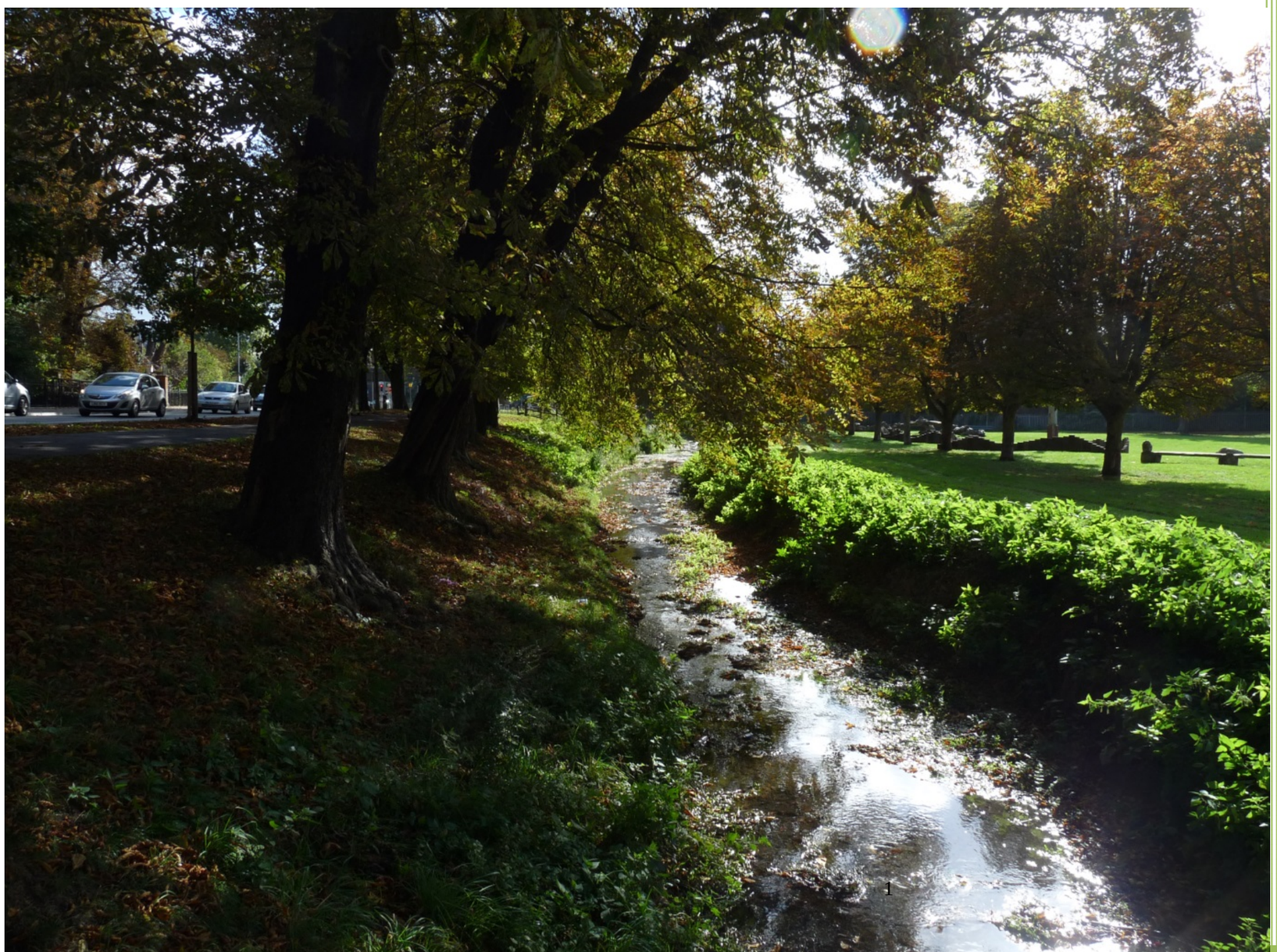
environmental partnership in action

The Greensand Trust

A Green Infrastructure Plan for Luton



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1. Introduction

1.1 Background

Luton Borough Council (LBC), in developing its Local Plan (2011-2031) is required to provide for significant housing growth and associated infrastructure. The population is expected to rise from 205,300 in 2011 (Luton Borough Council Local Plans Team) to 245,587 by the end of the Local Plan period in 2031 (LBC Local Plans Team, Strategic Housing Market Assessment). It has also recognised the need to plan for, and maximise opportunities of, its network of 'Green Infrastructure' (GI) to help ensure growth is sustainable, meeting the needs of existing and future communities.

1.2 What is Green Infrastructure?

Green Infrastructure has been defined within the Bedfordshire and Luton Green Infrastructure Plan as "A strategically planned and managed network of green spaces, access routes, wildlife habitats, landscapes and historic features which meet the needs of existing and new communities by providing:

- an essential environmental foundation and support system
- a healthy and diverse environment
- attractive places to live and visit and a good quality of life
- a sustainable future

The green infrastructure network will be protected, conserved, enhanced, developed, and widely known and valued. It will be of high quality and an example of best practice and innovation. The network will be multi-functional and meet a wide range of social, environmental and economic needs. It will connect urban and rural settlements and the countryside and provide a spatial planning framework to guide and promote sustainable development".

1.3 What is Green Infrastructure Planning?

GI planning is a process which, by assessment of the GI assets and opportunities, identifies a multi-functional GI network for an area. By looking at both existing assets and future opportunities, the process is able to spatially identify where the existing network can be better connected, for people and wildlife, made more robust and support future development.

The GI planning process analyses existing assets and opportunities by theme, and then combines them to identify the best opportunities for a truly multi-functional network. The 5 themes used are:

- Accessible Greenspace
- Access Routes
- Biodiversity
- Historic Environment
- Landscape

In the Bedfordshire context, the relevant existing GI plans are:

- The Bedfordshire and Luton Strategic GI Plan (2007)
- The Luton and Southern Bedfordshire GI Plan (2009).

Although both identify a GI network covering Luton Borough, the Strategic GI Plan does so in a very broad sense, with little detail being fed in from the urban area. It encourages the development of more detailed green infrastructure plans using the Strategic Plan as a framework. The Luton and Southern Bedfordshire GI Plan, being focused a tier down at the 'district' level, looks at Luton in more detail and identifies a network for the town as part of a wider network. However it is acknowledged that some of the analysis was based on data used for the Strategic Plan, and was therefore 'coarse grained' and now significantly out of date. The scale of the plan is still significantly wider than Luton Borough. The need to look specifically at Luton, and update thematic information wherever possible to create a spatial vision for Luton's GI network, was therefore identified.

