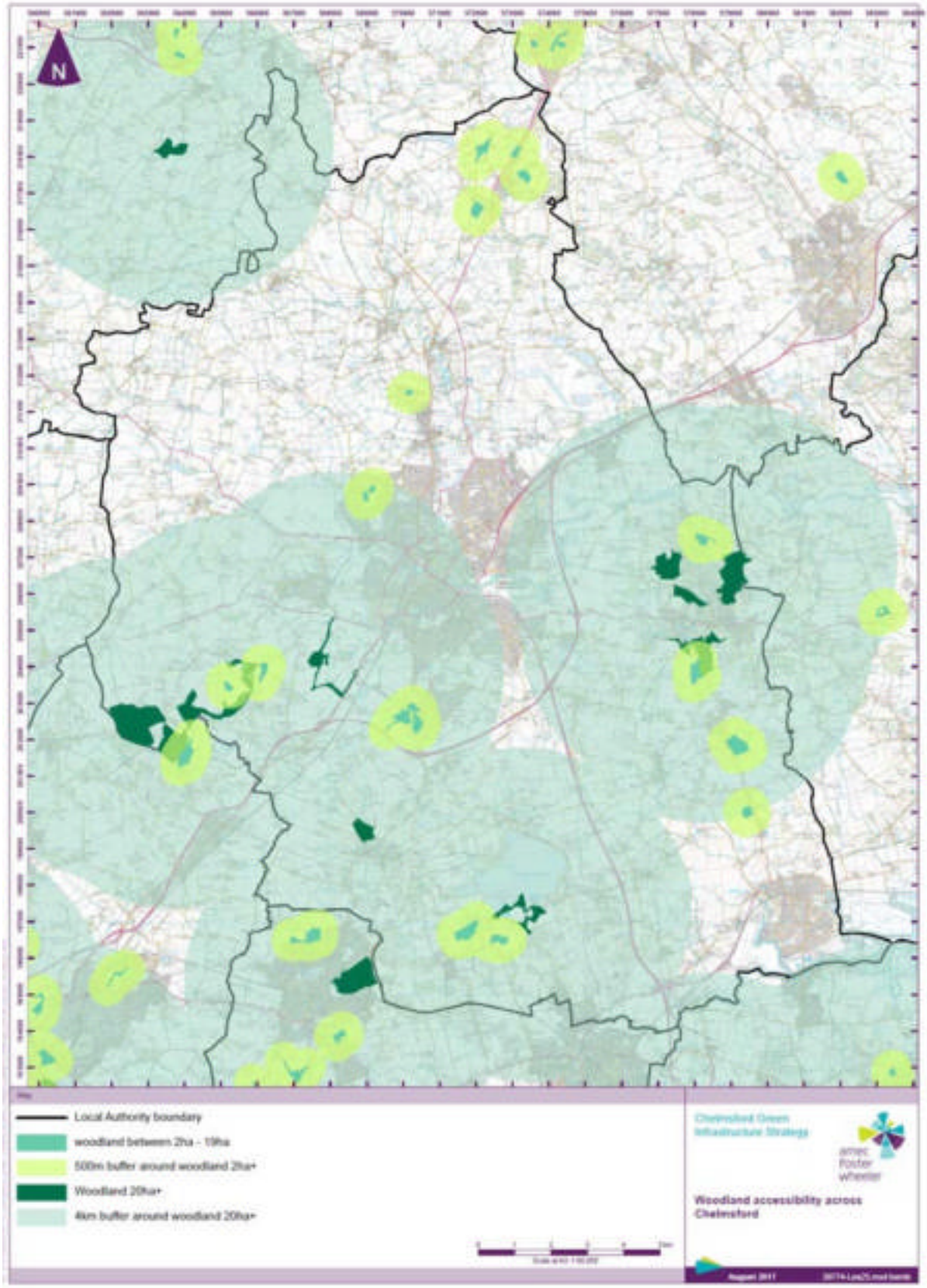


Figure 4.5 Access to Woodlands: Chelmsford



4.4 Resource Connectivity

7. There are various ways of analysing connectivity: geography of existing natural resources; connections between recreational resources and potential for establishing connections. Figures 4.6 to 4.9 start this process as a part of the background to developing a strategy which seeks to help create a more robust resource base. The geography of Chelmsford, focused on the confluence of river valleys, a reasonably strong distinction between town and country, and a well-established network of recreational assets means that there is a sound basis for identifying where more effective and efficient use might be made of existing resources and where added value can best be sought to meet the objectives set for the Strategic Plan.

