CAMBRIDGE CITY

NATURE CONSERVATION STRATEGY

“ENHANCING BIODIVERSITY”

Prepared by

The Wildlife Trust for Bedfordshire, Cambridgeshire, Northamptonshire & Peterborough

for

Cambridge City Council

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1. INTRODUCTION

1.1. OVERVIEW

1.1.1. This Strategy has been produced as a technical document to guide nature conservation activities across the City of Cambridge. The primary objective of the activities put forward herein is to increase the value of nature conservation and biodiversity.

1.1.2. The strategy describes the present nature conservation situation within the City and provides a number of activities for the enhancement of nature conservation and biodiversity. The status of the strategy within the planning process is also explained.

1.2. VISION

1.2.1. The vision of the Strategy is that over the next 20 years Cambridge will see a "net gain" in biodiversity, both within the city and it's immediate hinterland, including the extent and quality of priority habitats and populations of priority species. Wildlife habitats will be protected, enhanced and where possible expanded and linked. The very best wildlife habitats will form part of a much wider ecological network that will permeate the whole of the city and beyond. Everyone who lives or works within Cambridge will have access to high quality natural greenspaces within walking distance of their home or place or work, and there will be a greater awareness and understanding of biodiversity.

1.2.2. The above vision is consistent with government policy as set out in various Acts of Parliament and planning policy documents such as Planning Policy Statement 9 and its companion Good Practice Guide (see section 2.1 for details).

1.3. STATUS OF THE STRATEGY

1.3.1. The Nature Conservation Strategy consists of two separate documents. The first report, *"Cambridge City Wildlife Sites Review 2005"*, published in November 2005, provides a comprehensive review of the most important areas for wildlife (County Wildlife Sites and City Wildlife Sites) within the City's boundaries. This report forms the second document and provides the overall strategy and a strategic action plan for biodiversity across Cambridge.

1.3.2. The Nature Conservation Strategy has been produced to guide nature conservation work across the City of Cambridge. It has been produced as a "Technical Document" in support of the Cambridge Local Plan and the future Local Development Framework. It is therefore intended to provide detailed guidance to planners and developers in support of adopted planning policies and should be viewed as a material consideration for planning purposes. The document also provides a strategic action plan for the City Council to deliver biodiversity conservation and enhancements in partnership with others, in accordance with their statutory duties as enshrined in the Natural Environment and Rural Communities Act 2006.

1.3.3. The strategy and action plan have been developed concurrently with the Green Infrastructure Strategy for the Cambridge sub-region and the South Cambridgeshire District Council Biodiversity Strategy. There has been close liaison between the authors of all three documents and as such the Nature Conservation Strategy has been designed to complement these other strategies, while providing a greater degree of detail for Cambridge and its urban extensions.

1.3.4. In preparing the strategy the authors have looked beyond the administrative boundaries of Cambridge City, as wildlife and nature does not respect arbitrary human boundaries. For coherent nature conservation actions to be developed, the strategy has had to consider the wider context within which the biodiversity of Cambridge is found. This strategy is not intended to have any legal weight beyond the City Council boundary. However, by looking outside the city boundaries, the strategy seeks to influence the nature conservation policies and actions that the City Council will promote when working with partners on joint schemes (such as the urban extensions) or when commenting on others' proposals.

1.4. IMPLEMENTATION

1.4.1. Implementation of the Nature Conservation Strategy and achievement of the action plan will require leadership, resources and partnership action.

1.4.2. This document is presented as a strategic overarching document. To ensure implementation, the City Council will develop a separate, detailed, joint departmental delivery plan to take forward the identified actions (Section 6 and Appendix 1). A key part of this will be the development of partnership working both within the City Council and with external partners. Resource implications, in both staff and financial terms, will be identified as well as potential sources of funding. The delivery plan will also clearly identify who will lead and drive implementation of the strategy.

1.4.3. While this is primarily an action plan for the City Council, it is anticipated that other partner organisations will take forward relevant actions as part of their own work programmes. However, many actions will require the development of new partnerships or the strengthening of existing partnerships, to maximise use of limited resources and also to help secure new resources.

1.4.4. Key partners include Natural England (formerly English Nature), the Wildlife Trust, Environment Agency, Cambridge Natural History Society, Cambridge Preservation Society, the University and Colleges, Cambridge University Botanic Garden, major developers, Cambridgeshire Horizons, South Cambridgeshire District Council, Cambridgeshire County Council and other private landowners.

2. BACKGROUND AND CONTEXT

2.1. POLICY BACKGROUND

National Policy

2.1.1. At the EU Summit in Gothenburg in 2001, European governments, including the UK, committed themselves to halt the loss of biodiversity by 2010. In 2002, parties to the Convention on Biological Diversity, including the UK, set themselves the global target of significantly reducing the rate of loss of biodiversity. *Biodiversity: The UK Action Plan* was published in 1994, in response to the signing of the Convention on Biological Diversity. This government document contains a series of targets to first halt, and then reverse, the loss of biodiversity witnessed during the past two centuries. During that period unprecedented loss of habitats occurred, mostly as a result of agricultural and forestry policies, and increased urbanisation.

2.1.2. The "net gain" approach of the UK Biodiversity Action Plan (UK BAP) was reinforced by the Countryside and Rights of Way (CROW) Act 2000, which introduced a statutory duty for Government to promote steps "to further the conservation" of habitats and species listed in Section 74 of the Act. This is a listing of UK BAP priority habitats and species.

2.1.3. In August 2005, the Government's policy for addressing biodiversity through the planning system was set out in *Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9)*. A *Good Practice Guide* to accompany PPS9 has subsequently been produced. This document explicitly states that planning decisions should prevent harm to biodiversity and attaches greater weight to biodiversity within the planning system than previous guidance. It sets out six Key Principles, which are summarised below:

1. Development plan policies and planning decisions should be based on up-to-date biological information.
2. Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity conservation interest.
3. Plan policies should take a strategic approach to the conservation, enhancement and restoration of biodiversity.
4. Plan policies should promote the incorporation of biodiversity within new developments.
5. Development proposals where the principle objective is to conserve or enhance biodiversity should be permitted.
6. Planning decisions should aim to prevent harm to biodiversity, through consideration of alternative locations for development, adequate mitigation measures or if mitigation is not possible compensation measures. If significant harm cannot be prevented, adequately mitigated against, or compensated for, planning permission should be refused.

2.1.4. PPS9 and the Good Practice Guide require Local Development Frameworks (LDFs) to indicate the locations of sites of importance for biodiversity. However, unlike its predecessor, which focussed mainly on protection of such sites along with protection of legally protected species, PPS9 places significant emphasis on the enhancement of biodiversity. For the first time there is a stated requirement to incorporate key national, regional and local BAP objectives and targets into LDFs. Planning Authorities are now required to actively seek to further the conservation of UK BAP priority habitats and species, and treat these as a "material consideration" in the planning process. For the first time this will require the identification of any areas or sites for the restoration or creation of new priority habitats. PPS9 also recognises much more strongly than previous guidance the need to develop and maintain networks of natural habitats, to protect habitats from the effects of fragmentation and isolation. In so doing it acknowledges that habitats or species identified by Local Biodiversity Partnerships may also be a "material consideration" in the planning process.

2.1.5. Various Acts of Parliament have emphasised the responsibility that Local Authorities have towards the conservation of biodiversity, for example, The Countryside and Rights of Way Act, 2000 requires Councils to contribute towards achieving the targets set out in Biodiversity Action Plans. The Local Government Acts 2000 placed a duty on each local authority to prepare a "Community Strategy" to promote and improve the economic, social and environmental well being of their areas and to contribute to the achievement of sustainable development in the UK. Government guidance on preparation of Community Strategies envisaged that Local Biodiversity Action Plans (Local BAPs) would be one of the suite of plans to be incorporated into the Community Strategy.

2.1.6. Recently the Natural Environment and Rural Communities Bill 2006 came into being. This goes further than previous legislation in placing a statutory duty on Local Authorities to have regard to the purpose of conserving biodiversity in all their activities.

Regional Policy

2.1.7. The draft Regional Spatial Strategy (RSS) for the East of England includes policies to protect environmental infrastructure and biodiversity. The panel that examined the RSS reported back in June 2006 and recommended that policies on green infrastructure be strengthened. The aim is for the RSS to be adopted in April 2007.

Local Policy

2.1.8. Cambridge is one of the fastest growing areas in England and falls within "The London – Stansted – Cambridge – Peterborough Growth Area", identified by national Government. The adopted County Structure Plan requires 47,500 new homes within the Cambridge Sub-region by 2016, though this figure is likely to be increased in the period up to 2021, through the emerging Regional Spatial Strategy. The largest proportion of these new homes is to be provided through planned urban extensions to Cambridge. The 2006 Cambridge Local Plan makes provision for 12,500 dwellings over the period 1999 – 2016. This comprises approximately 6,000 dwellings in the urban area and 6,500 in the urban extensions. These provide both a potential threat and a major opportunity for biodiversity conservation and enhancement.

2.1.9. The Cambridgeshire & Peterborough Structure Plan 2003 contains strong policies to protect and enhance biodiversity. Likewise, successive Cambridge Local Plans have contained strong policies for the protection of the natural environment. The most recent version, the Cambridge Local Plan 2006 continues this trend. It contains specific objectives and strong policies to protect and promote biodiversity in line with government guidance. The policies listed below aim to protect Sites of Special Scientific Interest (SSSIs), County Wildlife Sites (CountyWS), City Wildlife Sites (CityWS), Local Nature Reserves (LNRs), Open Spaces, trees and other significant vegetation.

4/2: Protection of Open Space of environmental an/or recreational importance;
4/3: Protection and enhancement of features of the landscape which are important for nature conservation;
4/4: Protection of trees;
4/5: Protection of Sites of National Conservation Importance (SSSIs)
4/6: Protection of Sites of Local Nature conservation Importance (LNRs, CountyWS and CityWS
4/7: Protection of species protected by English or European Law;
4/8: Protection of rare or vulnerable habitats identified in Cambridgeshire's Local Biodiversity Action Plans.
Other relevant policies are:
3/8: Provision of open space through new development; and
3/9: Maintenance and enhancement of the biodiversity of the watercourses and other bodies of water.

2.1.10. The CountyWS and CityWS have been selected as sites of substantive nature conservation interest, against published criteria, as a result of surveys undertaken by the local Wildlife Trust and funded by the City Council. The first comprehensive survey was undertaken from 1998–2000, in response to the recommendations of the planning inspector following the inquiry into the 1996 Cambridge Local Plan. The inspector highlighted the need for rigorous criteria to be used to identify sites and for site selection to be based on up-to-date information. Part 1 of this Nature Conservation Strategy, *"Cambridge City Wildlife Sites Review 2005"* further updates this information and the list of selected sites. SSSI's have been designated by English Nature and LNRs by Cambridge City Council.

2.1.11. The local biodiversity partnership has published the Cambridgeshire & Peterborough Local Biodiversity Action Plan in 2000. This contains specific targets and actions for key habitats and species aimed at reversing the loss of biodiversity in the county.

2.1.12. In addition the Biodiversity Partnership has published a "50 Year Wildlife Vision for Cambridgeshire & People". This includes a map showing the priority areas for creation of key local BAP habitats. This map was subsequently included in the last Cambridgeshire &

Peterborough Structure Plan (2003), as *"Countryside Enhancement Areas"*. It was expected that all Local Plans include these areas within their spatial vision and policies. Although, new planning arrangements have now come into force in the form of Local Development Frameworks, this approach to identifying strategic areas for the enhancement of biodiversity is still valid.

2.1.13. The Biodiversity Partnership has also produced a *"Biodiversity Checklist for Land Use Planners in Cambridgeshire & Peterborough"*. These guidelines form an integral part of the *"Sustainable Development Guidelines"*, adopted by Cambridge City Council as Supplementary Planning Guidance.

2.1.14. Work on the new Local Development Framework provides an opportunity to further strengthen and extend nature conservation policies to include greater emphasis on enhancement of biodiversity, in line with national policy and best practice.

2.2. SUMMARY OF ADOPTED STRATEGIES AND POLICY DOCUMENTS

2.2.1. The City Council has adopted numerous strategies, policy documents and plans that contribute to a greater or lesser extent to nature conservation. Key aspects of the most relevant plans are summarised below.

Nature Conservation Strategy 1991

2.2.2. In 1991 the City Council published a Nature Conservation Strategy which helped develop strong biodiversity policies for subsequent Local Plans and helped to achieve a better deal for wildlife in the City. At the time of its production, planning policies generally gave little weight to the protection of nature conservation sites. The strategy also identified the first Sites of Nature Conservation Importance, the predecessors of the County and City Wildlife Sites, as well as a network of wildlife corridors. It made various other recommendations such as the designation of Local Nature Reserves and the promotion of an awareness of wildlife. Some of the recommendations have been taken forward and further positive improvements can be made to the management of the Cambridge Commons or public open spaces for wildlife. The strategy is now 15 years old and will be superseded by this new Nature Conservation Strategy.

Best Value Review of Parks & Open Space Management 2001

2.2.3. This document reviewed the management of the City Council Parks and Open Spaces and made recommendations for how this could be further enhanced. The report concluded that management of Parks and Open Spaces generally provided good value and has set the framework for the current management approach adopted by the City Council. A key recommendation was for an Action Plan for Service Improvement to be produced, including improved partnership working.

Cambridge Landscape Character Assessment 2004

2.2.4. This document provides a baseline statement of the qualities and character of the City's townscape and rural hinterland. It firstly identifies features that are essential to the character of Cambridge and therefore must be protected and secondly, it enables judgements to be made to ensure that new development is in keeping with this character or where possible, achieves an environmental or visual improvement.

Parks for Cambridge People 2004

2.2.5. This strategy creates a strategic framework for developing, maintaining and managing parks, commons and open spaces directly owned and / or managed by the City Council. Key aims and objectives comprehensively cover all aspects of management of the Open Spaces. The strategy also includes a detailed high level action plan. This strategy links directly with the Open Spaces and Recreation Strategy (see below).

2.2.6. As part of the implementation of the Parks for Cambridge People and Open Spaces and Recreation strategies, an audit of the quantity, quality and accessibility of parks and open spaces under the management of the City Council was undertaken. Areas of deficiency in terms of quantity, quality and accessibility have been identified and this will guide the setting of priorities for future action. In addition, detailed work has been undertaken to understand local peoples expectations and needs with respect to parks and open spaces.