LBC continues to look at connectivity of the wider GI network in adjoining local authority areas, building on its work in the past with the partners in the former Green Infrastructure Consortium (now Bedfordshire Local Nature Partnership). Therefore GI networks identified in the Bedfordshire and Luton GI Plan, the Luton and Southern Bedfordshire GI Plan, and the North Hertfordshire GI Plan (LUC, 2009) were all taken into consideration.

2 Methodology

2.1 Starting point

The value of the 2009 network is noted above, and is the starting point for this exercise in revising and updating it. It is illustrated in Figure 1 below:

It is possible to see how key assets, such as the steep chalk valley sides to the north and south, and bisecting River Lea corridor, help shape this network.

Existing assets and potential opportunities are then considered on a theme-by-theme basis. Information was mapped on GIS layers, and then by a process of integration the proposed network was identified.

The integration process is explained further in section 2.7

All of the mapping includes areas mapped outside of the Luton Borough Boundary. It was felt that to look at Luton purely in isolation was against the principles of GI planning, and connectivity with the wider GI (2009) network is important. The North Hertfordshire Green Infrastructure Network (North Hertfordshire Green Infrastructure Plan, Land Use Consultants, 2009) is illustrated in **Figure 2**:

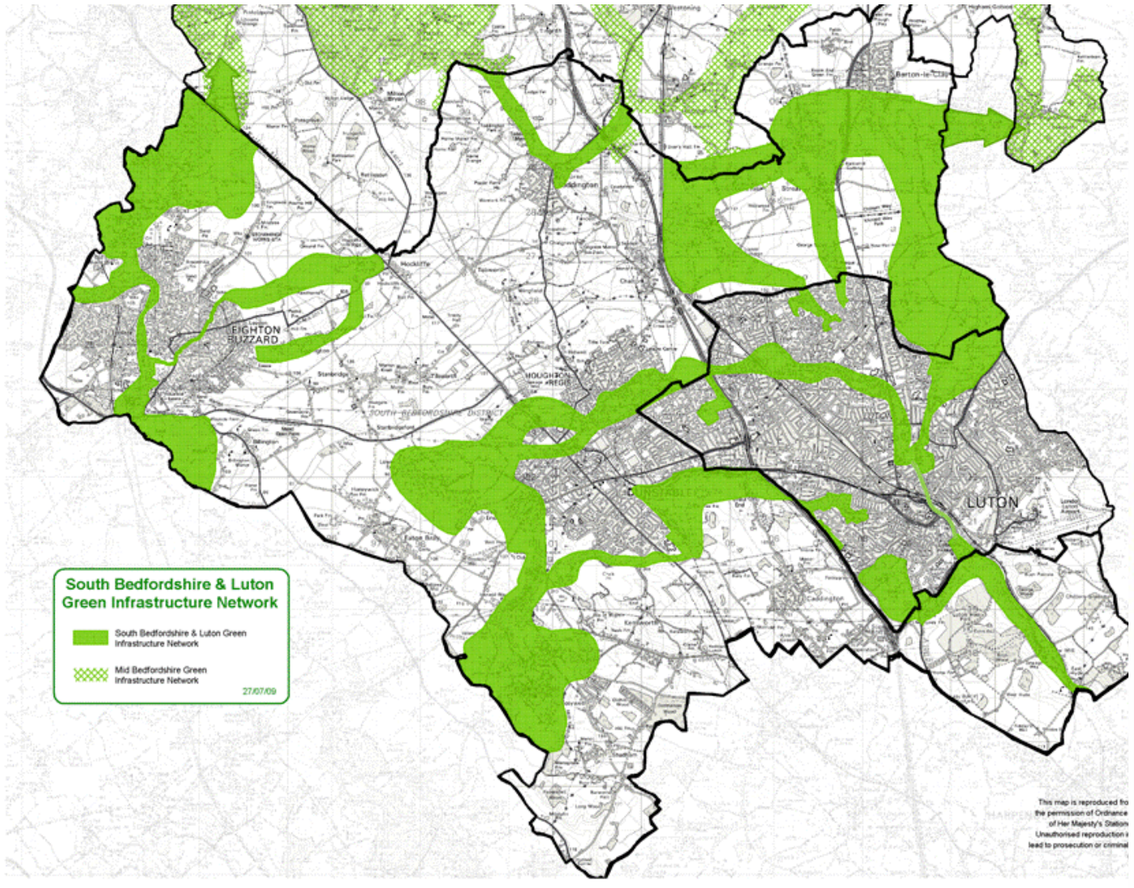


Figure 2 Luton &Southern Bedfordshire GI Network 2009

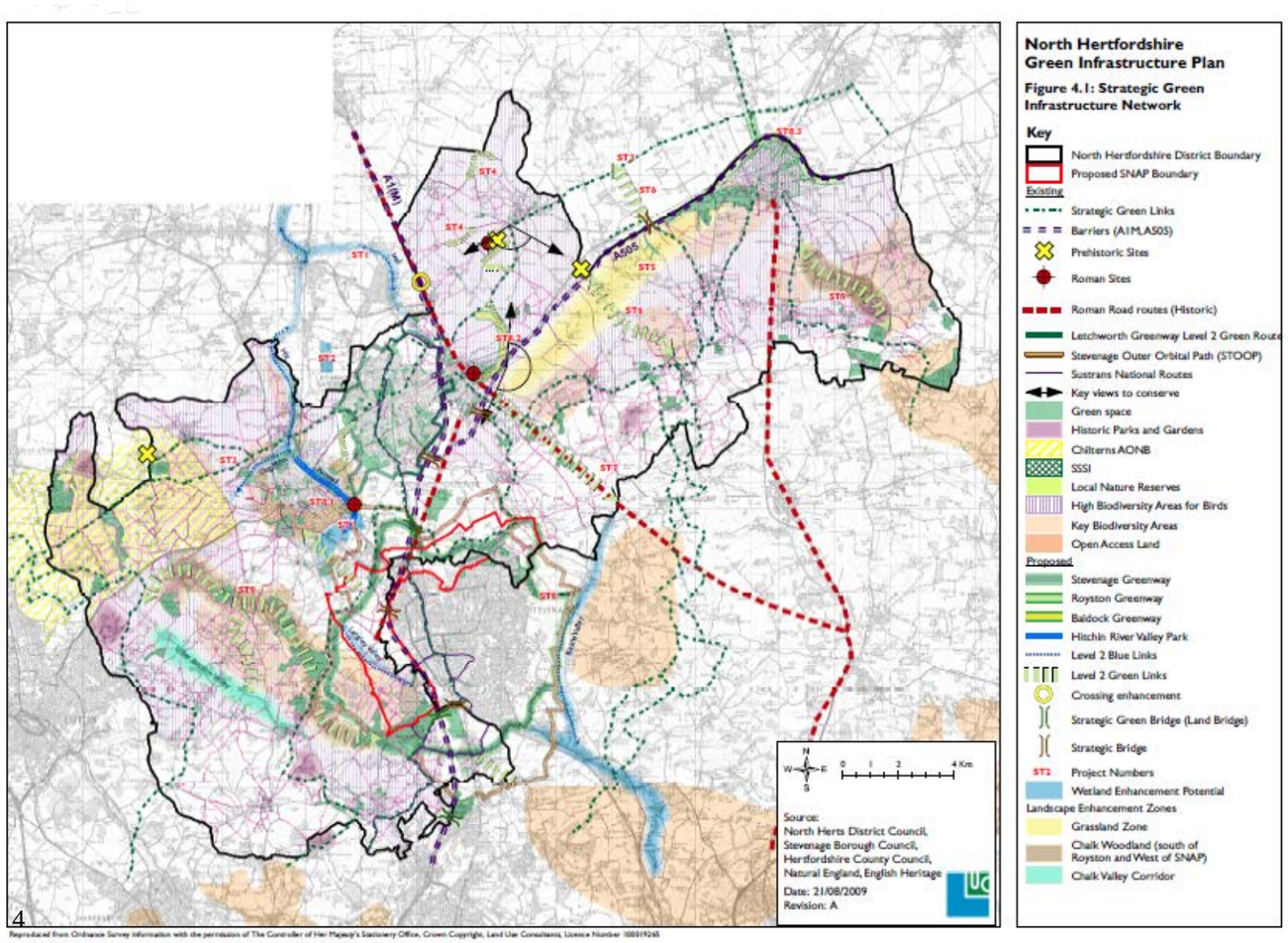


Figure 1 North Hertfordshire GI Network 2009

2.2 Accessible Greenspace