Figure 4.6 City-wide Cycleway, PRoW and Open Space Resources

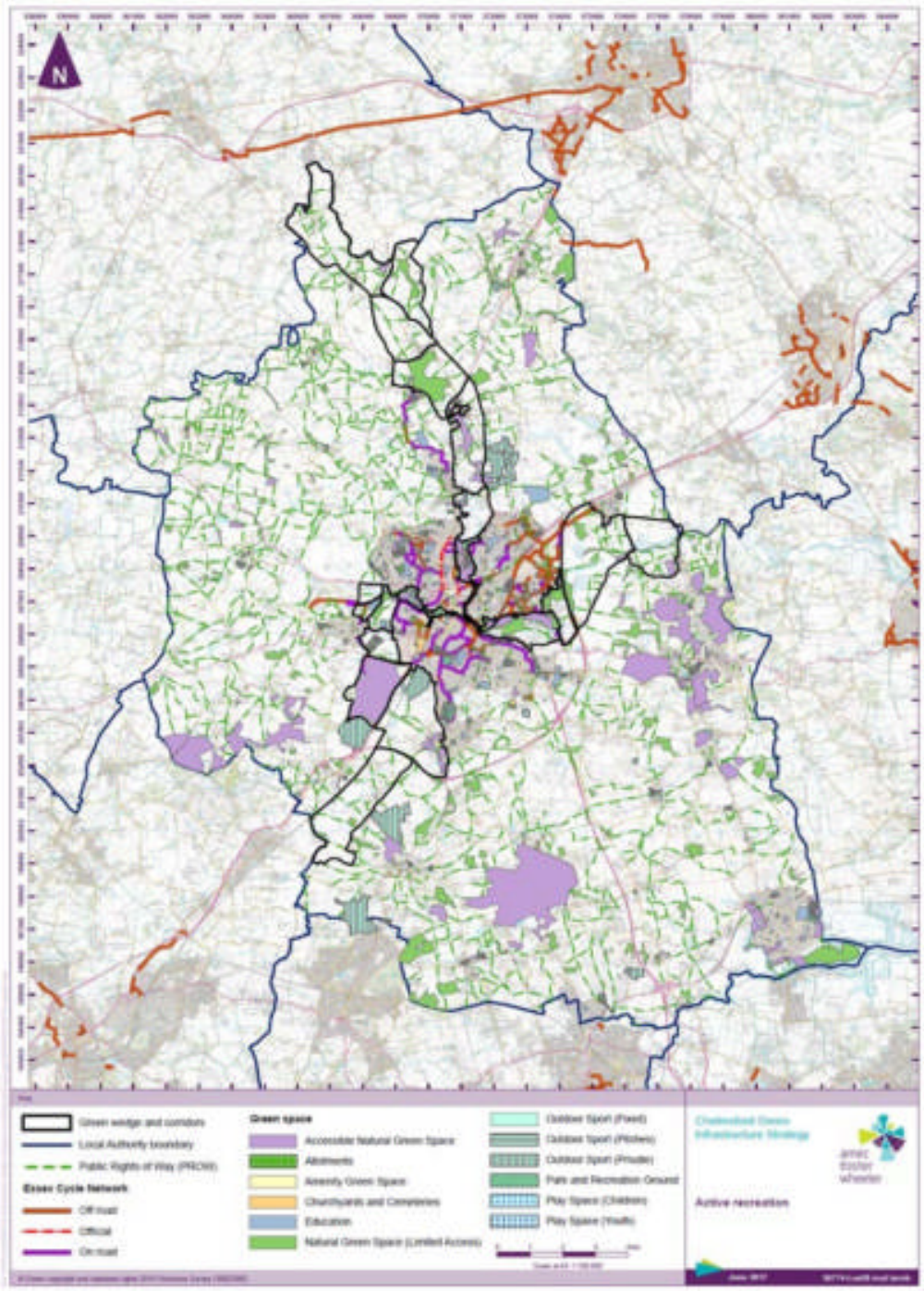