Open Space and Recreation Strategy 2006

2.2.7. This strategy was developed in 2004 taking into account government guidance as set out in Planning Policy Guidance Note 17 and Companion Guide. Production of it was underpinned by the audit of open spaces undertaken as part of the Parks for Cambridge People strategy; an assessment of open space for environmental and/or recreational importance and it's classification based on the typology in PPG17. It also assessed sports provision in Cambridge, using methods approved by the Sports Council. It also included a Wildlife Strategy, which set the context for this Nature Conservation Strategy. Its overall purpose was to co-ordinate related strategies of the City Council, guide provision of open space in urban extensions and set priorities for spending by the City Council at a strategic level. The Council adopted the strategy in July 2004 and the majority of it was Supplementary Planning Guidance. It was updated in November 2006 to relate directly to the 2006 Local Plan and adopted as Technical Guidance.

Cambridge Arboricultural Strategy 2000-2007 (2004 Review)

2.2.8. This Tree Strategy replaced the earlier 1996-2000 strategy. The strategy seeks to protect important trees throughout the City and increase the numbers of trees on Council land. In the past 8 years over 4000 trees have been planted, representing a net gain in 2000 trees.

Cambridge Environment Strategy 2005 – 2008

2.2.9. This strategy replaces the 2001 Environment Plan and reinforces the Council's commitment to the environment and updates it's environmental objectives. The intention of the strategy is to provide a policy framework that will influence and steer Council policies, thinking processes and working practices to ensure that the City's environment is protected and enhanced.

Cambridgeshire Sub-region Green Infrastructure Strategy

2.2.10. This strategy was launched by Cambridgeshire Horizons in June 2006, having been produced as a collaborative venture between the local authorities, government agencies and non-governmental organisations within the sub-region. The strategy assesses the current provision of Green Infrastructure at the sub-regional scale and makes recommendations for the provision of new and enhanced green infrastructure, over the next 20 years, taking account of the planned population growth.

2.2.11. The overall vision for the Green Infrastructure Strategy can be summarised as follows:

"To create a comprehensive and sustainable network of green corridors and sites that:

- *Enhance the diversity of landscape character*
- *Connect and enriches biodiversity habitats and*
- *Extend access and recreation opportunities'*

for the benefit of the environment as well as current and future communities in the Cambridge Sub-Region."

2.3. KEY CHALLENGES FOR THE FUTURE

Climate Change

2.3.1. Climate change provides perhaps the greatest challenge to biodiversity conservation over the coming century. Increased temperatures and changing patterns of rainfall are likely to have a dramatic impact on the natural ranges of plants and animals. The predicted speed of changes will likely result in species disappearing from parts of their current range and if suitable habitats are not present within colonising distance, local, regional and even national extinctions will occur.

2.3.2. Habitats are currently too fragmented in the Cambridge area to ameliorate the potential impacts of climate change. This is why the strategy vision emphasises the need to create an ecological network, whereby remaining fragments of habitat are expanded and linked. The detailed design of new habitats must take account of likely future changes to the climate, so they should be naturally resilient and must have scope to change in response to the changes that will occur.

2.3.3. Biodiversity conservation is not just for its own sake. Biodiversity can also have significant benefits in helping to mitigate the adverse impacts of climate change on people. The creation of wetlands in the floodplain can act as a sponge, absorbing water from flooding and releasing it slowly, preventing flooding downstream. An increase in natural vegetation and trees can help ameliorate temperatures within urban areas and help improve air quality.

Urban Expansion

2.3.4. While the rapid pace of urban expansion around Cambridge over the next 20 years provides an opportunity for delivering new green infrastructure, it also represents a major challenge to the conservation of biodiversity. A much larger population demanding more access to existing open spaces, new open spaces and the wider countryside can conflict with the conservation of biodiversity.

2.3.5. While access can be managed to a certain extent to mitigate potential conflicts between biodiversity and access, there are occasions where biodiversity conservation must be given pre-eminence over access. For example, the lack of access to much of the River Cam south of Cambridge is part of the reason why it is a hotspot for Otters. Increased human access will conflict with conservation of the local Otter population, a priority species, unless significant areas of the river are treated as a “sanctuary zone”. Likewise Green Corridors will only be of value to wildlife if they contain high quality habitats and if some are less well used for human access. Some Green Corridors and wildlife-rich open spaces should remain unlit, to reduce disturbance to wildlife, while in other areas, lighting that is less disturbing to wildlife should be used. New developments must include open spaces, including natural greenspace, that are easily accessible to the new residents and located within urban areas that are likely to be built at high densities. If this is not done the result will likely be excess pressure on existing open spaces and on the new open spaces, decreasing their value for biodiversity.

2.3.6. An increased population also places additional pressures on natural resources, with increased demand for scarce water resources and increased energy use, further contributing to increased greenhouse gas emissions and climate change. Increased traffic will also result in increased air pollution. New infrastructure, particularly linear transport routes, if not damaging habitats, is likely to increase fragmentation and undermine the achievement of a functioning ecological network.

2.3.7. While mitigation measures are starting to be put in place to address the above problems, they are still usually too little too late. A step change is required in the conservation and enhancement of biodiversity and natural resource conservation if the urban expansion is to be truly environmentally and socially sustainable development.

3. CAMBRIDGE’S NATURE CONSERVATION & BIODIVERSITY RESOURCE

3.1. SUMMARY OF THE EXISTING RESOURCE

3.1.1. Cambridge is a green and pleasant city with a generally good network of open spaces and semi-natural habitats. Figure 1 shows the extent of the most important nature conservation sites in the City. The 1991 Nature Conservation Strategy provided a detailed description of the natural environment of the city and its main habitats. This is not repeated here, though a brief summary is given below.

3.1.2. The natural environment is dominated by the River Cam and its associated open spaces, most of which are within the floodplain. A network of green corridors follow the river and its associated tributaries. For example, Coldham’s Brook, Cherry Hinton Brook and Hobson’s / Vicar’s Brook. Development west of the river has generally been at a low density. However, in the north of the city (Arbury, Chesterton and King’s Hedges) and east of the city (Barnwell, Coleridge and Romsey) development has been at a much higher density with consequently less attractive open space and wildlife habitat.

3.1.3. The geology of the city comprises a mixture of Gault Clay in the north, west and centre and chalk to the south, with the start of the peat fens on the eastern edge of the city.

Rivers & Wetlands

3.1.4. The River Cam forms the major green corridor through the city and helps define the character of the city. The river and its floodplain retain a variety of natural habitat features, such as small pockets of fen, wet grassland and wet woodland and a large number of old pollarded willows. The willows on Coe Fen and Sheep’s Green and along the river from Stourbridge Common to Bait’s Bite Lock are particularly notable. Wet woodland occurs at Paradise LNR. However, the large areas of floodplain grassland, the Cambridge Commons, are generally extremely species-poor. The smaller Brooks and drainage ditches are generally intensively managed, but still support scarce plants as well as several small populations of Water Vole.

Trees & Woodland

3.1.5. Cambridge has few areas of woodland, the main areas being on private land around Trumpington. Ancient woodland is extremely scarce and much of the woodland comprises broadleaved plantations, although natural regeneration is now occurring in several plantations. Small areas of woodland occur in Cherry Hinton Hall Grounds and at the nearby Spinney, at Byron’s Pool LNR and Nine Wells LNR. A few remnant ancient hedgerows occur on the edges of the city, to the east at Cherry Hinton and to the west towards Coton, but generally hedgerows are scarce. There are, however, several species-rich areas of scrub for example at Lime Kiln Close, Coldham’s Common, Barnwell East, Bramblefields, adjacent to the M11 and Coldhams Lane old landfill sites. Although the Elm trees on Parkers Piece were lost to Dutch Elm disease, old trees do survive throughout the city. A survey of veteran trees was undertaken in 2004, covering local authority land, University and College land and private farmland within the City’s boundaries. This survey showed that there are few veteran trees on University, College or most public open spaces. The main concentrations of veteran trees were willows on Sheep’s Green / Coe Fen and along the River Cam, and a variety of other species on private farmland and in Cherry Hinton. Although not veteran trees, street trees and

the trees in parks and open spaces do none-the-less form valuable features within the built up environment and there are over 12,000 street trees in Cambridge.

Grasslands

3.1.6. There is very little in the way of species-rich grassland within the city, the majority of the grassland being formally managed amenity grass or the agriculturally improved commons. The exceptions are the chalk pits at Cherry Hinton, designated as SSSI, for their chalk grassland; Skaters Meadow adjacent to the Cam; Netherhall Farm Meadow; Mill Road Cemetery, small areas of Coldham's Common and Barnwell Junction Disused Railway.

Farmland

3.1.7. In 1988, 15% of the City's area was farmland, mostly arable. However, most of this will be lost with the proposed urban extensions. Typical farmland species such as Skylark and other farmland birds and Brown Hare will no longer be seen within the City limits. However, arable farming will continue in the Green Belt beyond Cambridge and with the new Environmental Stewardship Scheme, it is likely that an increasing proportion will be managed to benefit such species.

Built Urban Environment

3.1.8. Within the built environment, many other areas support or have the potential to support a wide range of wildlife. Open spaces, churchyards and allotments can all be managed to encourage wildlife. Private gardens can also be valuable, particularly where there are large gardens in otherwise densely developed areas.

3.1.9. Several significant ponds occur within the city, including Adams Road Bird Sanctuary and Barton Road Pool, both of which have breeding populations of Great Crested Newt. The Norman Cement Pits provide a significant area of water, supporting a wide range of wetland wildlife. In addition a number of smaller ponds at Bramblefields LNR, Logan's Meadow LNR, Barnwell East LNR and Byron's Pool LNR support significant numbers of amphibians. These sites also contain populations of reptiles such as Grass Snake and Common Lizard. Grass Snakes are also found in Cambridge University Botanic Gardens and along Hobson's Conduit.

3.1.10. Brownfield sites, though rarely undeveloped for long in Cambridge, can develop into valuable wildlife habitats. The Coldham's Lane Old Landfill sites and the former Norman Cement Works site are examples of brownfield sites that have developed considerable wildlife interest. On the border of the City, Chesterton Sidings is another brownfield site that having been left for many years has developed as an extremely rich wildlife site.

Habitat Audit

3.1.11. There is currently no up-to-date and accurate habitat audit listing the exact areas for each habitat within the City. The County and City Wildlife Site Review (part 1 of this strategy), together with SSSI information, allow good estimates to be made for some habitats, such as species-rich grassland. However, the figures for other habitats, such as woodland, scrub and hedgerows, although close approximations, are not wholly accurate. The figures given in the targets section of the Action Plan must therefore be treated as estimates.

3.1.12. However, there are accurate figures for the area of designated sites such as SSSI and LNR and for County Wildlife Sites and City Wildlife Sites. There are two SSSIs within Cambridge; Cherry Hinton Chalk Pits and Traveller's Rest Pit, with a total area of 14.97 ha. A third site, Histon Road borders the city. In addition, the 2005 Wildlife Sites Review identified 15 County Wildlife Sites and 51 City Wildlife Sites, covering respective areas of 112.80 ha and 169.22 ha. These are shown in Table 1. There are currently nine Local Nature Reserves in and around the City covering an area of 25.43 ha. All these sites combined currently cover 7.3% of the Cambridge City area.

UK BAP Priority Habitats and Species

3.1.13. Nationally, the Government has prepared a list of habitats and species of principal importance for biodiversity conservation based on the UK Biodiversity Action Plan priorities. Section 74 of the Countryside and Rights of Way Act makes specific reference to this list and Local Authorities are expected to contribute towards achieving the targets for the listed habitats and species. The list will be regularly updated and can be found at: www.defra.gov.uk/wildlife-countryside/cl/habitats/habitats-lists.pdf

3.1.14. Priority habitats found within Cambridge are:

- Lowland calcareous grassland;
- Lowland meadows;
- Wet woodland;
- Ancient / and or species-rich hedgerows; and
- Lowland mixed deciduous woodland.

3.1.15. Priority species occurring within Cambridge include:

- Great Crested Newt;
- Water Vole;
- Otter;
- Pipistrelle Bat;
- Song Thrush;
- Skylark, Bullfinch, Turtle Dove amongst many other farmland birds; and
- Brown Hare.

Local BAP Priority Habitats and Species

3.1.16. The following additional habitats found within Cambridge, have also been identified as local priorities for action in the Cambridgeshire and Peterborough local Biodiversity Action Plan:

- Rivers and streams;
- floodplain grasslands;
- veteran trees including pollard willows;
- scrub; and
- drainage ditches and ponds.

3.1.17. The following species, which also occur in Cambridge, are also listed in the UK Biodiversity Action Plan, though are not currently considered priority species:

- Spotted Flycatcher;
- Green Woodpecker;
- Harvest Mouse; and
- Grass Snake.

3.1.18. Cambridge also holds nationally important populations of a few species, the most notable of which is perhaps Moon Carrot, found at Lime Kiln Hill and Cherry Hinton Pit SSSI.

Geological Sites

3.1.19. Traveller's Rest Pit SSSI within the City boundary and Histon Road SSSI, just outside the City are both designated for their geological interest. However, Cambridge is not renowned as a major location for geological features.

Statutory and Non-statutory Nature Conservation Sites

3.1.20. Tables 1 and 2 below list the important statutory nature conservation sites and non-statutory County Wildlife Sites and City Wildlife Sites. These are also shown in Figure 1. Figure 2 shows the locations of Local Nature Reserves. In addition, Figure 2 shows other strategic accessible natural greenspaces in and around the city, which are not already shown in Figure 1.