The existing greenspace assets have all been mapped as part of the Greenspace Strategy Review (2014). The original Greenspace Strategy and this Review looked at all tiers of accessible greenspaces from Small Amenity Greenspaces of Local Importance to Neighbourhood and District Parks. In addition to these recreational spaces it also considers the range of accessible sites of biodiversity importance. (For the full account of distribution of spaces and accessibility thresholds please refer to the GSS Review).

In terms of opportunities, there are two specific channels through which these have been identified:

- Deficit areas – as part of the Greenspace Strategy Review process (Greenspace Strategy Review, 2014) a map was produced showing all areas not within 300m of *any* greenspace (above 0.2ha) – theoretically the areas most in need.
- Opportunity areas/arrows from 2009 GI Plan – especially as these include relevant opportunities to connect greenspaces and people to the wider countryside on and beyond the urban fringe.

The existing assets, deficit areas and opportunities were then mapped on a single GIS layer, which is illustrated in **Figure 3**. This shows that:

- There are significant areas of accessible greenspace deficit across the urban area, and particularly in more central areas. Opportunities for new greenspace creation will be limited in these areas, but is even more critical if significant new developments are planned;
- Where an area or community has relatively poor greenspace provision, there is even more pressure on the existing greenspace to serve a range of needs;
- The loss of even single greenspaces, especially in these more central areas, could significantly increase these deficit areas;
- Greenspaces outside the urban boundary perform an important role.

It should be noted that part of the airport falls into a theoretical deficit area. In this instance there is no expectation that greenspace would be created in an area where it is impossible to do so. The inclusion of this area has no impact on the integration or network identification detailed later in this report.