Figure 4.7 Connectivity: River Valleys & Access Routes

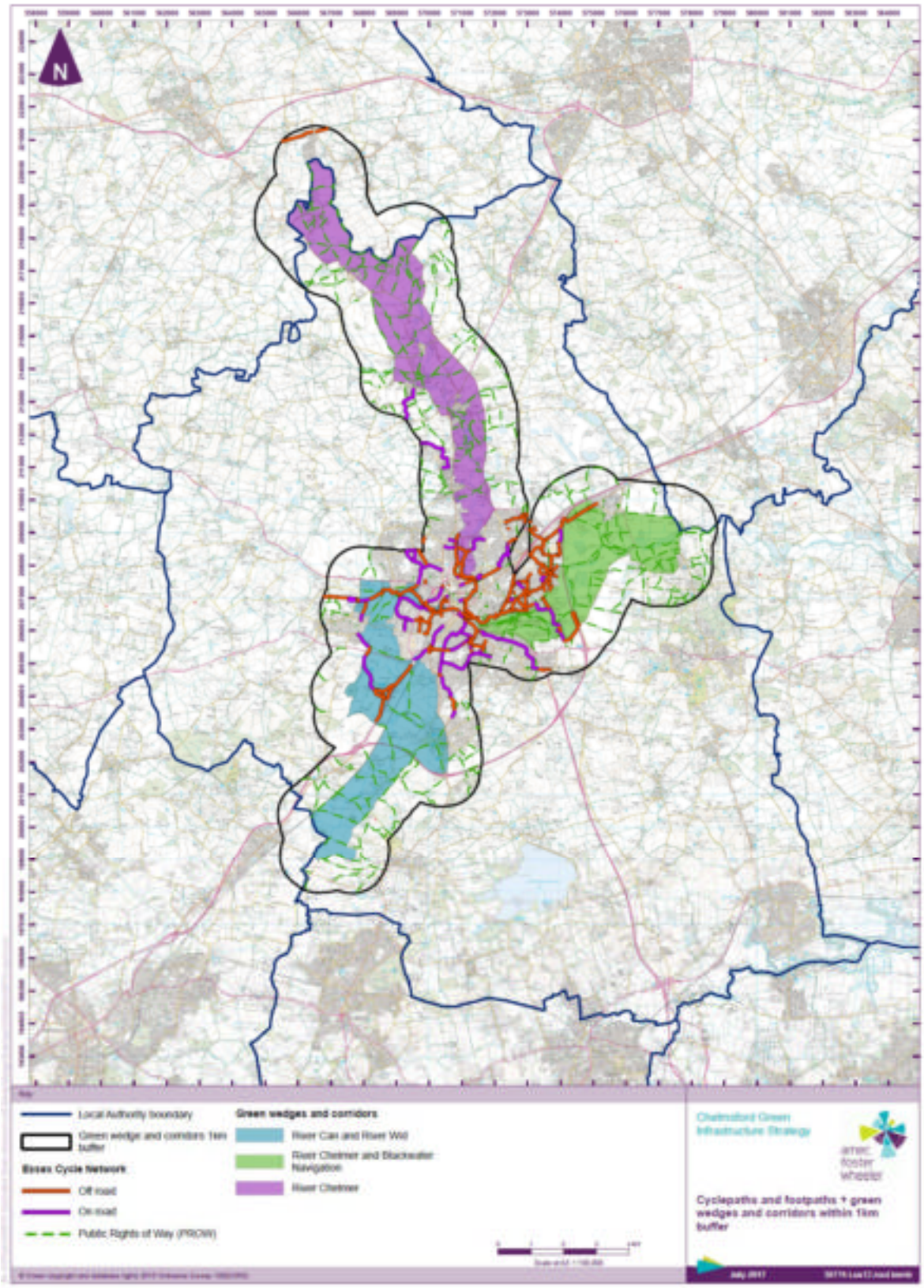