Table 1: Statutory Sites in Cambridge

Site Name	Grid Ref.	SSSI	LNR	County Wildlife Site	City Wildlife Site
Cherry Hinton East Pit	TL484556	•			
Cherry Hinton West Pit	TL483557	•	•		
Travellers Pit (geological site)	TL429598	•			
Barnwell Road East	TL479582		•		•
Barnwell Road West	TL478584		•		•
Bramblefields	TL463603		•		
Byron's Pool (includes part of Old Mill Plantation City Wildlife Site	TL443570		•	•	
Lime Kiln Close	TL485560		•	•	
Logan's Meadow	TL463592		•		•
Nine Wells (outside the City, but managed by the City council in partnership with the owners)	TL461542		•		
Paradise	TL445571		•	•	

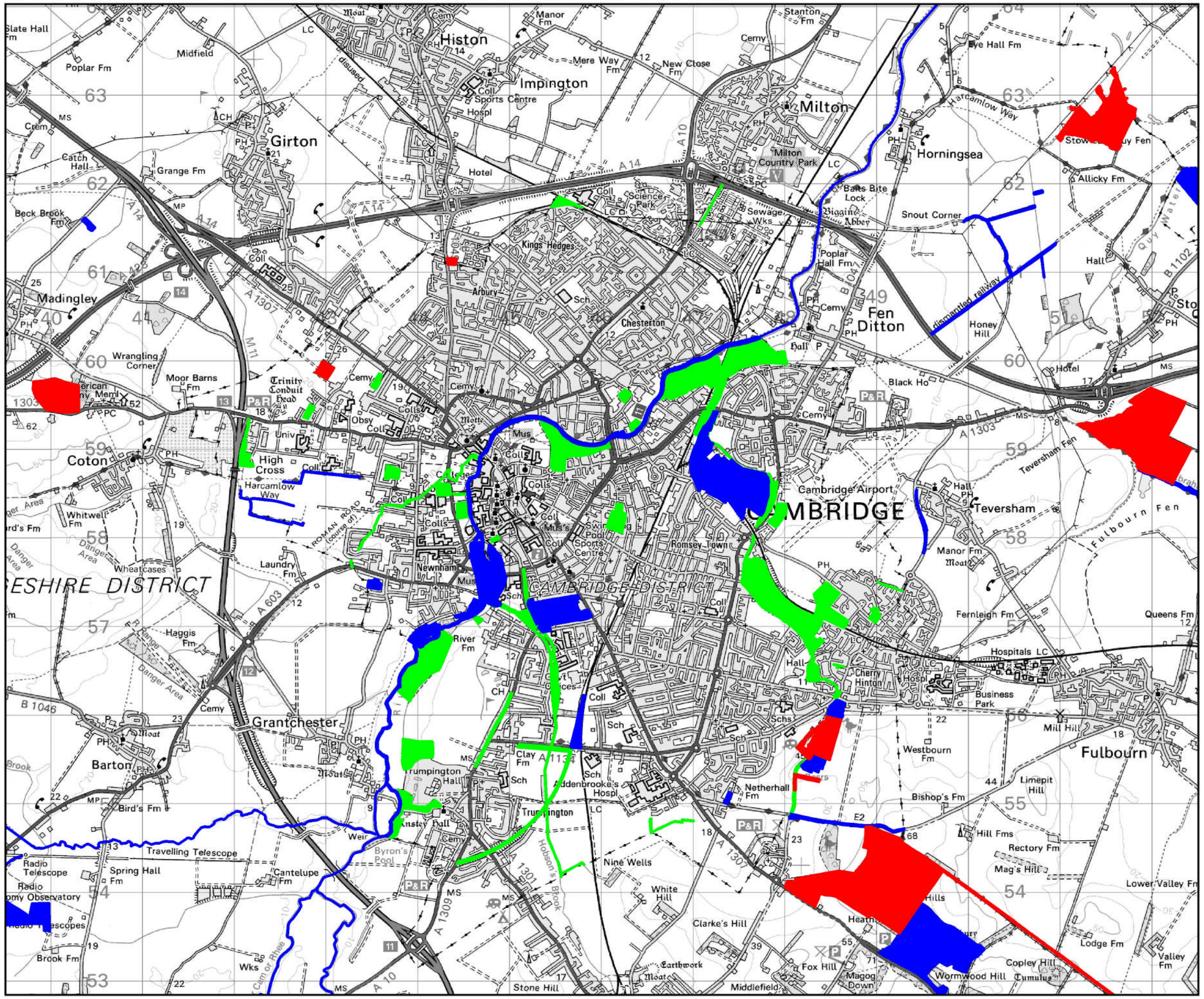
Table 2: County Wildlife Sites & City Wildlife Sites in Cambridge

Site No.	Site Name	Grid Ref.	County Wildlife Site	City Wildlife Site
C5.1	Scrub East of M11 Verge	TL421589		•
C5.3	Hedgerows East of M11	TL421583	•	
C5.6	Coton Path Hedgerow	TL429587	•	
C6.2	Bird Sanctuary, Conduit Head	TL428594		•
D1.1	Old Mill Plantation	TL437547		•
D1.2	Grantchester Road Plantations	TL439549		•
D2.2	Eight Acre Wood and Seven Acre Wood	TL440556		•
D4.1	Barton Road Pool	TL435574	•	
D4.4	Bin Brook	TL438584		•
D5.4	Adams Road Sanctuary	TL437587		•
D6.6	Ascension Parish Burial Ground	TL435597		•
E2.1	Trumpington Road Woodland	TL448558		•
E3.1	Meadows and Drains	TL441566		•
E3.2	Skater's Meadow Group	TL440569	•	
E4.2	Paradise LNR	TL445571	•	
E4.4	Perse Girls' School Reedbed	TL446570		•
E4.5	Sheep's Green	TL447576	•	
E4.7	Little St Mary's Churchyard	TL448579		•
E4.10	Coe Fen	TL449575	•	
E5.1	Trinity Meadow	TL442585		•
E5.3/E5.7	Meadow and Ditch Opposite King's College	TL444583		•
E5.9	Drain at Garret Hostel Lane	TL444585		•
F1.1	Trumpington Dismantled Railway	TL452548		•
F1.2	Hobson's Brook South	TL455542		•
F2.2	Hobson's Brook Mid	TL453552		•
F3.1	Hobson's Conduit/Vicar's Brook	TL454564		•
F4.1	Hobson's Conduit North	TL451574		•
E4.9	Lower Vicar's Brook, New Bit & Coe Fen Straits	TL450 571		•
F2.1	Long Road Plantation	TL453556		•
F2.3	Triangle North of Long Road	TL457559	•	
F3.2	Empty Common –Scrub	TL454565		•
F3.3	Bentley Road Paddocks	TL454562		•
F4.3	Cambridge Botanic Gardens	TL455571	•	
F6.4	Midsummer Common	TL456590		•
F8.1	Kings Hedges Triangle/Scrub	TL455618		•
G1.1	Red Cross Lane Drain	TL465547		•
G1.2	Hedgerow West of Babraham Road	TL468548		•
G5.1	Mill Road Cemetery	TL461582		•
G6.2	St Andrew's, Chesterton	TL462596		•
G6.3	Logan's Meadow LNR	TL463592		•
G6.5	Stourbridge Common	TL469598		•
H2.1	Netherhall Farm Meadow	TL473550	•	
H4.1	Cherry Hinton Brook	TL477572		•
H4.2	CU Officer Training Corps Pit	TL477576		•
H4.3/J4.2	Norman Cement Pits	TL481571		•
H5.1	Coldham's Common	TL474586	•	
H5.2	Coldham's Brook	TL474588		•
H5.3	Barnwell Road West LNR	TL478584		•
H5.4	Barnwell Road East LNR	TL479582		•
H6.1	Barnwell Pit	TL471593		•
H6.2	Barnwell Junction Disused Railway	TL473598		•
H6.3	Barnwell Junction Pastures	TL472596		•
H7.5	Ditton Meadows	TL476600		•
H8.1	Milton Road Hedgerow	TL471617		•
J1.1	Wort's Causeway RSV	TL488547	•	
J2.1	Limekiln Road Verge and Hedge	TL481552		•
J2.2	Lime Kiln Hill Reservoirs	TL483544	•	
J3.2	Cherry Hinton Hall Bird Sanctuary	TL483564		•
J3.3	Cherry Hinton Hall Brook	TL485562		•
J3.4	Lime Kiln Close LNR	TL485560	•	
J3.6	The Spinney and Hayster Open Space	TL483568		•
J3.7	Love Lane Pollards	TL485565		•
J4.5/J4.6/J4.8	Coldham's Lane Old Landfill Sites	TL484572		•
J4.7	Cherry Hinton Churchyard	TL489571		•
K4.1	Teversham Drift hedgerow	TL490574		•
R1-R10	River Cam	TL45	•	

Total 66 sites

FIGURE 1:

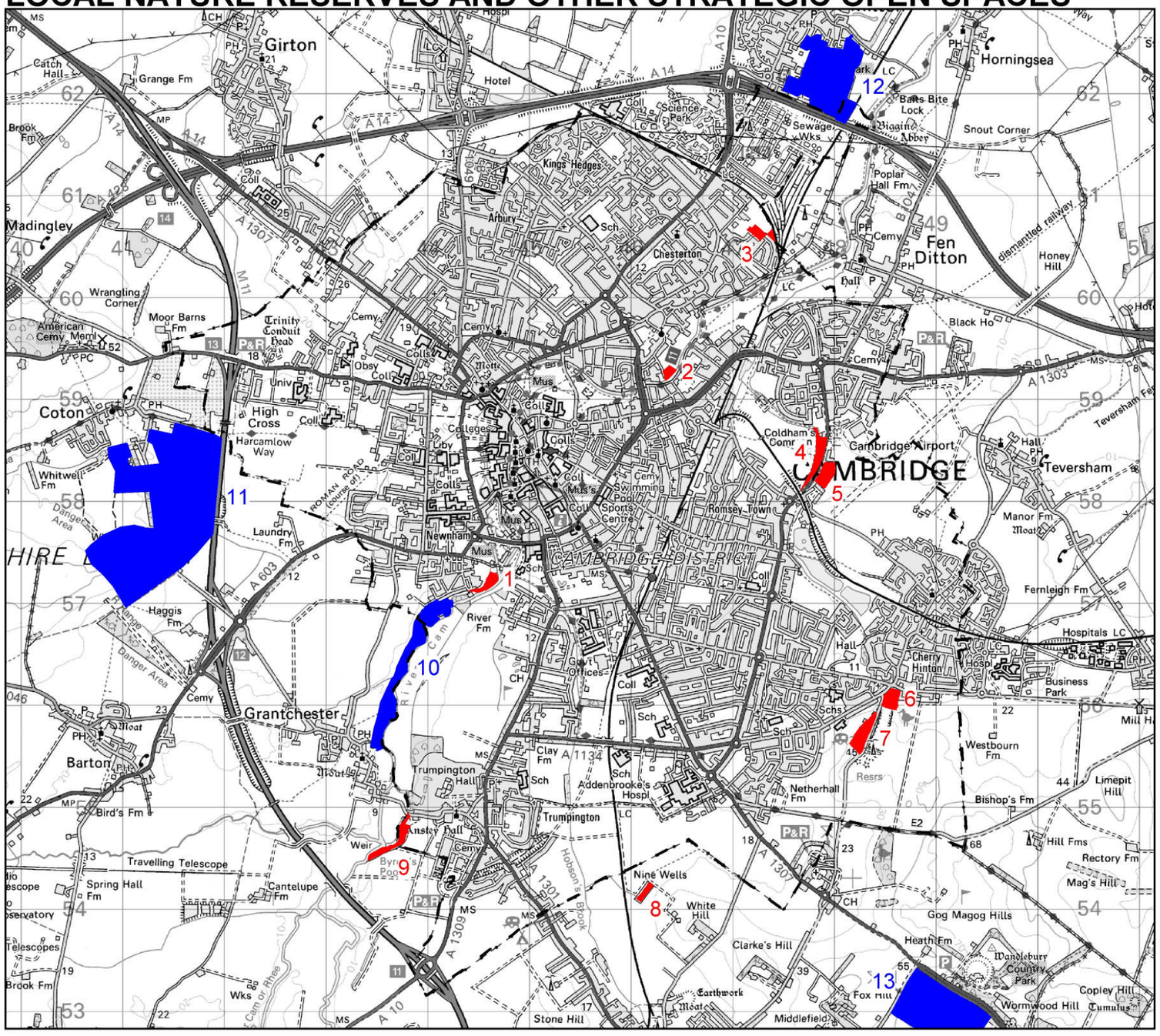
DESIGNATED NATURE CONSERVATION SITES



Key:
- SSSI (red line)
- SSSI (red area)
- County Wildlife Site (blue line)
- County Wildlife Site (blue area)
- City Wildlife Site (green line)
- City Wildlife Site (green area)

FIGURE 2:

LOCAL NATURE RESERVES AND OTHER STRATEGIC OPEN SPACES



Key:

- Local Nature Reserves
- Other Strategic Open Spaces that are not on Figure 1
- District Boundary

1. Paradise LNR
2. Logan's Meadow LNR
3. Bramblefields LNR
4. Barnwell West LNR
5. Barnwell East LNR
6. Lime Kiln Hill LNR
7. Cherry Hinton West Pit LNR
8. Nine Wells LNR
9. Byron's Pool LNR
10. Grantchester Meadows
11. Coton Countryside Reserve
12. Milton Country Park
13. Magog Down

3.2. SUMMARY OF CITY COUNCIL NATURE CONSERVATION ACTIONS

Management of Local Nature Reserves

3.2.1. Since 2003 the City Council have employed a Community Reserves Officer, within the Planning and Environment Directorate to organise management of the Council's Local Nature Reserves and involve the local community on these sites. In addition, over the past 3 years, they have helped bring about the declaration of four new LNRs, bringing the total in and around the city to nine.

3.2.2. Summary management plans have been produced for the Local Nature Reserves in and around Cambridge and have been approved by English Nature. Much of the maintenance activities on these reserves is organised in conjunction with Streetscene, through a Service Level Agreement. The Community Reserves Officer also organises some additional management though volunteer work parties. The absence of detailed costed work plans and on occasions a lack of co-ordinated management has hindered achievement of some of the conservation objectives.

3.2.3. The Community Reserves Officer also promotes awareness of biodiversity through public events, educational visits, an LNR website and interpretation materials.

Management of City Council Parks & Open Spaces

3.2.4. The Technical Services team of the Community Services Directorate manage parks and open spaces through a contract with Streetscene. A new Service Level Agreement is being developed.

3.2.5. A series of conservation plans have been produced for the city's central open spaces. They assess the qualities of the open spaces that should survive into the future and their vulnerability to change. They were prepared to provide a basis for their management and to guide change so that both past and current value of the sites is accommodated in any new proposals. Plans were produced for Jesus Green 1998, Parkers Piece 2001, Midsummer Common 2001, Coe Fen & Sheep's Green 2001, and Christ's Pieces and New Square 2001. However, these plans do not include detailed, costed work plans which has hindered the achievement of some of the specific conservation management objectives.

Cambridge Commons

3.2.6. The Cambridge Commons are a special sub-set of the City Council's Parks and Open Spaces. The Open Spaces Manager in the Technical Services team organises grazing for the Cambridge Commons, in particular Coe Fen / Sheep's Green, Stourbridge Common, Coldham's Common and Midsummer Common. Streetscene employ "Pinders" to assist with management of the grazing animals. Unfortunately, since the Foot and Mouth epidemic of 2001, the numbers of grazing animals and in particular cattle has fallen dramatically and it has been harder to organise sufficient grazing to maintain the commons to the ideal standards.