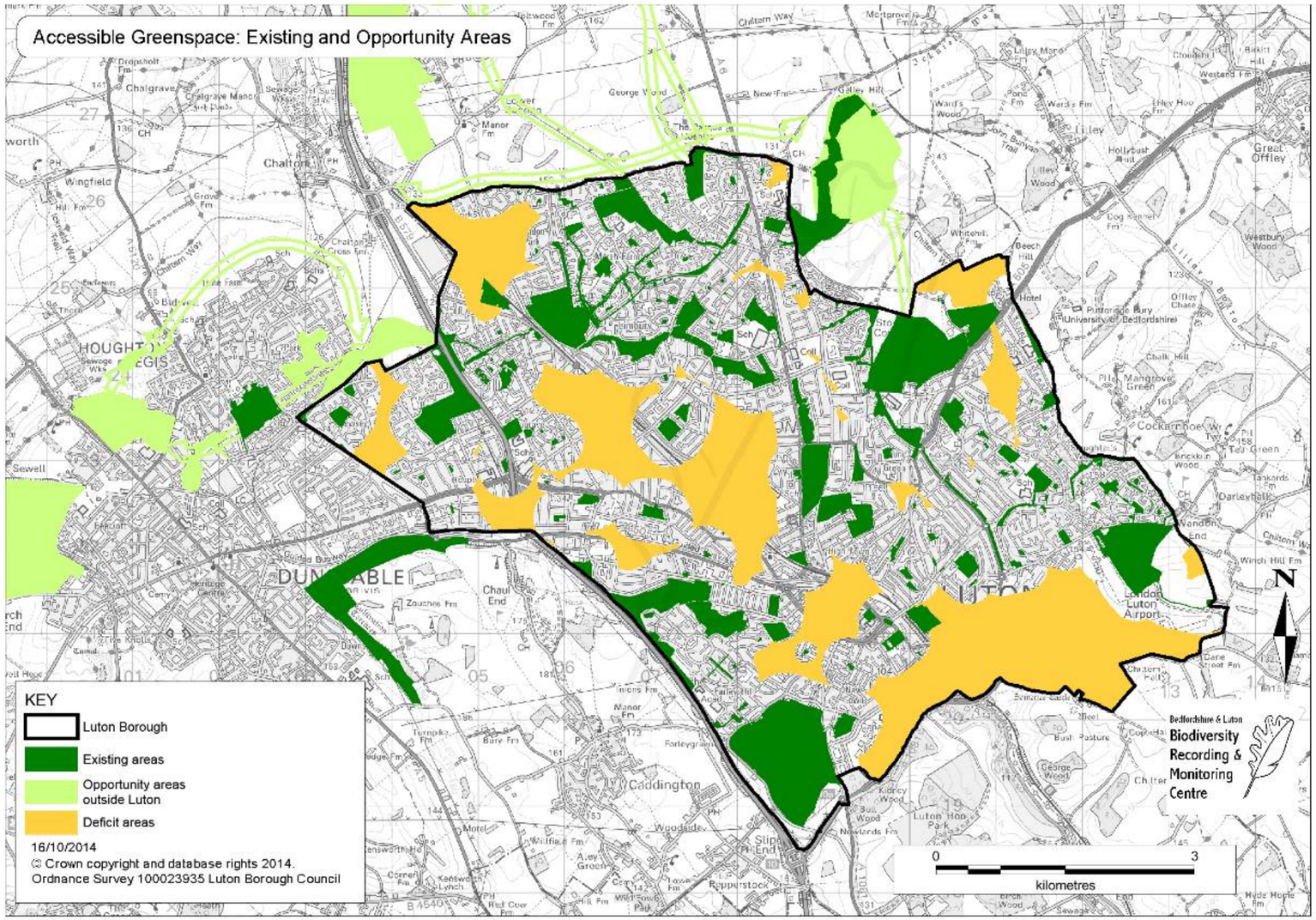


Figure 3-Accessible Greenspace- Existing and Opportunity Areas

2.3 Landscape

The existing landscape assets mapped are the areas covered by Area of Outstanding Natural Beauty (AONB) designation, plus those areas identified as proposed Areas of great Landscape Value (AGLV) and Areas of local Landscape Value (ALLV) (Proposed Local Landscape Designations for Luton, 2014).

The Opportunity areas are those identified as "Opportunity Areas" within the Landscape Character Assessment for Luton (Greensand Trust 2014), where enhancement should be best targeted to strengthen, restore or enhance landscape character.

The existing assets and opportunities were then mapped on a single GIS layer, which is illustrated in **Figure 4.** This shows that:

- There are several important sites and areas in and around Luton with high landscape value, particularly where the chalk geology has resulted in significant elevation and 'escarpment-like' features, and where the River Lea and its tributaries run through the town;
- These areas and features extend right into the town itself;
- The Lea valley presents an excellent opportunity to enhance the landscape, improve the 'sense of place' and link areas together;
- Development (actual and potential) also presents opportunities to enhance the landscape, and access to it – for example along the route of the Guided Busway or along the northern perimeter of the town.

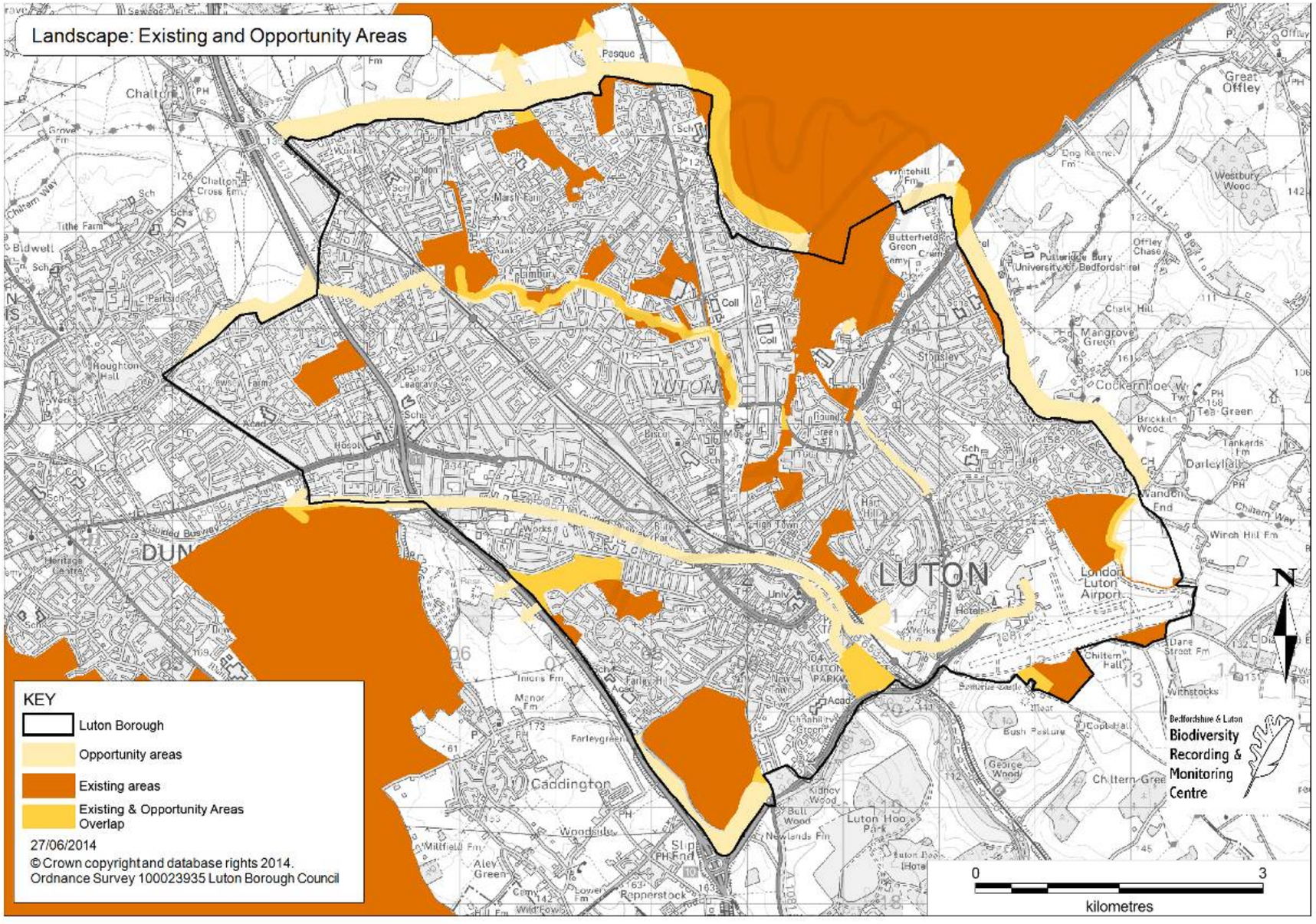


Figure 4-Landscape. Existing and Opportunity Areas

2.4 Access Routes

Although no additional specific work to identify access route opportunities has been carried out since the production of the 2009 Plan, the existing assets map has been updated with the creation of new strategic access routes: South Beds Cycleway - NCN6, and the Guided Busway. The latter is both existing asset (with access routes running alongside it) and opportunity as a strategic spinal route.

The Luton Rights of Way Improvement Plan (RoWIP): Luton's Great Outdoors was published in July 2008. The baseline mapping in the ROWIP has been cross-referenced with the mapping of existing access routes provided in Figure 5 below as a check for consistency – this resulted in adding a non-statutory but relatively strategic route as an "other path" (other routes of this nature were not added as they were either short, insignificant stretches or exist within accessible greenspaces and are covered in section 2.2 above).