Figure 4.8 Connectivity: River Valleys

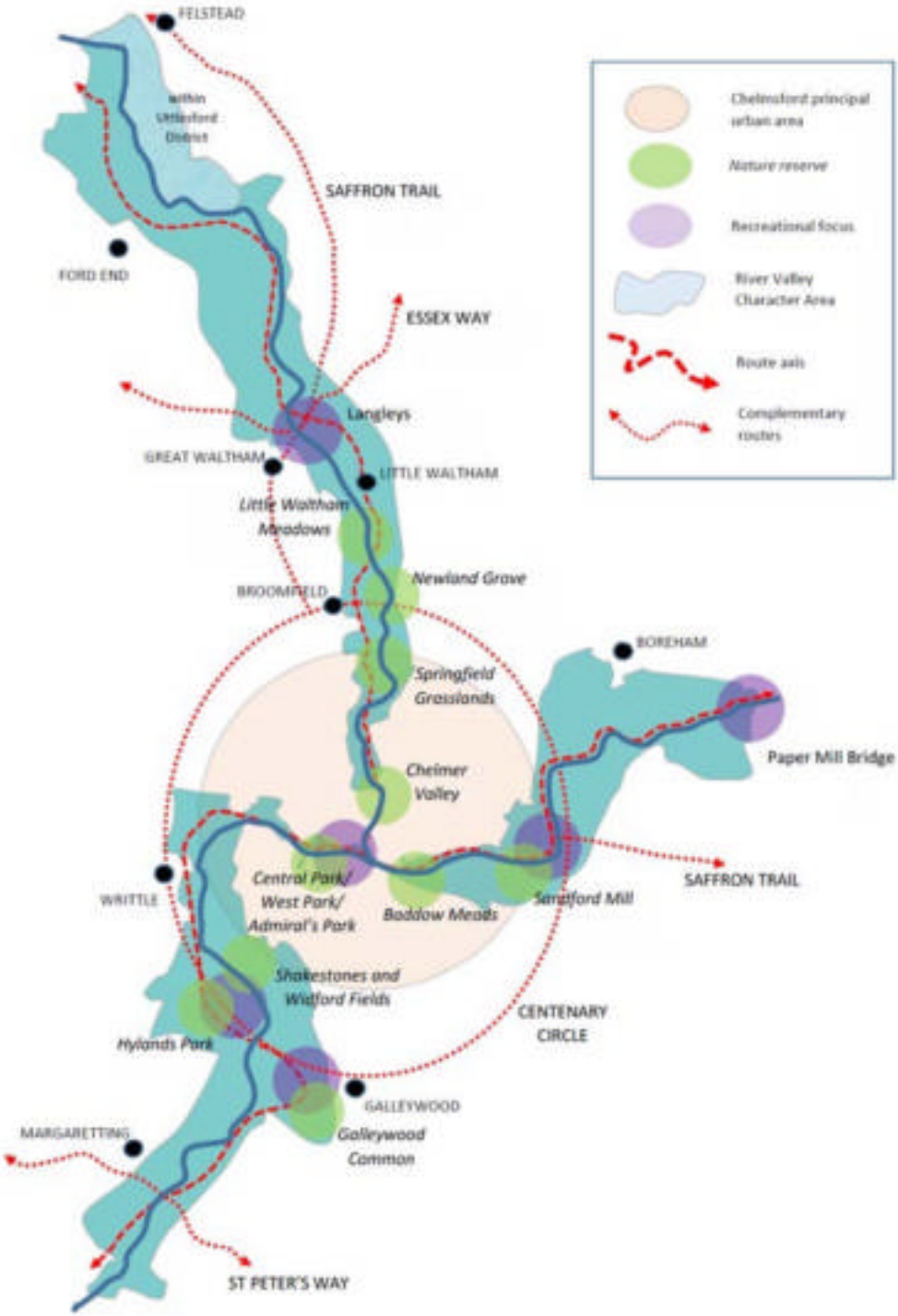
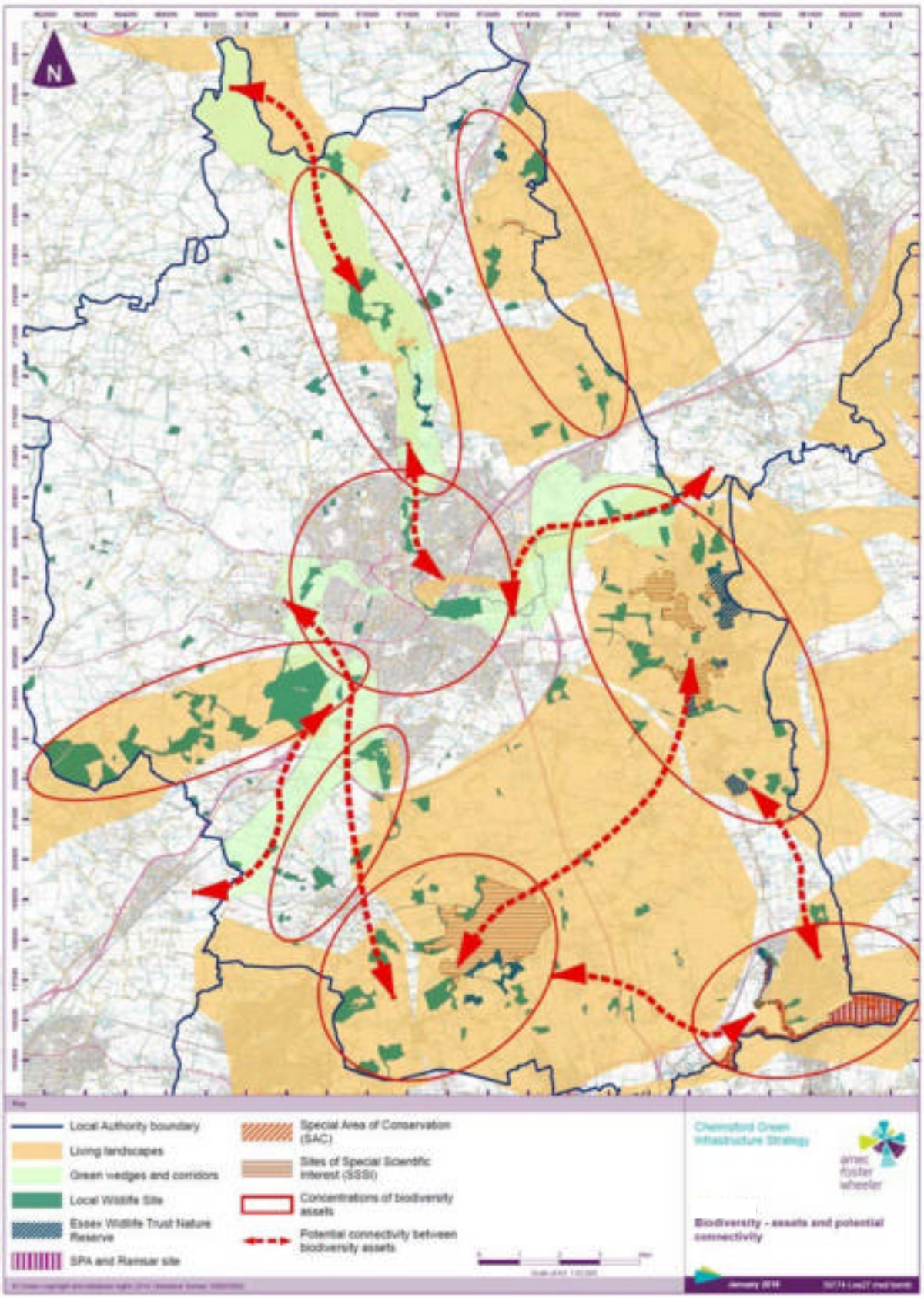