Environment and Planning Department

3.2.7. A Landscape Architect within the Urban Design Team is working to deliver the urban extensions in the most sustainable manner possible. However, the City Council has no in-house professional ecological expertise. The City Council therefore consults English Nature, the Wildlife Trust and other local organisations on planning proposals or policies that affect nature conservation interests.

3.2.8. Within Development Control, there is a requirement for every new planning application to be accompanied by a Biodiversity Statement.

Tree Team

3.2.9. There is a dedicated team of arboriculturalists who manage the existing stock of trees within the City. The Council's Tree Team manage 12,000 street trees and in the past 8 years they have planted 4000 trees, representing a net gain of 2000 trees. Much of this planting has centred on native species. Enhancement and management proposals for woodland and tree cover would also be under their supervision.

Awarded Watercourse Maintenance

3.2.10. The City Council Drainage Engineer manages 20 minor watercourses or drainage ditches, as well as the Bin Brook within the City. Until very recently these have been largely managed to engineering specifications, with occasional conservation work organised through the City Greenways Project. However, a new contract specification is currently being developed which will introduce a more wildlife friendly standard management regime.

Other Activities

3.2.11. There are a few other examples of activities beneficial to nature, organised through other teams or departments within the City Council. At Rawlyns Court, a City Council housing area off Newmarket Road, the refurbishment included an ecological survey and management recommendations within the final design. The recommendations included use of native vegetation as part of the landscaping of the grounds and the erection of bird boxes. Elsewhere, Swift boxes have been erected on the Guildhall.

Sustainable City Programme

3.2.12. The City Council has a "Sustainable City" programme to guide its action on sustainable development. This has several objectives, and those directly relevant to the promotion of nature conservation are listed below.

Objective A – Raise awareness of environmental issues and encourage participation by:
• A1: improving access to information; promoting the environment through events, provisions of grants, training education and practical action
Objective B - Promote the sustainable use of land, buildings and green spaces by:
• B1: controlling location and form of development through the planning process
• B2: achieving environmental improvements through practical projects
• B3: promoting biodiversity, conservation and appreciation of nature
• B4: managing, protecting and planting trees
• B5: protecting landscape and wildlife sites
• B6: protecting/improving conservation areas, listed buildings and open spaces
Objective C - Promote sustainable transport by:
• C3: encouraging and providing facilities for walking and cycling.

3.2.13. Through the Sustainable City programme, funding is provided for voluntary groups and for environmental projects. Funding is split between Core Funding for Voluntary Groups and a capital projects budget, with roughly 15% of the annual budget supporting nature conservation projects.

3.2.14. Within the environment sector and nature conservation in particular, the voluntary sector is often a lead player, and consequently action is often limited by a lack of available resources. Too often funding can be secured for projects, but not for ongoing work. Given that biodiversity conservation is by its very nature a long-term activity, this is often a major

constraint to effective action. The Sustainable City Core Grants for the Voluntary Sector are therefore a valuable source of funding for the environment sector.

3.3. SUMMARY OF NATURE CONSERVATION ACTIONS BY OTHERS

3.3.1. Natural England provides advice to the City Council on planning proposals affecting SSSI's or protected species in the City, though planning casework relating to SSSIs is the priority. There are not the resources available to comment on every case where protected species are or may be an issue, therefore it is likely that protected species policies are not always met. Natural England also works proactively with owners of SSSIs to try to ensure that they are well managed.

3.3.2. The Wildlife Trust manages the City Greenways Project, with significant funding through the Sustainable City Grants programme. This project organises and implements nature conservation projects across the City, provides nature conservation advice, and organises events for local people to promote awareness of biodiversity.

3.3.3. The Wildlife Trust is also consulted by the City Council on planning cases affecting County or City Wildlife Sites and on Local Plan policies. This work is partially supported through a Sustainable City grant, though funding has halved in the last three years and now covers less than half of the costs.

3.3.4. The Wildlife Trust leases two nature reserves from the City Council (Cherry Hinton West Pit SSSI and Lime Kiln Close LNR) and manages them for the benefit of local wildlife and people. The Wildlife Trust also manages Skaters Meadow (in the City) and Beechwoods LNR (just outside the City) as nature reserves. In addition, the Trust helps organise management on both the Roman Road SSSI and Fleam Dyke SSSI, both just beyond the City boundaries, but well visited by Cambridge residents. The local members group of the Wildlife Trust organise a regular programme of events, walks and talks. The Trust also provides an extensive programme of Wildlife Training Workshops to increase people's natural history knowledge and skills.

3.3.5. The Cambridge Preservation Society, together with volunteers, manages one City Wildlife Site, part of Barnwell Junction Pastures, within the City. The Society has also managed Wandlebury Country Park since the 1950s and, since 2004, has been developing Coton Countryside Reserve as a strategic open space. Although both sites are just outside the City they both form vital strategic open spaces for City residents. The Society provides an all year round and diverse programme of educational activities, walks, workshops and practical conservation work for the public and school groups.

3.3.6. South Cambridgeshire District Council manages Milton Country Park on the edge of the City. The park was developed in the 1990s and provides a strategic open space on the edge of the city. A wide programme of educational and other activities are organised for members of the public.

3.3.7. Magog Down is managed by the Magog Trust, which was established in 1989. The area forms another strategic open space close to Cambridge and comprises a Scheduled Ancient Monument, woodland and chalk grassland creation. Occasional community events are also provided.

3.3.8. Other organisations also arrange events including the Cambridge University Botanic Gardens, the Cambridge Natural History Society and Cambridge Conservation Forum. The Hobson's Conduit Trust organise some management along Hobson's Brook and Conduit, as part of their role in conducting spring water from Nine Wells to the City Centre. A separate volunteer group helps with the management of Nine Wells LNR. An informal grouping of Head Gardeners, promote wildlife friendly gardening amongst the Cambridge Colleges. The Sustainable City Biodiversity and Wildlife Gardening Group brings many of the above organisations together.

4. STRATEGY AIMS & PRINCIPLES

4.1. NATURE CONSERVATION AIMS & OBJECTIVES WITHIN THE CITY

4.1.1. Within the Local Plan the main nature conservation objective is *"To ensure the City has a strong green structure with an accessible network of green spaces rich in biodiversity"*. This document seeks to elaborate and build on the Local Plan objective, setting out a more detailed vision for biodiversity based on a achieving a "net gain" in biodiversity and building an ecological network (paragraph 1.1.1).

4.1.2. As stated previously, the Vision of this strategy is to achieve a "net gain" in biodiversity, including extent and quality of priority habitats and populations of priority species, over the next 20 years. It will aim to:

- To protect the best wildlife habitats.
- To extend and link the best wildlife habitats as part of the creation of a coherent ecological network across the city.
- To ensure everyone who lives and works within the city has access to a high quality natural greenspace within walking distance of their home or place of work.
- To increase awareness and understanding of biodiversity amongst the population as a whole.

4.2. CORE BIODIVERSITY PRINCIPLES

4.2.1. In order to make the vision a reality, the Core Biodiversity Principles set out below will need to be implemented by the City Council in conjunction with partners and stakeholders. While the principles have been expressed in terms of what the City Council will do, it cannot achieve the vision alone and will require the active involvement of other partners and stakeholders in order to make progress.

4.2.2. In conjunction with partners and stakeholders the City Council will:

1. Actively seek partnership opportunities in order to implement this strategy.
2. Aim to conserve and enhance biodiversity in order to achieve a net gain in biodiversity within Cambridge, as an essential contribution towards sustainable development.
3. Aim to base all of its decisions affecting biodiversity on good biological information.
4. Strive to achieve Natural England's targets for accessible natural greenspace.
5. Provide guidance on biodiversity issues within the development control process and require all planning proposals to demonstrate provision for biodiversity.
6. Allocate funding for biodiversity enhancement in order to achieve the aims and actions set out in this strategy and to encourage a wide range of biodiversity projects with both private and public bodies.

7. Use its position to promote biodiversity conservation in the interests of enhancing local quality of life and moving towards a more sustainable future.

5. BIODIVERSITY ENHANCEMENT WITHIN THE URBAN EXTENSIONS

Introduction

5.1.1. The proposed urban extensions to the south, east, north-west and Northern Fringe East of Cambridge provide a major opportunity for securing large-scale, long-term benefits for biodiversity. Each of the proposed urban extensions have been assessed to identify existing habitat features and to identify opportunities for enhancement of biodiversity and provision of strategic open spaces and natural greenspace.

5.1.2. Work on the plan making process and design of each of the urban extensions is at different stages. The Cambridge Local Plan contains site specific policies relating to these areas. Further documents are being produced to guide the development of these areas as follows:

- Southern Fringe: The City Council adopted an Area Development Framework in January 2006 and a detailed Landscape and Open Space strategy in July 2006. South Cambridgeshire District Council have produced an Area Action Plan.
- Cambridge East: The City and South Cambridgeshire Councils have produced a joint Area Action Plan. This sets the broad policy context for the development of the area as a whole but provides more detailed guidance for the first phase of development north of Newmarket Road (in South Cambridgeshire District).
- North West - land between Madingley Road and Huntingdon Road: The City and South Cambridgeshire Councils are producing a joint Area Action Plan. Alongside this the University are producing a Master Plan for the Area.
- North West - land between Huntingdon Road and Histon Road: A Master Plan is being produced by developers in consultation with the local community.
- Northern Fringe East: The local authorities, land owners and other stakeholders will work together to prepare an area development framework/strategic masterplan.

5.1.3. The key biodiversity priorities for each of the areas excluding Northern Fringe East are described below in the form of a vision and illustrated maps. These visions have been produced with regard to other detailed documents as described above. Where more detailed design work and / or a more rigorous public consultation has been undertaken, for example in the Southern Fringe, the maps are broadly in line with other published documents. However, they are not identical, as they also seek to influence the landscape design process, through for example providing a greater level of detail in some areas and promoting greater biodiversity benefits where opportunities may have been missed.

5.1.3. The built up areas shown on the plans are indicative only. They will be precisely defined in the planning documents as set out above. If one particular option is shown, this is purely for the purposes of providing a framework within which to identify the potential biodiversity enhancements. This strategy and the associated maps do not seek to replicate the formal planning process. However, they are intended to influence the detailed biodiversity enhancements that are included within each of the urban extensions.

Cambridge Southern Fringe

5.1.4. **Existing Situation –** The Cambridge Landscape Assessment identifies several character types and areas within the Southern Fringe urban extension. The two main character types are the River Corridor and the Rural Lowland Mosaic. The River Corridor can be split into two character areas. In the Trumpington Meadows section, the Cam River Corridor, which is open and rural as it approaches the city is the defining feature. At Clay Farm, Hobson's Brook and Vicar's Brook form a separate character area, mainly open countryside though with the occasional shelter belt. The Rural Lowland Mosaic comprises two character areas at Clay Farm. The Southern Fringe character area, south and west of Addenbrooke's is an unexceptional landscape lying between the chalklands and the built edge of the City. The fields are large and open with few hedges or hedgerow trees. It is a transitional landscape between the chalklands to the south and claylands to the west. The chalklands character area, south and east of Addenbrooke's, forms part of the East Anglian Chalk with their gently rounded and rolling hills. The presence of species-rich chalk grassland is a key defining feature. The springs that occur at the junction of the chalk and clay, for example Nine Wells are an important feature. Fields are large with low thorn hedges and few hedgerow trees. Shelter belts and copses are often present on hill tops.

5.1.5. The existing habitat features are shown in Figure 3A and the accompanying Key Feature notes. Key conservation sites at Clay Farm include Nine Wells LNR, the Hobsons Brook City Wildlife Site, the Triangle North of Long Road County Wildlife Site, Trumpington Dismantled Railway City Wildlife Site and Red Cross Drain City Wildlife Site. Nationally Scarce plants including Perennial Flax and Spreading Hedge-parsley have been recorded from the area. A small population of Water Vole is present along the upper reaches of Hobson's Brook and signs of Otter have been recorded once. Other significant features include hedgerows and shelterbelts close to the existing built up areas. The arable fields are known to support various BAP species such as Skylark. At Trumpington Meadows, key features include the River Cam, Byrons Pool LNR, the newly created wet meadows adjacent to the river, south of the M11, species-rich grass and ditch margins through the arable land with orchids, and typical arable farmland species such as Skylark and Brown Hare. Otters regularly frequent this stretch of the river and the lack of human access and disturbance are important.

5.1.6. Building on the character of the area and existing habitat features, a series of potential biodiversity enhancements for the Cambridge Southern Fringe are described below and shown in Figure 3B and the accompanying Key Feature notes.

5.1.7. These features have also been carefully considered and incorporated within the Draft Landscape and Open Space Strategy for the Cambridge Southern Fringe produced by The Landscape Partnership and adopted in June 2006.

5.1.8. **Enhancement Proposals –** In the Clay Farm development a green corridor should be created along the Hobson's Brook, with multi-functional greenspaces, including natural areas with the feel of the grazed "Cambridge Commons". The Hobson's Brook should be enhanced, with habitat improvements to the chalk stream implemented along with habitat enhancements for the small population of Water Voles. Either side of the Brook, species-rich wet meadows and marsh should be created, perhaps linked to a Sustainable Urban Drainage Scheme. Away from the Brook, species-rich wildflower meadows should be created, particularly to the south of the green corridor and around Nine Wells LNR, extending the Local Nature Reserve. Existing landscape features such as woodland belts and hedgerows should be enhanced, particularly where they border the existing built up area, but also where they pass through the new development. Opportunities should be sought for provision of a small community orchard, possibly associated with the Addenbrooke's extension, as an area for rest and recuperation for patients, staff and visitors.

5.1.9. A major green corridor along the River Cam, consisting of multi-functional and varied greenspaces, should be created as part of the Trumpington Meadows development. This should include wet meadows and wet woodlands adjacent to the River Cam as part of a "Country Park" / Local Nature Reserve. This would link with and extend Byron's Pool LNR. Closer to the development, the green corridor would become more formal, but include many parkland trees. South of the M11, access must be discouraged along much of the river to

retain undisturbed habitat for Otters. Outside of the floodplain, part of the land should remain arable with species-rich field and ditch margins providing access.