The RoWIP theoretically covers the period up to 2015, and contains an Action Plan. However, this is largely non-specific with regard to the types of needs and opportunities which feed into a spatially focused document such as this GI Plan. The Action Plan has been reviewed and any relevant opportunities have been covered, either through opportunity mapping for this Access Routes section, the Accessible Greenspaces section, or in terms of connectivity with the North Hertfordshire GI network (see section 2.8 below).

The existing assets and opportunities were then mapped on a single GIS layer, which is illustrated in **Figure 5**. To ensure the potential of access 'corridors' was picked up, and to use a resolution visible on mapped layers, the access routes were mapped with a 50m width. It is evident from Figure 5 that:

- Connectivity between 'town' and 'country' is affected by barriers such as the M1 and A1081 (the perceived poor connectivity to the east is due to rights of way in North Hertfordshire not being highlighted – this is partly addressed by taking the North Herts GI network into account later);
- Development (actual and proposed) potentially creates opportunities for enhancing connectivity between town and country.

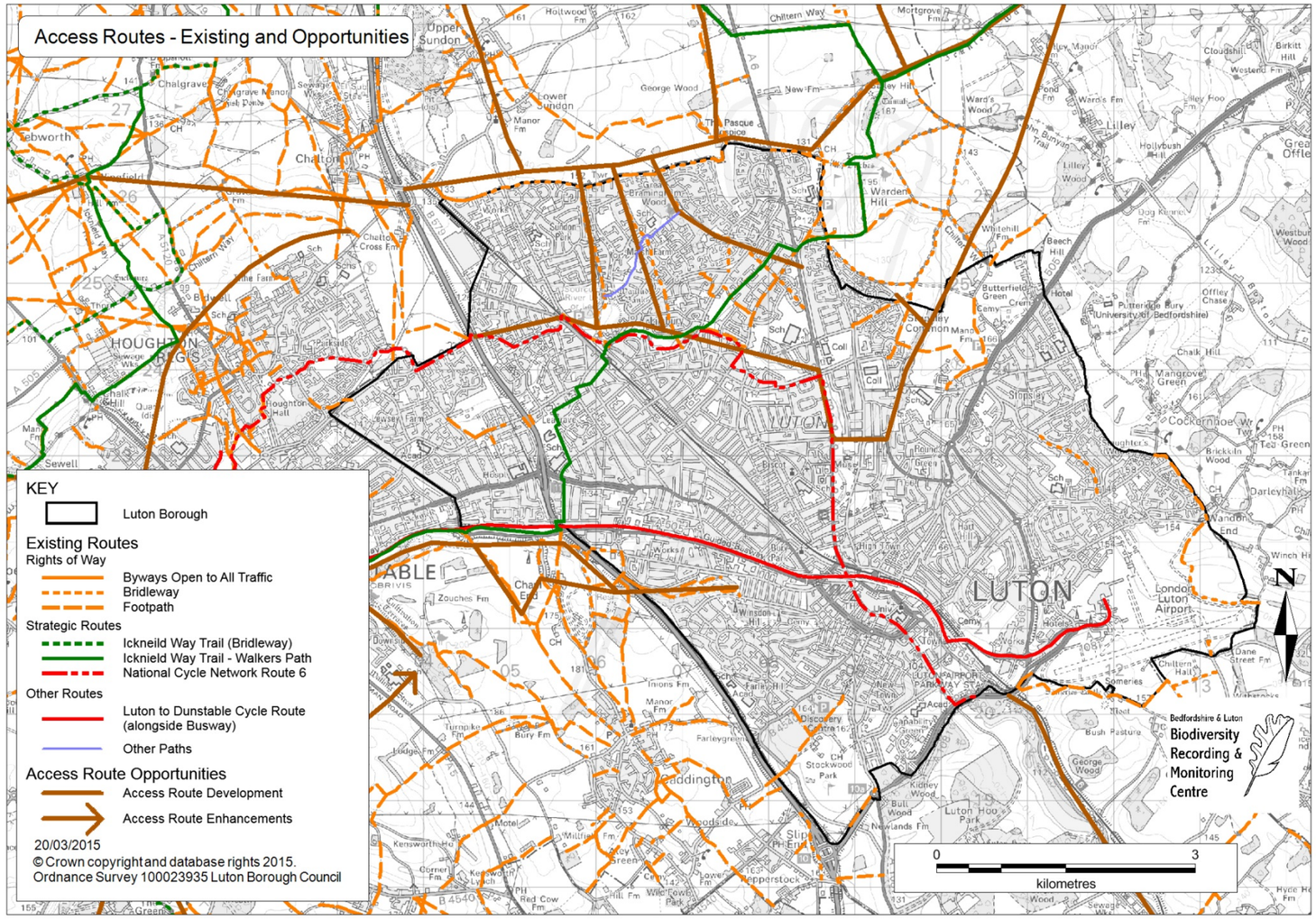


Figure 5 Access Routes - Existing and Opportunity Areas

2.5 Biodiversity

The existing biodiversity assets (Sites of Special Scientific Interest, County Wildlife Sites, District Wildlife Sites) were mapped alongside the 'Biodiversity Network' (other habitats considered important, originating from "Rebuilding Bedfordshire's Biodiversity, 2007). Significant updates were required since 2009, with the DWS category being a recent development and any other changes (including removal of any sites lost in the intervening period).

In terms of opportunities, extensive work was carried out by the Bedfordshire Biodiversity Forum to identify the areas where habitat creation is best and most appropriate, taking into account the adjacent habitats, soil and geology. The 'opportunity areas' identified within this work considered most relevant to the Luton scenario and mapped as part of this exercise are those relating to calcareous grassland, woodland, hedgerows, neutral grassland and wetlands.

The existing assets and opportunities were then mapped on a single GIS layer, which is illustrated in **Figure 6**. From this it is evident that:

- the chalk has a strong influence and has resulted in some very important biodiversity assets, particularly around the periphery of the town;
- the River Lea corridor is both an important asset and a key opportunity in biodiversity terms, extending right through the centre of the town. Wherever possible, opportunities should be taken to 'daylight' the river where it is currently buried beneath the surface, bringing biodiversity and other benefits.