Figure 4.9 Potential Connectivity: Biodiversity



8. Funding and Delivery Mechanisms

1. Funding is clearly vital to delivery and tangible outcomes, but is limited and often tied into existing work. This means making the most of this activity through demonstrating how value can be added through joining up activities, where selected, perhaps modest interventions could make a significant difference and overall how activity across the City as a whole adds up to a more sustainable place to live, work and visit.

2. The following funding streams could be explored in detail to identify where the objectives of the GI Strategy might be fulfilled directly or indirectly:
    - City Council
    - Development obligations
    - Charities/private sector sponsorship
    - Central Government via Environment Agency, Natural England, Forestry Commission
    - National Health Service
    - Countryside Stewardship
    - Lottery
    - Landfill Communities Fund

3. Where there is opportunity to develop long term management of a resource, various models exist which can be used to help with its long term financial sustainability. These include:
    - Charitable Trusts
    - Endowments
    - Planning obligations
    - Service charges
    - Asset transfer

4. The various sources of funding which could be drawn upon to help develop GI are set out at Table 5.1. The most appropriate source will depend upon the type of scheme being proposed (particularly the capital/revenue split) and by whom.

Table 5.1 Potential GI Funding Mechanisms

Funding Mechanism	Type of GI Support	Details	Type of Funding
Community Infrastructure Levy	New development	The money can be used to fund a wide range of infrastructure that is needed as a result of development and provides wider benefits. This includes flood defences, parks, and green spaces.	Capital and Revenue
Section 106 Agreements	New development	Funding must be intrinsically linked to the development.	Capital and Revenue
Agri-environment funding	Land management	Agri-environment funding can be secured by landowners and managers for changes to the management of land which benefit the natural environment. Agri-environment funding is part of the Rural Development Programme for England.	Capital and Revenue
England woodland grant scheme	Land management	Funding is available for woodland creation and for the management of existing woodland. England Woodland Grant Scheme funding is part of the Rural Development Programme for England.	Capital and Revenue

Funding Mechanism	Type of GI Support	Details	Type of Funding
National Lottery: Big Lottery	Community use within new or existing development	This funding is for community projects including acquisition and establishment of public open space.	Capital and Revenue
National Lottery: Heritage Fund	Community use within new or existing development	Community use within new or existing development / minerals/ infrastructure. The Heritage Lottery Fund operates a number of funds. This fund is to be used to conserve and enhance heritage assets including nature reserves and parkland.	Capital and Revenue
Hypothecated taxes	New development	A tax levied for a specific purpose. Taxes can be levied on new development and reserved for green infrastructure. This model has been successfully applied on both small and large scale development sites.	Revenue
Endowments	New development	Used to create a long-term income for the management of land. It may be appropriate to dedicate these to a specific charitable trust which can use the income to manage the land. There are also a number of charitable companies which specialise in using endowments to manage land.	Revenue
Management Companies/ Community Development Trusts	New development	Land ownership is retained by the developers, but responsibility for the management is transferred to a management company with agreed standards and a management plan.	Revenue
Local Authority	New development	Long term management of GI transferred to the local authority.	Revenue
Charity/other	Ad hoc initiatives	The Peoples Health Trust Active Communities fund provides grants of between £5k and £50k over two years for community groups	Revenue
		Woodland Trust MOREwoods grant funds the planting of woods, shelterbelts and field corners of at least half a hectare.	Capital