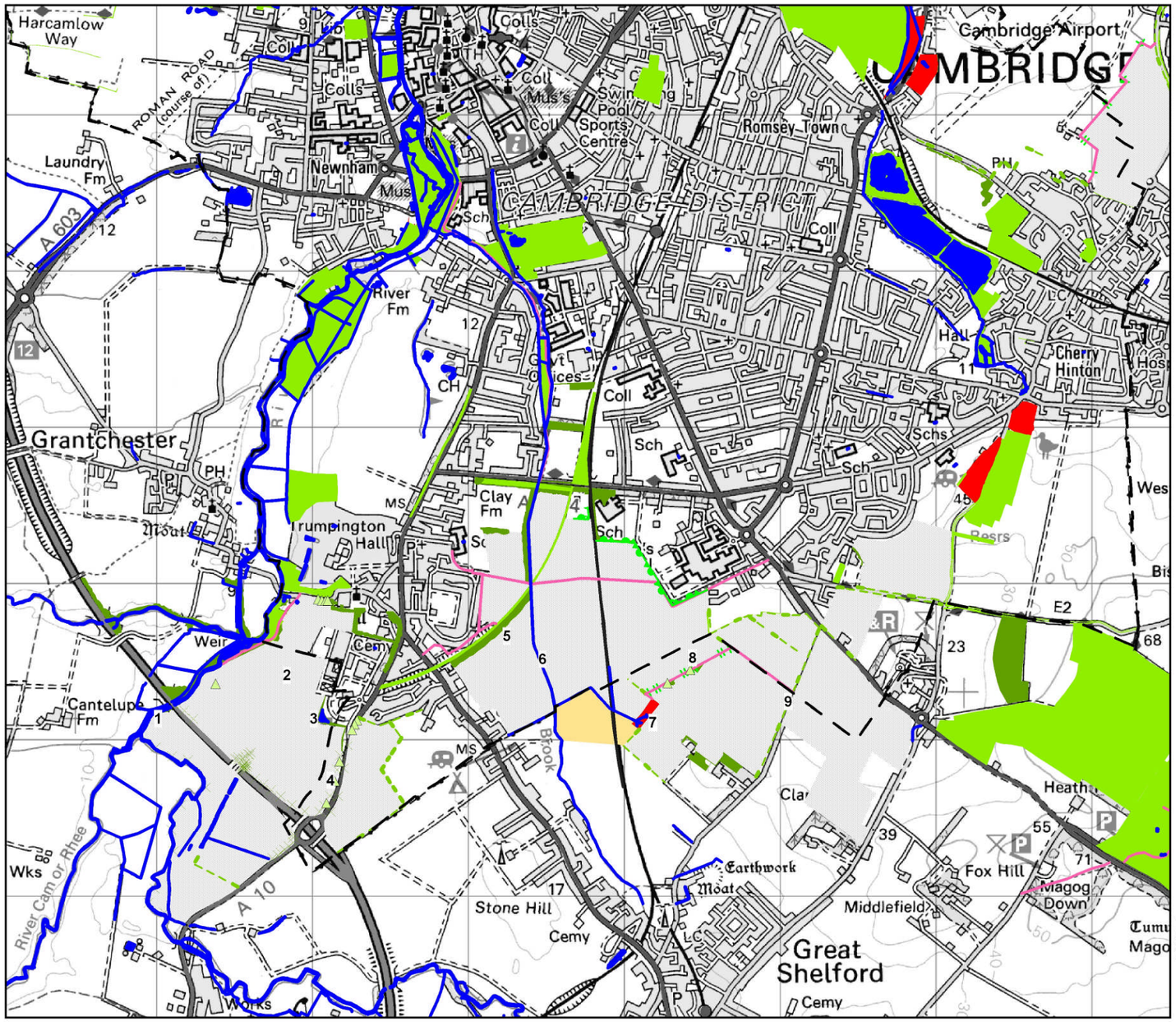
5.1.10. The partnership project to create a "Gog Magogs Countryside Enhancement Area", as an enlarged strategic open space over-looking Cambridge, should be expanded to include more partners and develop a detailed proposal. This strategic open space should incorporate chalk grassland habitats and link the existing chalk grassland SSSIs and Wildlife Sites, south of Cambridge, as well as creating other habitats. The area should also provide a major new recreation facility relieving the current pressures on Wandlebury Country Park and Magog Down and incorporate off-road public access links from Cambridge.

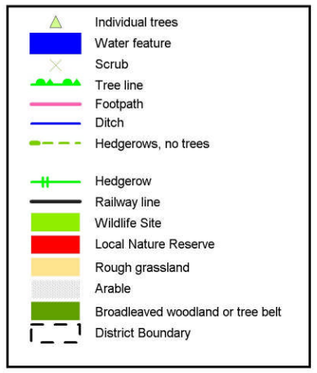
Cambridge Southern Fringe: Habitat Map Key Features – Figure 3A

Key Feature number	Key Features
1	River Cam flows through broad-leaved woodland at the northern end of the study area but thins to occasional clumps of trees and scrub to the south. River little disturbed by recreational use & site of significant Otter activity.
2	Large expanse of open arable land with no features other than the numerous tracks across it, including a public right of way.
3	Recently planted broad-leaved plantation containing Hawthorn, Dog Rose and English Oak
4	Line of sparsely spaced semi-mature Beech trees between which grows occasional patches of scrub
5	Trumpington Dismantled Railway City Wildlife Site comprises of neutral grassland, scrub and woodland habitats. Nationally Scarce plants, Perennial Flax and Spreading Hedge Parsley, recorded in the recent past. A broad-leaved tree belt to the south provides shelter in an otherwise open landscape.
6	Hobson's Brook City Wildlife Site; steep sided chalk stream, approximately 1.5m wide, potentially good Water Vole habitat with grass margins. Woodland plantation along part of the length, but little other vegetation.
7	Nine Wells LNR contains chalk stream surrounded by Beech woodland – site would benefit from continuing management and enhancement
8	Footpath runs in between two tall, intact hedgerows and occasional clumps of trees – prevents isolation of LNR within arable landscape
9	Low, defunct hedgerows offer limited shelter and food source for wildlife – would benefit from enhancement

FIGURE 3A:

CAMBRIDGE SOUTHERN FRINGE HABITAT MAP



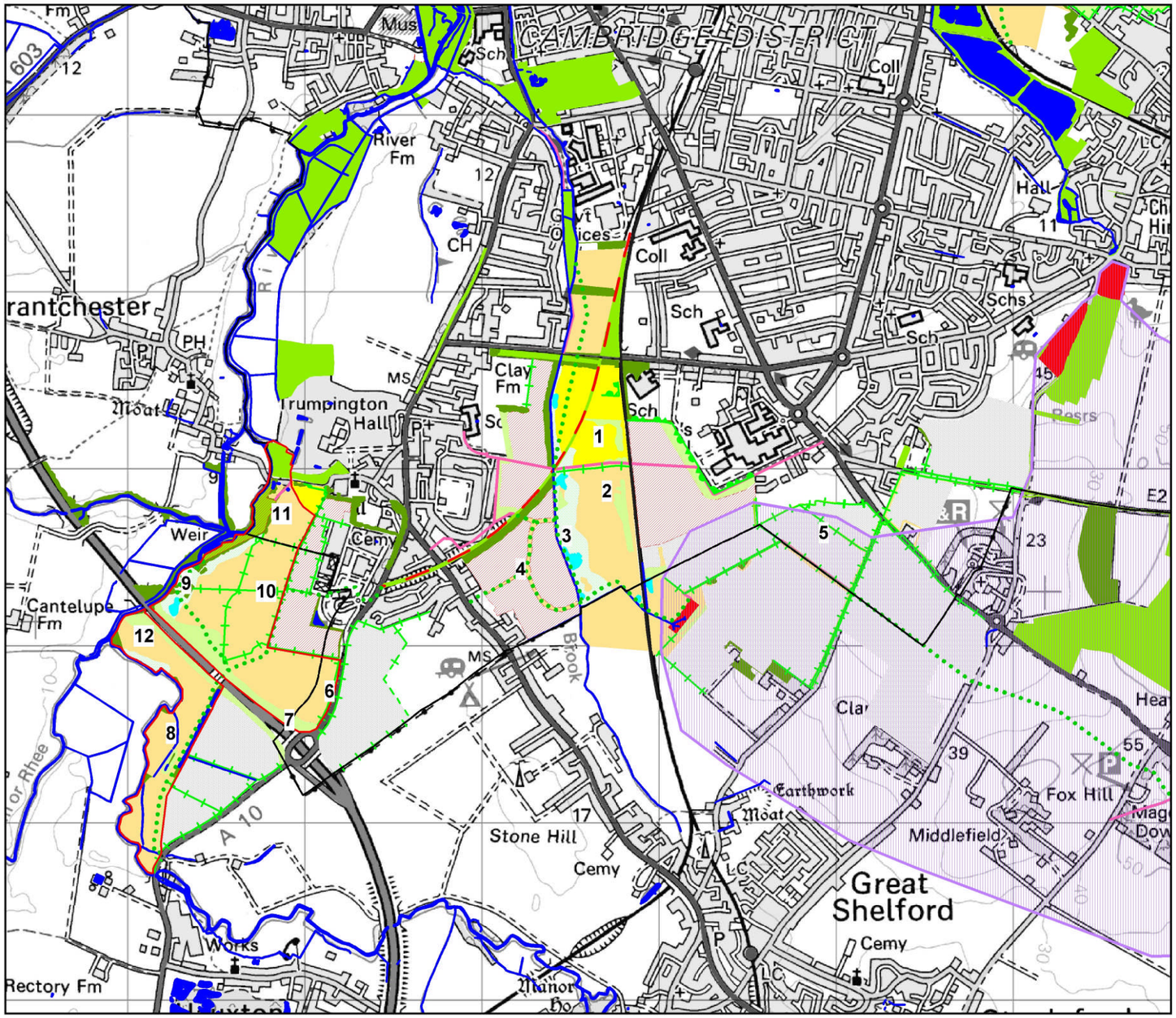


Cambridge Southern Fringe: Enhancement Opportunities – Figure 3B

Key Feature Number	Key Features
1	Rough and short neutral grassland mosaic with patches of scrub. The most northerly areas to be used for recreation grading into 'wild' areas to south, away from the urban area
2	Native Trees such as English Oak and Ash planted and managed to become mature standards
3	Wetland habitat along Hobson's Brook consisting of wet grassland and willows. Potentially could be created through re-profiling of brook
4	Neutral grassland around new footpaths create green links into development
5	Species rich hedgerows planted and existing hedgerows enhanced to create green network across arable land. Grass margins created along hedge boundaries further improve the biodiversity resource
6	Species rich hedgerows planted either side of Hauxton Road. Existing Beech trees to be retained
7	Wide, broad-leaved tree belt planted alongside M11 to reduce visibility and noise intrusion
8	Access to river limited, particularly south of M11, to retain undisturbed areas for Otter. Neutral and Wet grassland mosaics created on existing arable land. Planting of native trees such as English Oak and Ash in drier areas and areas of scrub. Ponds retained and managed, including bank-side vegetation
9	Wetland created along River Cam consisting of wet grassland, reeds, scrub and small areas of wet woodland. Manage riverside Willows and plant new trees including willows or Black Poplar along river
10	Network of hedgerows planted along existing tracks to provide shelter and food source for wildlife and a corridor for movement
11	Existing broad-leaved woodland enhanced and managed to maximise biodiversity
12	Wet woodland creation, to limit access to important location for Otter activity.

FIGURE 3B:

CAMBRIDGE SOUTHERN FRINGE ENHANCEMENT OPPORTUNITIES



- Byron's Pool LNR
- Guided busway
- Hedgerow
- Railway Line
- Proposed Country Park boundary
- Indicative Green Corridor
- Footpath
- Ditch
- New woodland
- Indicative new built area
- Neutral grassland with trees and shrubs
- Wildlife Site
- Local Nature Reserve
- New Water Feature
- Wetland
- Rough grassland
- Broadleaved woodland or tree belt
- Arable
- Water
- Gog Magog Countryside Project
- District boundary
- Tree Line

Cambridge East

5.1.11. **Existing Situation -** The Cambridge Landscape Assessment shows the Cambridge East urban extension to be dominated by a single character area, the Eastern Transition Lands of the Rural Lowland Mosaic character type. The area is generally low lying and the underlying chalk gradually slopes down to the fens in the north. The airport and hangers dominate the area, with large expanses of open grassland and few trees. Ancient hedgerows are present on the edge of the built up area at Cherry Hinton.

5.1.12. The existing habitat features are shown in Figure 4A and the accompanying Key Features notes. Key conservation sites associated with Cambridge East urban extension include Barnwell East LNR, the ancient hedgerows at Teversham Drift, Church Lane and Coldham's Lane and the Airport Way Protected Road Verge County Wildlife Site.

5.1.13. Building on the character of the area and existing habitat features, a series of potential biodiversity enhancements for the Cambridge East urban extension are described below and shown in Figure 4B and the accompanying Key Features notes.