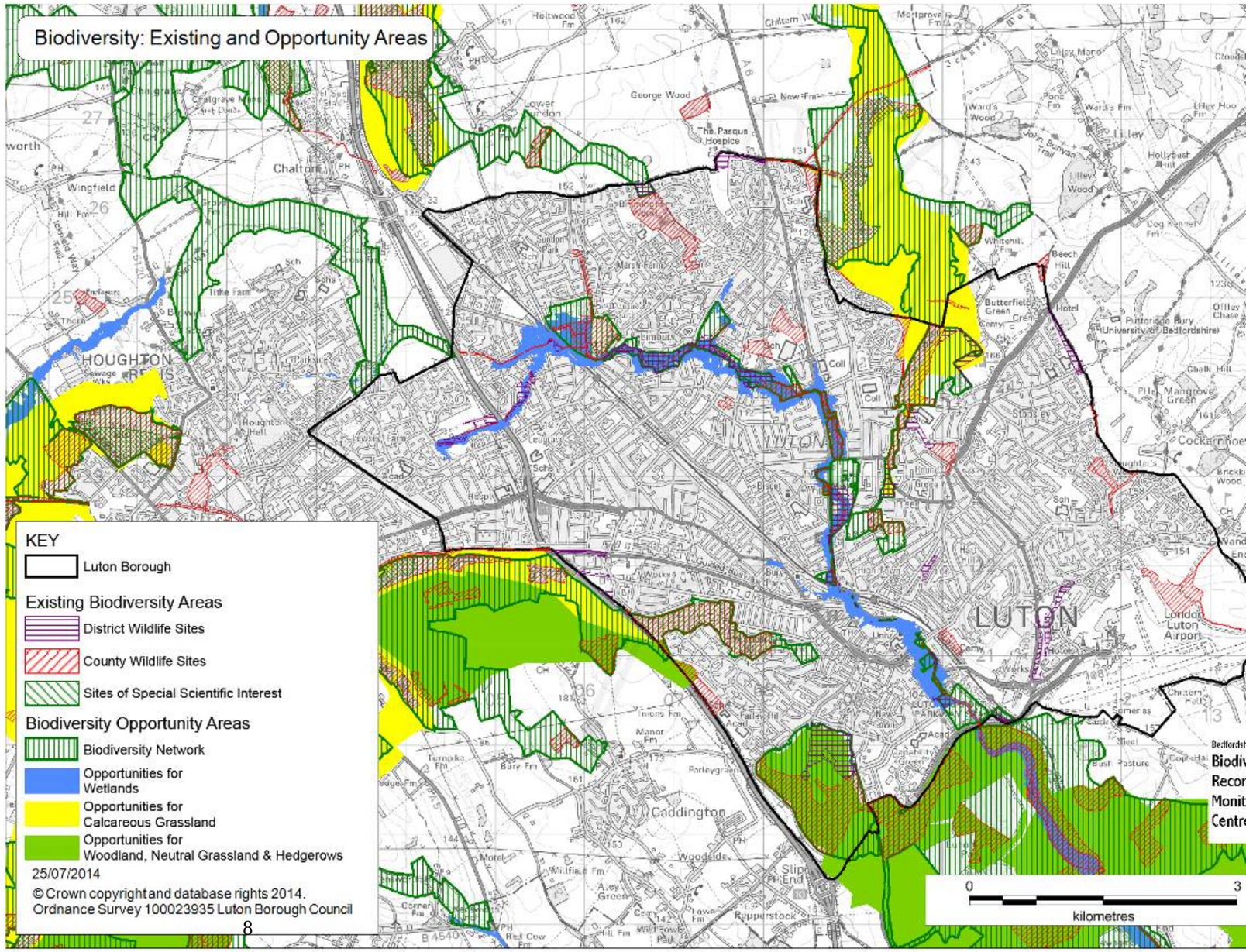


Figure 6- Biodiversity-Existing and Opportunity Areas

2.6 Historic Environment

The information used here is identical to that used in the 2009 Plan, as there has been no further update. **Figure 7** illustrates the Historic Environment Opportunity Areas. It should be noted that the opportunity areas are based on and include the existing assets, and include a significant area within the town (the historic core) as well as the surrounding landscape.