Source: Worcestershire Green Infrastructure Strategy

9. Green Infrastructure Character and Opportunities

1. In light of the analysis above, the following tables present a 'long list' of potential opportunities for intervention at City-wide and locally-specific scales, the latter being more project-specific. It is recognised that many of the City-wide interventions would have locally-specific implications. The potential opportunities are for the purposes of this analysis, organised by the six themes of:
    - Communities & health
    - Heritage, landscape and townscape
    - Biodiversity
    - Economy
    - Access and recreation
    - Water management
2. The opportunities identified are a starting point, and the Green Infrastructure Strategic Plan will present a refined list along with their spatial expression, considering matters such as connectivity.
3. **Communities and health** – to support the development of thriving communities, local engagement and the promotion of healthy lifestyles.

Character	Opportunities
• Access to greenspace across the City is generally good, with the Open Space survey showing that most communities are able to access a range of types of informal open space within reasonable travel times. However, there are some areas of deficiency (particular in respect of access to natural greenspace) and issues concerning the quality of some provision. • The City's parks and gardens are particularly valued, and the river valleys, with associated greenspace, a key asset. • The Index of Multiple Deprivation shows that despite the relative affluence of the City, there are pockets of deprivation in respect of indicators of health and well-being. These are concentrated in the centre and northwest of the City. However, there is no clear relationship between the pattern of deprivation and a deficiency of greenspace.	• Target areas where access to greenspace could be improved to benefit health and well-being • Encourage community involvement in site management of amenity open space • Ensure greenspaces are appropriate for the differing needs of various age groups and levels of mobility • Promote city greening to enhance air quality and help mitigate climate change • Improve the supply of, and access to, allotments and community gardens • Improve safety and security, and help to minimise conflicts between uses, through good design and appropriate management • Promote active travel for leisure and everyday trips, including as part of road improvement schemes • Develop community training and apprenticeships in environmental skills • Encourage community greening initiatives which perform multiple functions e.g. 'rain gardens' • Community orchards (Chelmer Par (Galleywood); Chignals and Mashbury; Salthaven (SWFerrers)) • Cyclepath quality, connections and circular routes

4. **Heritage, landscape and townscape** – to protect and enhance the City's heritage, landscape and sense of place.

Character	Opportunities
• The HLC assessment shows distinctive patterns of character and time-depth, with particular concentrations observable: o North of Chelmsford o Ingatestone area	• City Greening to enhance image • Target areas for intervention • Enhance key gateways along transport corridors and highway verge management

o Hylands Park, Writtle and Highwood o Chelmsford urban area o East of Chelmsford o Lower Chelmer and Blackwater Valleys o Danbury Hill o Southeast Chelmsford between Great Baddow and the Crouch o South of Chelmsford around Hanningfield Reservoir, Stock and Margaretting • Locally, heritage assets are concentrated at: o The Walthams (Langleys) o Danbury o River Valleys (Wid and Chelmer/Blackwater Navigation) o Chelmsford City Centre o historic parks at Oaklands, Admirals, Hylands, Danbury, and village greens (i.e. Broomfield, Writtle, Stock). There are archaeological sites of particular value (i.e. the Bronze Age sites at Springfield and Great Baddow, WWII GHQ defence line). There are various Protected Lanes and heritage assets which straddle the City boundary Chelmer and Blackwater Navigation, Battlesbridge (Rochford) and Leez Priory (Uttlesford). There are significant heritage assets near to the City boundary, i.e. Terling Place and Stow Maries Aerodrome.	• Protect and enhance the setting of heritage assets, including their interpretation • Identify and conserve local landscape character and identity, and particularly its role as the context for historic assets • Protect and enhance landscape features which are key to the character of the City • Promote high quality structural landscaping, tree planting and green roofs as part of new development • Develop (a) City-wide heritage trail(s), combined with the promotion of cycling (for example) • Monitor landscape change through hedgerow removal / field amalgamation • Target specific areas/landowners for landscape management enhancement initiatives using existing models (e.g. RHS Hyde Hall, Hanningfield)

5. **Biodiversity** – to create a well-connected network of healthy ecosystems through protection, enhancement and where possible restoration.