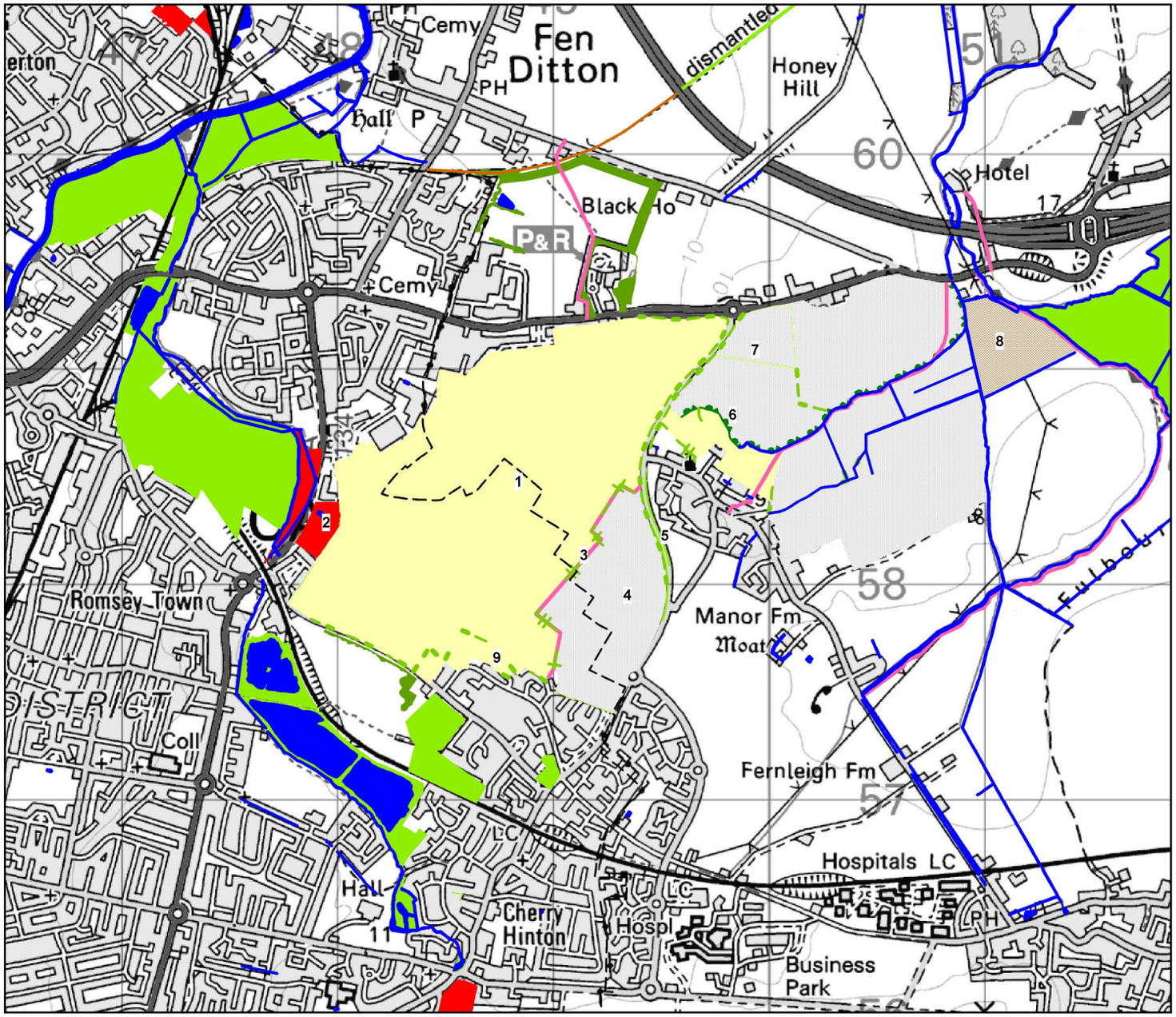
5.1.14. **Enhancement Proposals -** As part of the Cambridge East urban extension a multi-functional green corridor should be created through the middle of the development, as an extension to Coldham's Common and the LNRs at Barnwell East and West. The Barnwell East LNR should be extended. The green corridor should extend north to Teversham to link with a new "Country Park" / Local Nature Reserve north and east of the village. This "Country Park" should itself link with Teversham Fen and the SSSI at Wilbraham Fen. The green corridor should include a mosaic of meadows, hedgerows and scrub as an extension to Coldham's Common and Barnwell LNRs. Water features may be included linked to a Sustainable Urban Drainage Scheme for the urban extension. The existing landscape features (hedgerows and woodland belts) should be strengthened, particularly between the existing built up areas and the proposed urban extension. The "Country Park" / Local Nature Reserve created north and east of Teversham should include species-rich grassland, hedgerows, scrub, grading into fen habitats. New green corridors should be created between the Cambridge East green corridor and Fen Ditton, Cherry Hinton and Cherry Hinton Brook.

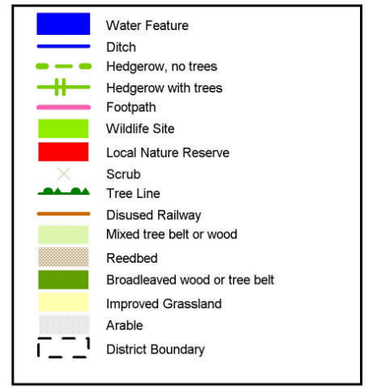
Cambridge East: Habitat Map Key Features – Figure 4A

Key Feature Number	Key Features
1	Large expanse of improved grassland covered by wide runway tracks
2	Barnwell Road East LNR contains a mosaic of neutral/calcareous grassland, scrub/woodland and ponds
3	Defunct hedgerow with trees follows line of footpath linking Teversham with Cherry Hinton – should be retained and enhanced to act as a green link
4	Arable land is featureless, but hedgerow and verge boundaries have the potential for enhancement
5	Airport Way RSV County Wildlife Site, chalk grassland grass verge with areas of rougher grassland
6	Line of trees and scrub shade out much of the stream and is filled with leaf litter. Currently of little value for wildlife but could be enhanced to encourage species such as water vole
7	Young mixed plantation provides a shelter belt around the field and contains a range of both native and exotic species including Silver Birch, Hawthorn and Willows
8	Reed-bed has established itself on a formerly arable field
9	Remnants of ancient pre-enclosure hedgerows

FIGURE 4A:

CAMBRIDGE EAST HABITAT MAP



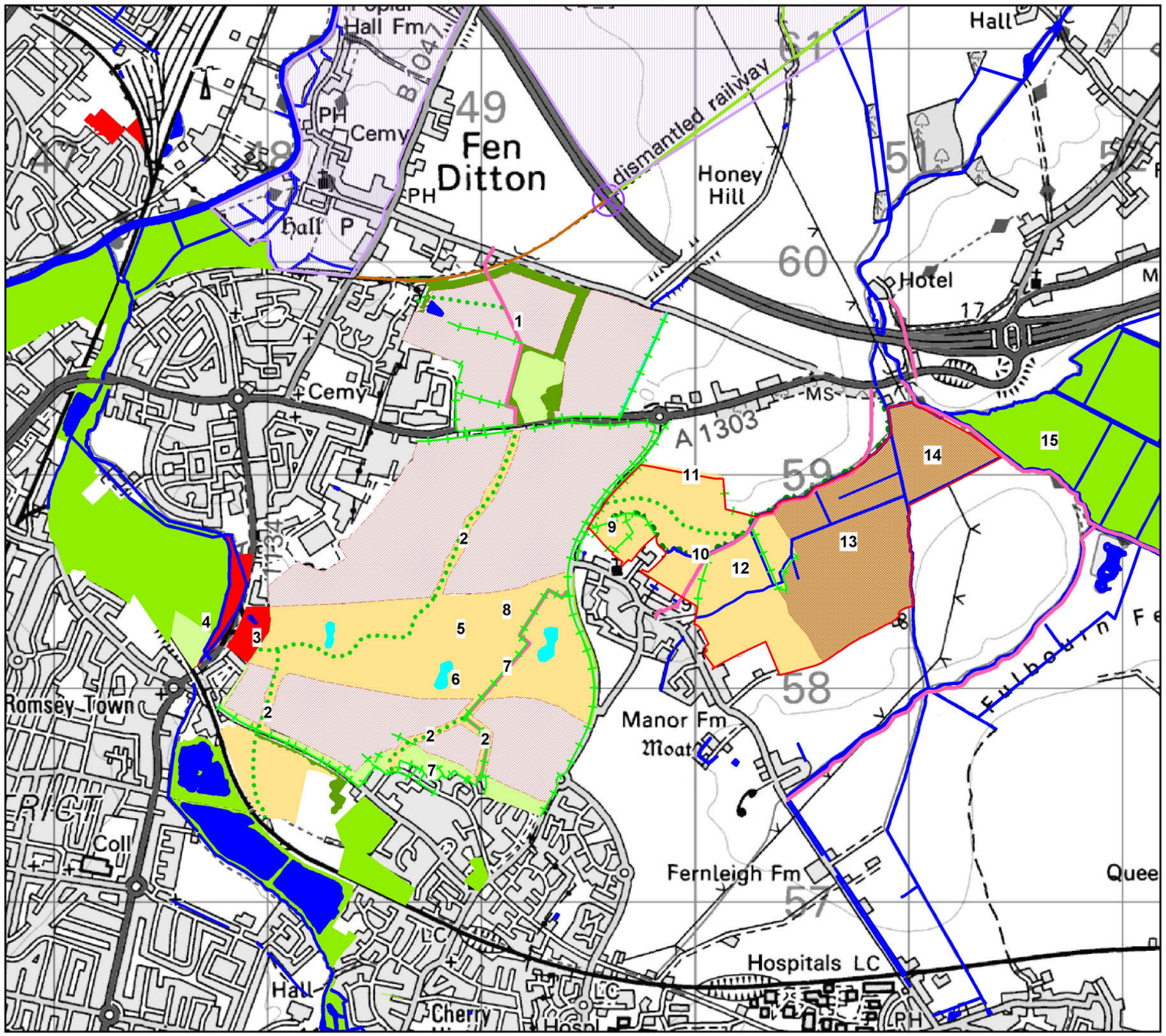


Cambridge East: Enhancement Opportunities – Figure 4B

Key Feature Numbers	Key Features
1	Existing footpath links with the disused railway and proposed Bridge of Reeds. Native broad-leaved trees to be planted along the route to become mature standards in the future
2	Green link through new development comprising of neutral grassland with scrub and tree standards through which a new footpath is located to link the green corridor with the new built areas to both the north and south of Newmarket Road
3	Barnwell East LNR comprises of scrub, grassland and ponds; the habitats in this reserve are mirrored across the green corridor
4	Proposed Community Woodland
5	Neutral, rough and short grassland mosaic. Existing grassland to be seeded with wildflower mix and scrub allowed to develop in places and maintained through mowing
6	Balancing ponds created and maintained as a wildlife feature, aquatic and marginal plant species encouraged to develop, leading to colonisation by aquatic fauna.
7	Remaining ancient hedgerows protected and enhanced through linkage e.g. by planting up gaps in existing hedgerow. Footpath maintained and enhanced.
8	Native trees such as English Oak planted – eventually becoming mature standards
9	Maintain and enhance existing hedgerows along field boundaries and road. Ensure hedgerows are managed at appropriate times of year i.e. outside of bird breeding season, where possible
10	Trees and scrub along stream thinned out to allow more light to reach watercourse and reduce leaf litter debris. Potential to re-profile stream to make it more attractive to aquatic flora and fauna as well as enhancing it visually
11	Maintain and enhance existing mixed tree belt to form northern boundary of potential LNR / “Country Park”
12	Rough and short neutral grassland and scrub mosaic forms large part of potential LNR / “Country Park”. Grassland to include areas for both recreation and wildlife
13	Creation/ natural regeneration of fenland habitat, which may include reed-bed, scrub, wet woodland and wet grassland. Existing reed-bed to the east likely to provide source of seed. This area to act mainly as a haven for wildlife
14	Existing reed-bed to be managed to maximise conservation value
15	Wilbraham Fen SSSI. Existing footpath along boundary will link up with new footpath across potential LNR / “Country Park”

FIGURE 4B:

CAMBRIDGE EAST ENHANCEMENT OPPORTUNITIES



North-west Cambridge

5.1.15. **Existing Situation -** The Cambridge Landscape Assessment shows the North-west Cambridge urban extension to be dominated by a single character area, the West Cambridge Claylands of the Rural Lowland Mosaic character type. The land is generally low lying and gently undulating. Fields tend to be of a medium size and are often bounded by thorn hedges and sometimes by ditches. The area is bisected by Washpit Brook, a steeply cut man-made channel. Hedgerows often form substantial linear landscape features. The urban edge is often soft and well treed. Land use is mixed with playing fields, grazed grassland and arable land.

5.1.16. A Landscape Study, in draft form, has been carried out by David Brown Associates as part of the North West Cambridge Area Action Plan and assesses, in detail, the landscape character and features of the area.

5.1.17. The existing habitat features are shown in Figure 5A and the accompanying Key Feature notes. Key conservation sites associated with North-west Cambridge include the Traveller's Rest Pit geological SSSI. Other significant features include species-rich hedgerows, mature trees and ridge and furrow grassland. Water Vole have been recorded from the Washpit Brook (downstream beyond the City boundaries) and a drainage ditch on NIAB land.

5.1.18. Building on the character of the area and existing habitat features, a series of potential biodiversity enhancements for the North-west Cambridge urban extension are described below and shown in Figure 5B and the accompanying Key Feature notes.

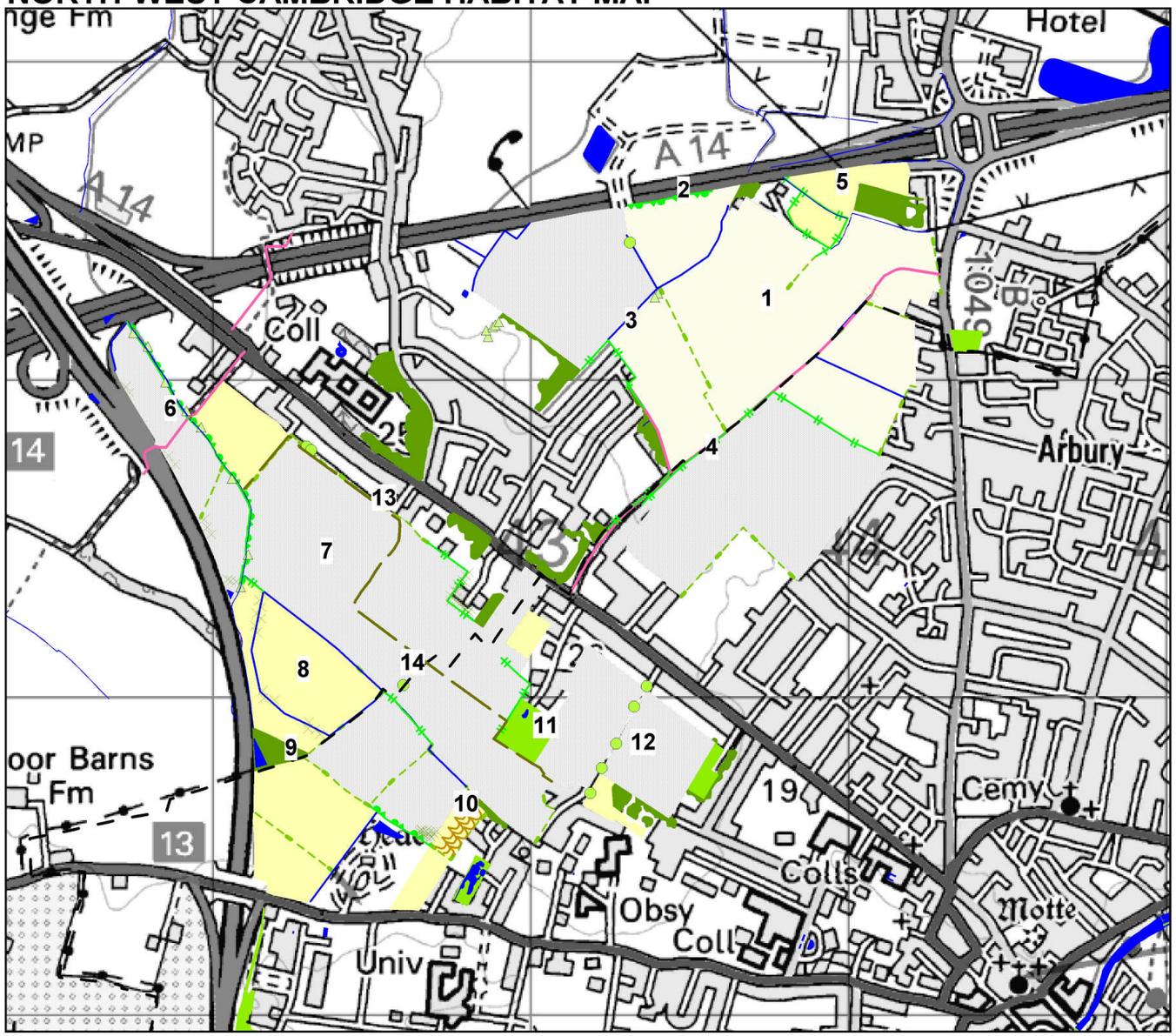
5.1.19. **Enhancement Proposals -** As part of the North-west Cambridge urban extensions multi-functional green access corridors shouldbe created along the Washpit Brook, towards Madingley Road and linking the University Farm and NIAB sites. A multi-functional greenspace associated with the University Farm development shold include woodland, hedgerows and species-rich grasslands. The habitats along the Washpit Brook should be enhanced, to encourage Water Voles to return. A new "Country Park" / Local Nature Reserve should be created between the NIAB development, the A14 and Girton. Habitats should include woodland, a community orchard, species-rich grassland, hedgerows and ditches. Green fingers through the NIAB development should link existing communities to the new "Country Park". Significant landscape features such as hedgerows, mature trees and ridge and furrow grassland will be retained and strengthened between the new development and existing built up areas.