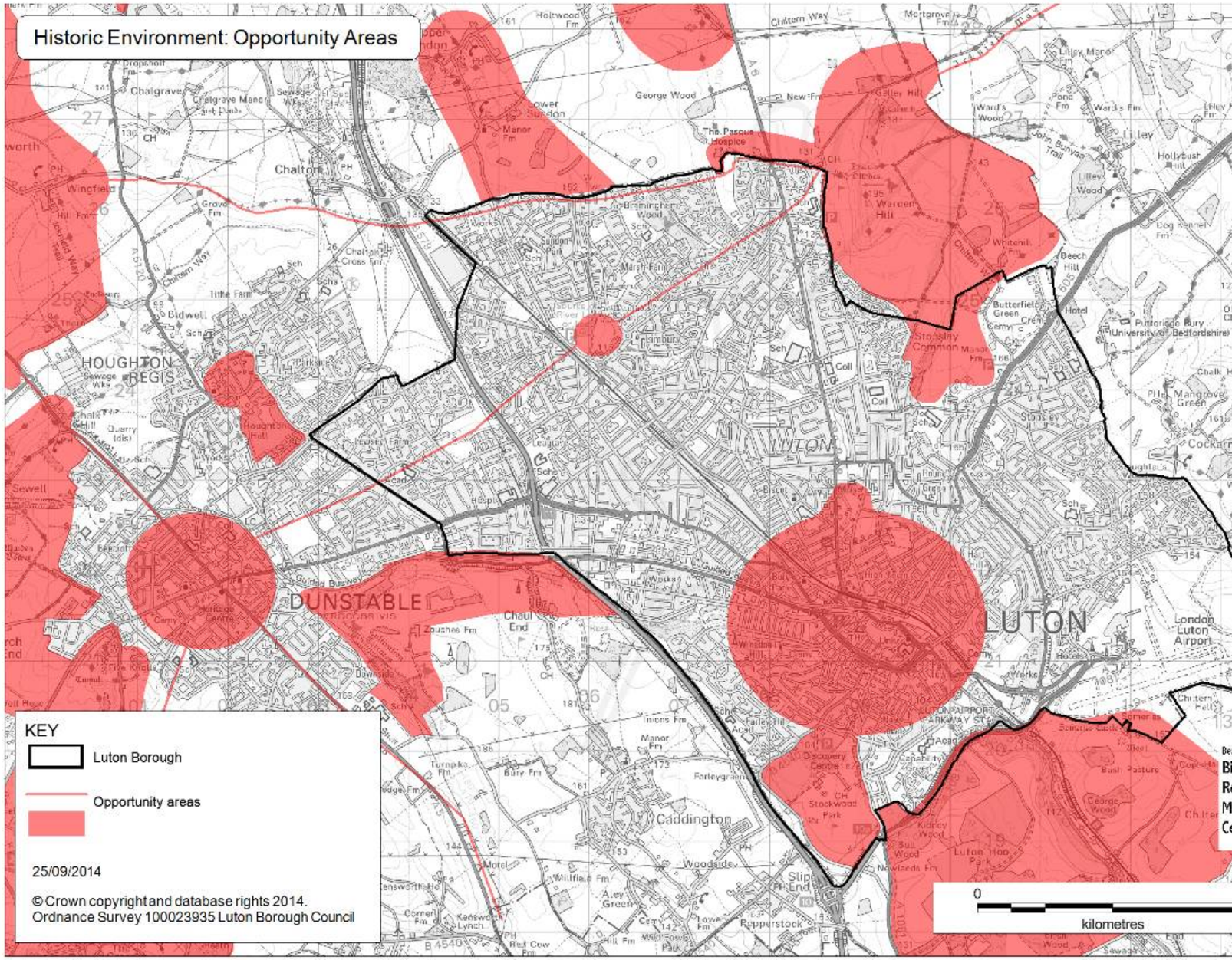


Figure 7 Historic Environment Opportunity Areas

2.7 The Integration Process

The next stage of the process is the integration, where the 'layers' identified above are combined to highlight the areas of greatest overlap, and therefore the highest priority in terms of future development and enhancement of the network.

Fortunately this process is carried out by the Bedfordshire Biological Recording and Monitoring Centre (BRMC) using GIS software. It was decided that the network should be based on those areas where at least three of the layers overlapped (this is consistent with all other GI integration exercises carried out in Bedfordshire). The software was capable of immediately highlighting these areas, as is illustrated in Figure 8.

The integration map shows the essential elements of the network. The next stage is normally to identify the proposed network directly from the integration map, but as mentioned above the 2009 network is considered a 'starting point'. The 2009 network was created at a similar scale, so it was considered feasible and appropriate to use this to guide the identification of the 2014 network.

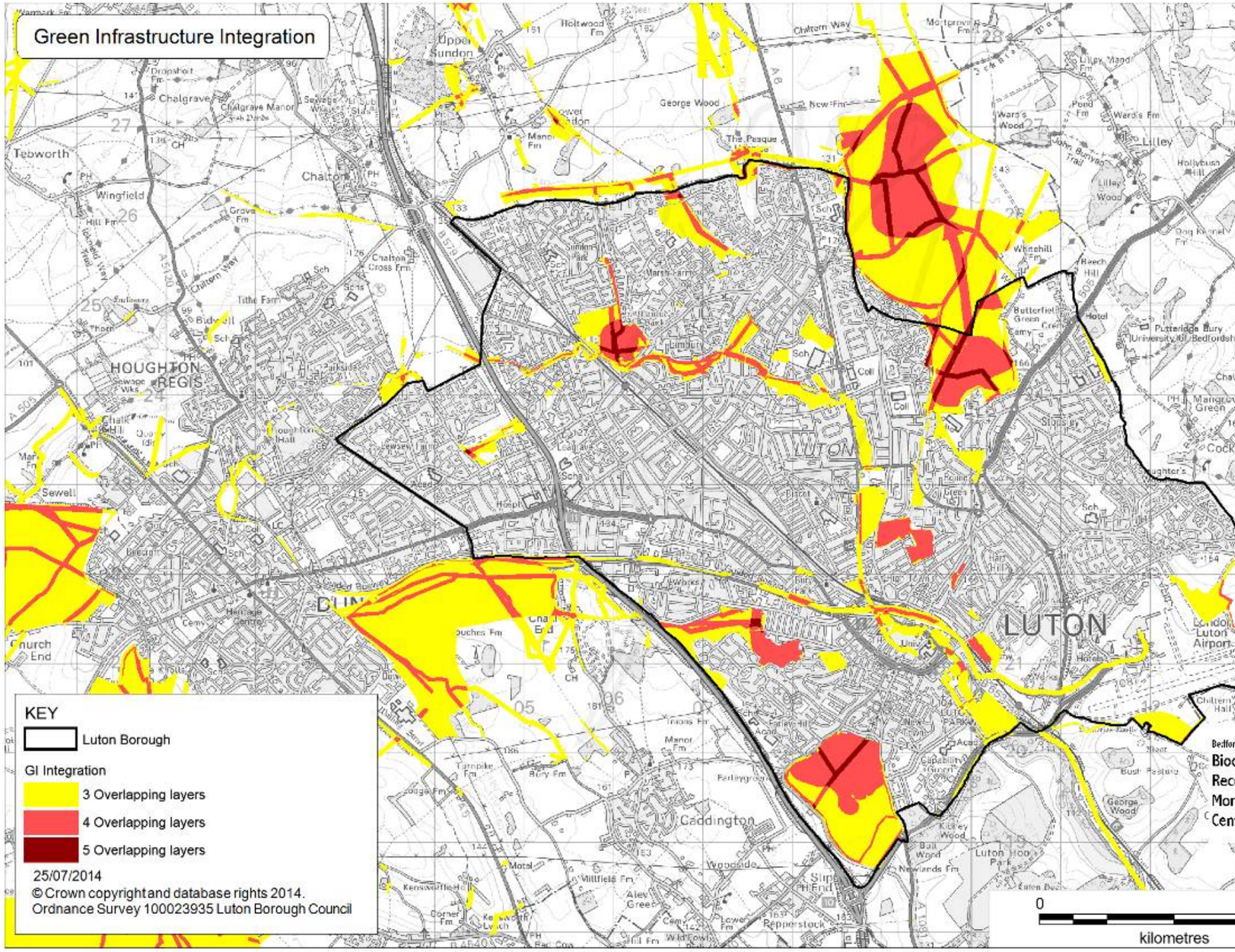


Figure 8 The Integration Map

2.8 The Luton GI Network

Figure 9 illustrates the resulting GI Network for Luton. The areas identified above have been joined up to create an integrated network, highlighting the areas where existing GI is important on a number of levels, or the opportunity to create, enhance or connect GI is greatest (or both). Key elements of the GI network include:

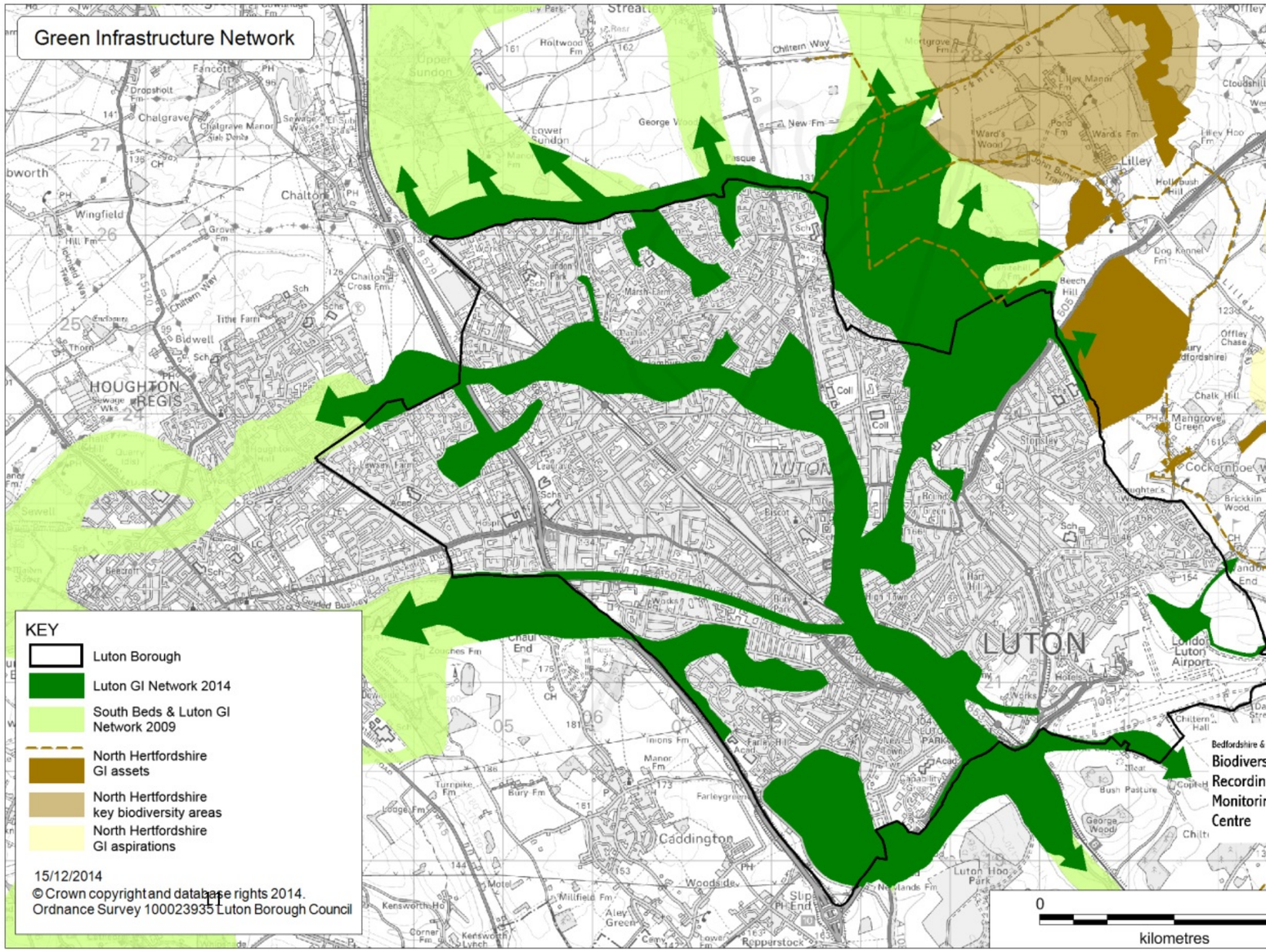
- The chalk valley side extending from Warden and Galley Hills southwards into the town;
- The Lea Valley;
- Dallow Downs valley side and Guided Busway corridor;
- Stockwood Park/Luton Hoo;
- Northern urban edge.

The relevant elements of the North Hertfordshire Strategic GI Network (taken from the North Hertfordshire GI Plan, 2009) have also been added in at this stage, to demonstrate potential linkages with the wider network to the east of Luton.

Built up areas are included within the network. This is not a suggestion that they should be demolished and replaced with GI – but it does highlight the fact that they can be an important part of the network, either now or in the future. Many of the historic environment opportunities cover significant urban areas. Access routes pass through urban areas, and opportunities to connect them with each other, and with greenspaces, can be through urban areas. Civic spaces, either existing or future, can also be important elements of the GI network, particularly if this is considered in their design. And the built environment can incorporate green roofs, street trees and planting, wildflower verges – the connections in the GI network are for wildlife as well as people.

It was felt that it was most appropriate to integrate the elements of the North Hertfordshire Strategic Network at this stage because they are themselves the result of a multi-thematic GI planning exercise carried out in that area, and represent the North Hertfordshire 'vision' for GI. It is recommended that any future revision of the Luton GI Network takes full account of work in neighbouring North Hertfordshire at the initial "theme analysis" stage, as this study has done with the theme information from Central Bedfordshire, to ensure a completely consistent approach.

Figure 9 Luton Green Infrastructure Network



3. How the GI Plan and Network should be used

This Luton GI Plan has been created to inform the process of creating a new Local Plan for Luton (covering the period 2011-2031). The GI Plan / network should be used alongside the Greenspace Strategy Review (2014) and local management plans for parks and greenspaces (where relevant), by planners, developers and others to help influence where development should take place, and how it can maximize opportunities to create attractive, sustainable places for local people, visitors and the town and its economy. Development should not be permitted where this would compromise the GI network, but should be encouraged where it delivers critical elements of the Infrastructure. The Plan can be used to help identify these elements and secure the resources necessary to deliver them (including ongoing management and maintenance) through the planning system.

The GI Plan can also be used by groups and organisations developing GI projects to help support their case and secure funds from a wide range of external funders, illustrating need in a strategic and visual format. Funders can use the network to help prioritise spend on GI projects, ensuring maximum benefits for their limited resources. For example the Luton Lea Catchment Partnership has been created to ensure that opportunities to improve the river corridor and adjacent greenspaces maximize their contribution to the GI network and help in increasing access for people while improving the ecological status of the River Lea.

It is recommended that this GI Plan is reviewed again in 5 years (2019).

References

Luton and Southern Central Bedfordshire Green Infrastructure Plan (The Greensand Trust, 2009)

North Hertfordshire Green Infrastructure Plan (Land Use Consultants, 2009)

Strategic Housing Market Assessment (Luton Borough Council Local Plans Team, 2014)

Proposed Local Landscape Designations for Luton (The Greensand Trust, 2014)

Rebuilding Bedfordshire's Biodiversity (Bedfordshire Biodiversity Partnership, 2007)

Greenspace Strategy Review on behalf of Luton Borough Council (The Greensand Trust, 2014)

Luton Rights of Way Improvement Plan: Luton's Great Outdoors (Luton Borough Council in association with Catherine Bickmore Associates, July 2008).