Character	Opportunities
• A strong network of biodiversity resources, including Writtle ancient woodlands, Hanningfield Reservoir and environs, Danbury and The Walthams to Great Leighs. • Strong range of biodiversity enhancement and restoration initiatives along the river valleys as part of the WFD/CMP. • Wide range of existing and potential biodiversity protection, enhancement and creation initiatives associated with the Chelmsford BAP and Living Landscapes Initiative, the latter developing area-specific action plans which set out in detail opportunities for the enhancing connectivity and addressing specific habitat and species conservation issues. • Some gaps in connectivity, particularly along parts of the river valleys.	• Make connections in the network along the length of the river valleys. • Promote soil protection measures, particularly in the vicinity of water courses • Use off-site contributions to ensure management of resources • Employ biodiversity off-setting (models from Essex and Wawickshire pilot schemes) • Ensure strategic developments are not planned in isolation but are integrated within the wider network and in doing so improve its functioning • Promote environmentally-friendly farming • Implement BAP priority actions • Promote the management of non-designated sites for wildlife, such as gardens, business premises and brownfield land • Maintain, enhance and create habitat connectivity at all scales from the sub-region to the neighbourhood

• Erosion of biodiversity across the farmed landscape, with particular gaps to the northwest, northeast and south east which are not covered by Countryside Stewardship Agreements.	• Seek the involvement of key landowners and managers in promoting aspects of the GI agenda • Develop City-wide and local targets for increasing tree and woodland cover and woodland management • Review parks and open space planning and management practices to test their compatibility with other GI initiatives (Parks & Greenspaces Strategy is being updated); joint working with Parks & Recreation to produce multifunctional spaces • GI in new development and off-site connections/enhancement • Better promotion of EWT and RSPB LNRs • Wildlife Plan for CCC Parks and Open Spaces, particularly Green Flag sites; Chelmer Valley LNR, Marconi Ponds, Admirals Park/Central Park • Potential for the role of trees and woodlands to be significantly enhanced (planting and management) • Development of a full suite of Living Landscapes Vision Documents • Better access to interpretation materials/boards and general information in wildlife areas and nature reserves • Intention to declare Marconi Ponds as LNR (Frankland Fields (SWF) now registered) • SSSIs such as Hanningfield Reservoir should only give limited access to the general public – protecting the habitat located there. • Danbury Common / Blakes Wood has been raised as a concern due to overuse of footpaths by mountain bikers. A need for a separate dedicated facility is something that should be considered. • Promote community-led biodiversity initiatives using past models e.g. Greening Galleywood

6. **Economy** – to support the development of a more robust and diverse economy and contribute to key sectors such as tourism.

Character	**Opportunities**
• Chelmsford is a vibrant, economically successful City, attractive to inward investment • The City is a tourist destination with key attractions such as Hylands Park. • There are locally significant attractions such as Galleywood Common and Danbury Common which have a wide catchment extending into other districts. • Productive agricultural hinterland, particularly to the northwest and north with extensive areas of Grade 2 land, the bulk of the remainder being Grade 3.	• Reinforce and transform the image of the City as an attractive place to live, work and visit through City greening initiatives • Use exemplar schemes such as Green Roofs to demonstrate commitment to addressing climate change and biodiversity • Encourage new sources of income for farmers associated with farm diversification (energy crops, tourism etc) • Develop GI-related local enterprise initiatives, employment and training schemes • Promote the role of greenspace, countryside and brownfield sites in the production of renewable energy crops • Promote the link between the City's green infrastructure and tourism • Encourage greater involvement of business interests in creating a greener City through awareness-raising, sponsorship etc • Support farm diversification where this promotes use and enhancement of GI resources (such as woodland management and biomass/biofuels) • Work with business to support the installation of building- and area-specific greening to address climate change, promote sustainability and enhance image • Encourage greater connections between food producers and local markets, with attendant economic, community and educational benefits • Investigate opportunities for the incorporation of green roofs as part of applications for new commercial development in the City

	• Promote tree planting as part of applications for new development in established urban/suburban areas

7. **Access and recreation** – to promote opportunities for recreation, play and everyday transport through an accessible and attractive network of open spaces, footpaths and cycleways.