North-west Cambridge: Habitat Map Key Features – Figure 5A

Key Feature Numbers	Key Features
1	Set-a-side land; rough grasses and weeds predominate
2	Patchy line of trees – A14 is visible and vegetation offers no sound proofing
3	A number of steep sided drainage ditches across the site contain little water and are currently of little value for wildlife
4	Mature species rich hedgerow with trees, species include, Hazel, Elm, Spindle, Dogwood, Field Maple, Blackthorn, Dog Rose, Bramble, Ivy
5	Small grassland paddocks with mature trees on the boundaries
6	Stream is overshadowed by semi-mature trees and scrub and leaf litter is clogging the water course- would benefit from thinning out of vegetation and potentially re-profiling stream
7	Large expanse of arable land with few features except for mainly defunct boundary hedgerows and occasional trees
8	Improved grassland with patches of scattered scrub along ditches
9	Broad-leaved plantation used for pheasant rearing
10	Ridge and furrow system – should be retained as a historical feature
11	Improved, recently sown grassland covering Traveller's Rest Pit geological SSSI
12	Line of large, mature Horse Chestnut trees – must be retained Within new development
13	Low lying garden hedge with mature trees in some gardens
14	Veteran English Oak

FIGURE 5A:

NORTH-WEST CAMBRIDGE HABITAT MAP



Individual trees
Mature trees
Scrub
Ridge and Furrow
Hedgerow
Line of trees
Ditch
Hedgerow, no trees

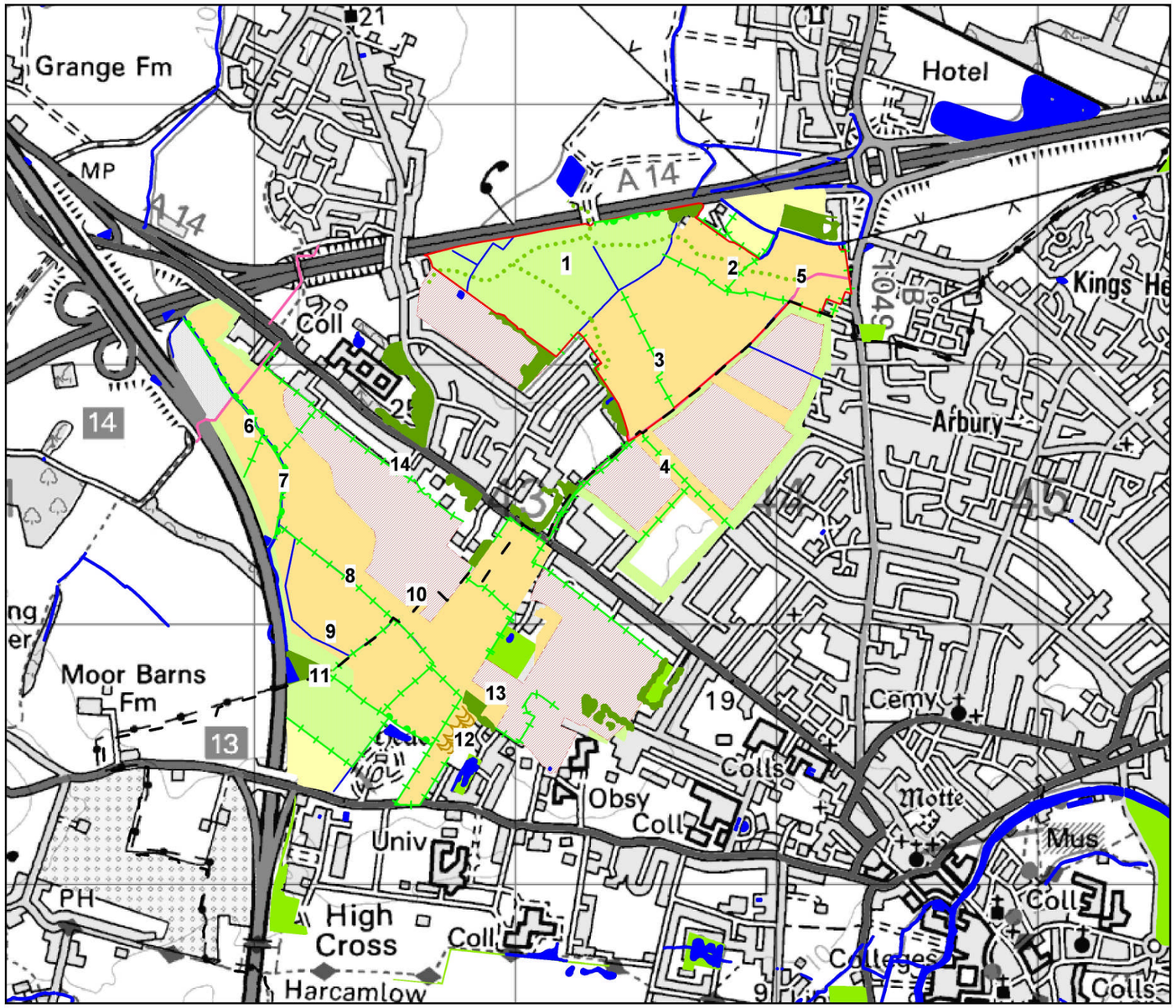
Wildlife Site
Local Nature Reserve
Arable
Set-a-side
Broadleaved woodland or tree belt
Improved grassland
Water Feature
Track
District boundary

North-west Cambridge: Enhancement Opportunities – Figure 5B

Key Feature Numbers	Key Features
1	Community Woodland to be created on existing arable and grassland fields, also serving to act as a visual and sound buffer to the A14. Forms a major part of the potential LNR / “Country Park”
2	Creation of neutral, rough and short grassland mosaics on existing set-a-side land to be maintained through mowing. Creation of rough grassland creates habitat for wildlife, whilst the short grassland will be used for recreation. Native trees to be planted such as English Oak, Ash to develop into mature standards. Forms a major part of the potential LNR / “Country Park”
3	Existing hedgerows to be enhanced and new hedgerows planted. Native broad-leaved species of local provenance to be used
4	New hedgerows to be planted using a variety of native broad-leaved species to form a green network across the proposed LNR / “Country Park” and into the new built areas
5	New public footpaths designated to link up with existing paths to create access across the LNR / “Country Park” from the new built areas
6	Rough and short neutral grassland mosaic to replace existing arable and improved grassland. Some areas seeded with wildflower mix and scrub allowed to develop in parts, but managed through mowing to ensure mosaic maintained
7	Trees and scrub thinned out along stream to allow more light and less debris to reach the watercourse. Potential to reprofile banks to widen stream and make more attractive to water vole
8	Plant new and enhance existing hedgerows to create a green network across the site and through built areas
9	Native trees such as English Oak planted and allow to mature into standards
10	Existing large mature English Oak maintained and neutral grassland buffer created around this to link with surrounding grassland
11	Maintain and enhance plantation through appropriate management
12	Maintain ridge and furrow – proposed access road could be built to the west of this without damage. No buildings should be constructed on this area
13	Extend and enhance Sweet Chestnut plantation by thinning out and planting native species
14	Maintain and enhance existing hedgerow along this boundary

FIGURE 5B:

NORTH-WEST CAMBRIDGE ENHANCEMENT OPPORTUNITIES



- Proposed Country Park boundary
- Hedgerow
- Indicative Green Corridor
- Ridge and furrow
- Footpath
- Stream
- Neutral grassland with trees and shrubs
- District Boundary
- New woodland
- Indicative new built areas
- New water feature
- Wildlife Site
- Local Nature Reserve
- Existing water feature
- Arable
- Improved grassland
- Existing broadleaved wood or tree belt
- Line of trees

Northern Fringe East

5.1.20. In addition to the proposed urban extensions identified above, the Sewage Treatment Works site and Chesterton Sidings have been identified as an Area of Major Change in the Cambridge Local Plan 2006 and the emerging South Cambridgeshire Local Development Framework. This envisages major housing and mixed use development in this area.

5.1.21. This location borders Chesterton Fen, which forms part of the floodplain of the River Cam. Although degraded, it has significant potential for enhancement. Chesterton Sidings itself is a brownfield site rich in biodiversity, supporting several rare plant species including the Nationally Rare Jersey Cudweed, 5 other species that are Nationally Scarce and several locally rare species. It is also rich in butterflies and likely to support an important invertebrate community.

5.1.22. As part of the redevelopment of this part of the Northern Fringe East, Chesterton Fen should be turned into a strategic open space and managed to significantly enhance the local landscape and biodiversity. The floodplain meadows and drainage ditches should be restored and enhanced to a more species-rich state, fen habitats should be created, mature pollard willows should be managed and new native willows planted. This proposal if implemented would help contribute to the enhancement of the River Cam green corridor and complement proposals in the South Cambridgeshire Biodiversity Strategy. Opportunities should also be sought to include features within the Chesterton Sidings development that will continue to support at least some of the many species found on the site.

6. STRATEGY IMPLEMENTATION AND ACTION PLAN

6.1. STRUCTURE OF THE ACTION PLAN

6.1.1. The Action Plan includes a series of objectives for each section, followed by specific actions. The biodiversity objectives have been selected based on an analysis of the Cambridgeshire & Peterborough local Biodiversity Action Plan selecting those habitats, species and generic actions that are relevant to the City of Cambridge.

6.1.2. The full set of habitat and species action plans can be viewed at: www.cambridgeshire.gov.uk/environment/countryside/biodiversity/partnership/baps

6.1.3. Where relevant, additional objectives and actions that are specific to Cambridge have also been included.

6.1.4. The objectives and actions are set out under the following broad headings:

- Sites of Special Scientific Interest (SSSI) / County Wildlife Sites (CWS)
- City Wildlife Sites (CityWS)
- Local Nature Reserves (LNR)
- River Valley Habitats
- Neutral Grasslands and Meadows
- Chalk Grassland
- Woodlands, Scrub, Hedgerows and Veteran Trees
- Minor Streams, Drainage Ditches and Water Voles
- Ponds and Great Crested Newts
- The Built Urban Environment
- Green Access Corridors
- Promotion of Biodiversity

6.1.5. Each of these sections considers key issues facing the habitat or feature, followed by objectives and a series of actions which if implemented will help achieve the objectives.

6.1.6. While this strategy and action plan has adopted a mainly habitat based approach, this is not intended to underplay the importance of particular species or species groups, particularly the less glamorous ones such as invertebrates, mosses or fungi. At a strategic level the conservation of habitats is essential to the conservation of species, hence the focus of this strategy. The proper time to consider the needs of particular species or species groups is during the preparation of detailed site management plans. Basing management decisions on good biological information is essential if the needs of particular species or groups are to be properly addressed.

6.1.7. This strategy and action plan does not seek to replicate policies such as those within the Cambridge Local Plan or other statutory documents. However, the action plans do include suggestions for future improvements, where existing policies are thought to be insufficient or where it is felt they are not always followed rigorously, linking such suggestions to the justification in terms of nature conservation priorities.

Overall Spatial Strategy

6.1.8. At the end of this chapter, the site-based actions from each habitat action plan and the biodiversity enhancement proposals for the proposed urban extensions, have been combined to produce a map based spatial representation of the Nature Conservation Strategy. This is shown in Figure 10 as an Overall Spatial Strategy.

6.2. SITES OF SPECIAL SCIENTIFIC INTEREST / COUNTY WILDLIFE SITES

Key Issues

6.2.1. The UK Government has set itself a target to ensure that all SSSIs are in a favourable condition by 2010. The local biodiversity partnership has adopted a similar target for County Wildlife Sites (CWS). Together, the network of SSSI and CWS form the bare minimum nature conservation resource that must survive if we are to be able to re-build the impoverished and degraded biodiversity of our country.

6.2.2. SSSIs now receive a greater level of protection and support than ever before through changes brought about by the Countryside and Rights of Way Act 2000. However, CWS often remain the poor relation and do not receive the same level of protection through the planning system. The greatest threat to these sites is from inappropriate management and a lack of priority when it comes to grants to help support management.

6.2.3. The management plans and schedules produced for the City Council sites have not always been rigorously followed in recent years. Even where they are followed, the plans only seek to maintain the current interest of sites and do not seek to enhance or restore them to their former value, which was often much higher.

Objectives

6.2.4. Ensure all SSSI & CountyWS within Cambridge are maintained or brought into a favourable condition by 2010.

Note: The 2 SSSIs in Cambridge are split into 4 reporting units with a total area of 14.97 ha. Currently 35.83% by area is considered to be in favourable condition, while 64.17% is in unfavourable condition.