Character	Opportunities
• An extensive network of cycleways and PRoW focused on the City Centre and river valleys • Strong provision of a range of green spaces, including 13 Green Flag Parks (of 22 Parks) plus 3 Green Heritage Awards • General satisfaction with the quantity and quality of provision, although there are various areas of complaint such as provision for specific groups and local management issues. • Access to ANGSt is variable, with standards of provision met across approximately half the City Council area. • Access to woodlands is generally limited, reflecting both limited woodland cover and inaccessible woods. Core areas Writtle Forest, Danbury and Hanningfield. • Provision for access to LNRs is limited but improving with the designation Frankland Fields and Marconi Ponds.	• Promote the network to local communities and visitors • Encourage more commuting by cycling and walking • Explore opportunities to enhance access to ANGSt in areas of deficiency • Develop focal points, including a new Country Park at Sandon, including for a water-based facility • Use new developments to create connections with the river valley network • Improve connections between urban and rural areas • Promote the provision and management of places for outdoor sport, recreation and play • Create education trails, art installations and site/route interpretation • Improve the quality of and accessibility to existing greenspaces • Promote improvements in the quality and connectivity of PRoW & cyclepaths • Promote and enhance cross-City trails and circular walking and cycling routes • Cyclepath connections and circular routes • Footpath/bridleway management • PRoW & cycleway enhancement • Promotion of water activities nearer to the town centre e.g. canoeing for young people • Bridge engineering to address increasing cycling and river use • Generally need for more promotion etc – use IT • Smaller satellite parks being added to Green Flag Parks e.g. Boleyn Gardens linked with Beaulieu Park • Missing links in the cycle network were highlighted whether as cycle lanes or advisory on road routes within the urban area e.g. Chelmsford Road between Writtle and Chelmsford, Broomfield Road, between Galleywood and Great Baddow and Mill Lane needing a connection across Essex Regiment Way, Chelmer Valley Road and connecting Beaulieu with the rest of Chelmsford. • Address barriers to access for disabled people; children and young people; households in more isolated rural areas and those in the more deprived urban wards • Good provision of public transport linking the natural environment to rail or bus stations is important when considering improvements and development • Clear need for development of facilities for horse riders given the existing significant limitations noted on access to bridleways. New developments to give access to horse riders. • Good, safe cycle access to open spaces is highlighted as a priority by many stakeholders including Natural England and Sustrans. This is supported with a majority of stakeholders commenting on poor provision in specific areas. • River valley access enhancement, including along towpaths and to the Blackwater Navigation • Parish-specific priorities

	• Access for residents of Billericay and Wickford • NE Chelmsford Country Park as a new destination • Links between NE Chelmsford development and Chelmer Valley (N) and Chelmer & Blackwater Navigation • Cycleway extension north of the Chelmer Valley Road to Broomfield • Links across the A12 at Boreham, linking Beaulieu Park/NE Chelmsford to Chelmer Valley • Link Springfield Basin to City Centre • Local site management to address increasing and changing demands – Hylands Park; Hanningfield Reservoir SSSI; Danbury Common, Blake's Wood & Lingwood Common and Woodham Walter SSSIs; Thrift Wood (Woodham Ferrers); Hadleigh Park; Galleywood Common; Danbury Park • Improvement of cycle access to Hylands Park at Writtle village • Improved access to Hylands Park by public transport • Long term provision of natural open space – Boreham Airfield and the quarry provides a good future development opportunity • Improving links between the Chelmer and Blackwater Navigation and River Chelmer – through infrastructure projects such as improving bridges, and in particular the provision of a new 'cut'.

8. **Water management** – to ensure that the City's watercourses are healthy and can help to provide a response to the challenges of climate change.

Character	**Opportunities**
• Rivers Chelmer, Wid and Can are the dominant riparian corridors, fed by numerous streams and drainage channels. • Flood risk is concentrated on the Chelmer and Blackwater Navigation extending towards Maldon. • The ecological status of waterbodies across the Anglian River Basin District is generally moderate to poor, with evidence of improvement and decline between 2009 and 2013 locally to Chelmsford and more widely. • An array of river management and biodiversity enhancement projects, led by the requirements of the WFD, along the Chelmer, Wid and Can have been completed or are in progress.	• Link SuDs and biodiversity, particularly at new developments • Manage riparian zones alongside watercourses • Protect and extend flood storage areas • Help deliver the requirements of the WFD through actions in CFMPs and RBMPs • Restore the natural course of rivers and streams • River corridor management to meet WFD objectives e.g. tree/woodland management, pollution and flooding management, access • River access is hampered on both wildlife and recreational levels by old weirs and structures that have a negative impact and disrupt river flow rates. • River restoration at Chelmer Valley LNR and Admirals Park to increase wildlife value • Revive Countryways (land management) Project?

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