Actions:

SS1. Provide advice and support to the owners of Traveller's Pit SSSI and Cherry Hinton East Pit SSSI, to ensure that they are in and remain in a favourable condition.

SS2. Maintain Cherry Hinton West Pit SSSI / LNR (owned by Cambridge City Council, but leased to the Wildlife Trust) in a favourable condition.

CountyWS1. Manage Skaters Meadow CountyWS to maintain it in a favourable condition.

CountyWS2. Prepare and implement detailed, costed management plans for each of the sites listed below, to ensure that the sites are conserved and where necessary enhanced, to retain or bring them into a favourable condition.

Site	Lead Organisation
Lime Kiln Close LNR	Wildlife Trust, Cambridge City Council
Paradise LNR	Cambridge City Council, Wildlife Trust
Worts Causeway RSV	County Council
Coe Fen	Cambridge City Council
Sheep's Green	Cambridge City Council
Coldham's Common	Cambridge City Council

CountyWS3. Through the Wildlife Trust, offer advice and support to private owners of County Wildlife Sites, to help them to maintain their sites and where necessary bring them into favourable condition.

- Lime Kiln Reservoirs, Netherhall Farm Meadow, Triangle North of Long Road, Barton Road Pool, Coton Path Hedgerow, Hedgerows East of M11, Cambridge Botanic Gardens.

6.3. CITY WILDLIFE SITES (CITYWS)

Key Issues

6.3.1. Cambridge City, is a compact urban district and thus has many fewer SSSI and CountyWS than other areas. CityWS, though not as ecologically rich, do however form a key component of an ecological network in the city. They have a similar status to County Wildlife Sites and the same issues apply.

Objectives

6.3.2. Ensure all City Wildlife Sites owned and managed by Cambridge City Council and Cambridgeshire County Council are maintained or brought into a favourable condition by 2016.

6.3.3. Ensure half of all privately owned City Wildlife Sites are in a favourable condition by 2016.

Actions:

CityWS1. Prepare and implement detailed, costed management plans for each of the sites listed below, to ensure that the sites are conserved and where necessary enhanced, to bring them into a favourable condition.

Site	Lead Organisation
Midsummer Common	Cambridge City Council
Stourbridge Common	Cambridge City Council
Logans Meadow LNR	Cambridge City Council
Mill Road Cemetery	Cambridge City Council
Coldham's Brook	Cambridge City Council
Barnwell Road West LNR	Cambridge City Council
Barnwell Road East LNR	Cambridge City Council
Cherry Hinton Brook	Cambridge City Council
Cherry Hinton Hall Bird Sanctuary	Cambridge City Council
Cherry Hinton Hall Brook	Cambridge City Council
Lime Kiln Road Verge & Hedge	Cambridge City Council / Cambridgeshire County Council
Kings Hedges Triangle	Cambridge City Council
The Spinney / Haystor Open Space	Cambridge City Council
Byron's Pool LNR	Cambridge City Council

CityWS2. Offer advice and support to private owners of City Wildlife Sites, to encourage them to maintain their sites and where necessary bring them into favourable condition.

6.4. LOCAL NATURE RESERVES (LNR)

Key Issues

6.4.1. English Nature recommends that every local authority should have 1 ha of LNR for every 1000 population. The current provision in Cambridge is well below this. However, the Open Spaces Strategy adopted by the City Council, does specify that the urban extensions should meet these standards for natural greenspace, without committing to designation as Local Nature Reserve. Local Nature Reserve status gives legal protection under the National Parks and Access to the Countryside Act 1949, and requires a commitment to manage for wildlife and people through the adoption of a management plan approved by English Nature. It thus gives formal recognition to important areas for wildlife and helps with promoting the use and enjoyment of such sites by local people.

Objectives

6.4.2. Designate at least 105 ha of new LNRs by 2016, to provide 1 ha of LNR per 1000 population, in line with recommended English Nature ANGST targets.

6.4.3. The current LNR provision is 25.43 ha, if sites in South Cambs which are managed by Cambridge City Council are included. This includes Nine Wells LNR. The population of Cambridge is 110,000, therefore current LNR provision is 1 ha per 3940 population. The population of Cambridge is predicted to rise to 130 000 by 2016 therefore 130 ha of LNR will be required by this date.

Actions:

LNR1. Identify potential new LNRs and designate sufficient new sites to meet the objective.

Potential sites for 2007 to 20010 include:
- Extension to Byron's Pool LNR
- Extension to Nine Wells LNR
- Extension to Logans Meadow
- Coldham's Common (part) & Barnwell West "Community Woodland" extension
- Cherry Hinton East Pit SSSI

Potential sites beyond 2011 include:
- Coe Fen & Sheep's Green
- Stourbridge Common
-
- All or parts of the "Country Park" areas associated with Cambridge East, NW Cambridge and Cambridge Southern Fringe urban extensions
- Bentley Road Paddocks and Empty Common
- Norman Cement Pits, the Spinney & Haystor Open Space

LNR2. Ensure that each LNR is managed in accordance with an up to date, full and detailed management plan (with costs), with the aim of enhancing and promoting biodiversity and enjoyment by local people. (See also ***CountyWS2*** and ***CityWS1***)

LNR3. Ensure high quality on and off site interpretation materials are produced for the LNRs, including entrance signs, interpretation boards and leaflets, and web-based materials, to promote a greater understanding of nature.

FIGURE 6:

POTENTIAL NEW LOCAL NATURE RESERVES

Key:

★ Potential New Local Nature Reserves

1. North-west Cambridge
2. Stourbridge Common
3. Coldhams Common
4. Teversham Fen
5. Norman Cement Pits / Haystor Open Space
6. Cherry HInton East Pit
7. Nine Wells LNR extension
8. Trumpington Meadows
9. Bentley Road Paddocks / Empty Scrub
10. Coe Fen / Sheep's Green
11. Logan's Meadow LNR extension
12. Byrons Pool LNR extension

District Boundary

6.5. RIVER VALLEY HABITATS

Key Issues

6.5.1. The River Cam is valued as a key feature of the city and is generally protected and managed. However, the river does suffer from poor water quality, is heavily silted and management does reduce opportunities for aquatic wildlife. While pockets of valuable habitat remain, much of the floodplain habitat through the city has undergone gross modification in the past. Few areas of species-rich floodplain grassland, marsh, swamp or semi-natural woodland remain and there are few species-rich ditches. Meadows have either been improved with agricultural chemicals, had river dredgings spread across them or been disturbed during built development. There is therefore significant scope for enhancement of biodiversity along the river and its floodplain. The continuation of sensitive grazing management is critical to the ecological health of the floodplain and Cambridge Commons. Development within the floodplain, if not adding to flood risk, decreases the opportunities available for restoration and rehabilitation of floodplain habitats.

6.5.2. The Environment Agency is the lead agency for issues to do with water resources and water quality. This strategy does not therefore seek to duplicate policies and actions included in Environment Agency plans such as Local Environment Agency Plans (LEAPs), Catchment Abstration Management Plans (CAMs) or future initiatives arising form the EU Water Framework Directive. Implementation of this directive will require all rivers to be brought into *"good ecological status"*. However, actions that would contribute to such an outcome have been included where they are deliverable by the City Council working in partnership with others.

Objectives

6.5.3. Enhance the ecological status of the River Cam and its tributaries through the city.

6.5.4. Increase the area of species-rich grassland along the River Cam (from approximately 4.56 ha), through the enhancement of species-poor grassland, and the creation of new meadows, particularly in the urban extensions.

6.5.5. Maintain the current extent of un-developed floodplain, and wherever possible seek to increase the biodiversity value of this land.

6.5.6. Maintain the network of willow trees along the River Cam and it's floodplain. Maintain a proportion of willow trees, particularly old pollards, as veteran trees.

Actions:

RV1. Review the conservation management plans for Coe Fen / Sheep's Green and Stourbridge Common. Management should be based on grazing, selective mowing, ditch management and willow management. In selected areas create species-rich grassland, through either the introduction of native wildflower seed, or spreading of green hay collected from nearby species-rich grasslands.

RV2. Review or prepare a conservation management plan for Jesus Green and Midsummer Common. Investigate the potential for the creation of species-rich grassland and introduction of conservation management in selected areas.

RV3. Liaise with the private landowners to promote a conservation management regime for the Meadows and Drains City Wildlife Site, Ditton Meadows, Granchester Meadows and Chesterton Fen, and in selected areas create species-rich grassland. (Although Granchester Meadows are in South Cambridgeshire, they are adjacent to the Skaters Meadow group and opposite the Meadows & Drains CityWS, so all these sites should be considered as a single ecological unit).

RV4. Enhance the recently created floodplain meadows and create new species-rich meadows as part of the proposed Trumpington Meadows "Country Park", associated with the Cambridge Southern Fringe urban extension.

RV5. Seek to prevent further development in the floodplain of the River Cam and its tributaries, through rigorous implementation of planning policies, to prevent the loss of opportunities for restoration and rehabilitation of floodplain habitats.

RV6. Undertake a comprehensive survey of the biological condition of willows along the River Cam and its floodplain through Cambridge, to inform future management decisions.

RV7. Continue the programme of willow management along the River Cam and on associated floodplain sites. Maintain a proportion of trees, particularly pollards as over-mature, veteran trees, leaving a few un-pollarded, to collapse naturally.

RV8. Work with the Environment Agency to enhance the ecological status of the River Cam, through implementation of the Water Framework Directive and associated measures.

RV9. Develop an integrated habitat management plan for the River Cam and its associated floodplain through the City, in partnership with major landowners including the City Council, University and Colleges.

RV10. Prepare and implement a detailed plan for the rehabilitation of Hobson's Brook and Conduit as part of the Cambridge Southern Fringe urban extension. This should address water quality, water quantity, structure of the channel and associated habitats.

6.6. NEUTRAL GRASSLAND & MEADOWS

Key Issues

6.6.1. Most species-rich grassland has been lost to agricultural "improvement" or previous urban extension. Nationally over 98% of species-rich meadows were destroyed in the last century. In Cambridge, only tiny areas remain on a few scattered sites. Restoration and creation of species-rich grassland is therefore a high priority, and the greenspaces proposed with the urban extensions provide a major opportunity.

6.6.2. On Coldham's Common, the meadow has not been cut for four years, resulting in scrub encroachment. Management of these sites in an urban context is often difficult because of the need for grazing and / or hay cutting. However, by the same token, the presence of such areas close to a large population provides major opportunities for education.

Objectives

6.6.3. Increase the area of species-rich grassland (from approximately 4.89 ha) through the enhancement of species-poor grassland, and the creation of new meadows, particularly in the urban extensions.

Actions:

NG1. Prepare a conservation management plan for Coldham's Common. This should be based on grazing and selective mowing (for the non-playing field areas). In selected areas create species-rich grassland, through either the introduction of native wildflower seed, or spreading of green hay collected from nearby species-rich grasslands.

NG2. Create new species-rich meadows as part of the greenspaces associated with the Southern Fringe (around Nine Wells, in the Hobson's Brook and Conduit green corridor and at Trumpington Meadows), Cambridge East and NW Cambridge urban extensions.

6.7. CHALK GRASSLAND

Key Issues

6.7.1. While chalk grasslands have undergone a less dramatic decline than some other species-rich grassland, they have still none-the-less declined by an estimated 75-80%. The remaining areas of chalk grassland to the south of Cambridge survive on generally small, isolated sites. They are however close enough to be linked into either a chalk grassland network or a single large downland site. Such a "Countryside Enhancement Area" would provide a distinct landscape setting to the southern edge of Cambridge and provide a valuable strategic greenspace for existing and future residents of the city, as well as contribute significantly towards biodiversity targets. Because the area is in both Cambridge City and South Cambridgeshire District, and in multiple land ownership, a partnership approach to implementation would need to be adopted. The area is extremely well linked to the Cambridge Southern Fringe urban extension, as well as existing communities.

6.7.2. Several Nationally Scarce plant species occur on the chalk soils in Cambridge, including Moon Carrot *Seseli libanotis*, Grape-hyacinth *Muscari neglectum* and Yellow Vetchling *Lathyrus aphaca*.

Objectives

6.7.3. Increase the area of chalk grassland habitats (from approximately 5.88 ha) by creating new grassland to buffer, extend and link Cherry Hinton Pits SSSI, Lime Kiln Close LNR, Lime Kiln Reservoirs, Lime Kiln Hill RSV and Wort's Causeway RSV. (These sites can also be linked to the Beechwoods LNR, Gog Magogs SSSI, Wandlebury Country Park and Magog Down, within South Cambridgeshire District).

6.7.4. Maintain stable or increasing populations of the Nationally Scarce plants species, Moon Carrot, Grape-hyacinth, Perennial Flax and Yellow Vetchling.

Actions:

CG1. Work with the private owners to develop Cherry Hinton East Pit into a high quality chalk grassland natural greenspace with safe access for the quiet enjoyment of nature.

CG2. Implement a conservation management regime for Lime Kiln Hill SSSI road verge to maintain the populations of Moon Carrot and Grape-hyacinth and monitor their status and to Wort's Causeway RSV to recover the population of Perennial Flax.

CG3. Through the University's Ecology Strategy for the West Cambridge site, implement a conservation management regime for Coton Path Hedgerow CountyWS to maintain the population of Yellow Vetchling and monitor it's status.

CG4. Seek to work with Netherhall School to establish a chalk grassland wildlife conservation area adjacent to Cherry Hinton Chalk Pits.

CG5. Establish a wider partnership to promote and implement the proposal for a "Gog Magogs Countryside Enhancement Area", to provide a strategic open space on the southern edge of the city.

6.8. WOODLAND, SCRUB, HEDGEROWS & VETERAN TREES

Key Issues

6.8.1. Cambridgeshire is the least wooded county in England and within the city boundaries there are no areas of ancient woodland. Most woodland is present around Trumpington, though there are also a few small woods within the city (e.g. Cherry Hinton Hall Bird Sanctuary and the Spinney at Haystor Open Space). There are also a few ancient or species-rich hedgerows within the city. The urban extensions provide an opportunity to create new native woodland, using native species of local provenance, particularly at north-west Cambridge, while species-rich scrub and hedgerows could form part of a mosaic with species-rich meadows in the other urban extensions.

Objectives

6.8.2. Increase the area of native woodland and scrub habitats within Cambridge (from approximately 21.97 ha of woodland and 19.66 ha of scrub).

6.8.3. Increase the length of hedgerow within the City (from approximately 9.28 Km).

6.8.4. Identify and protect all veteran trees, and potential future veteran trees.

Actions:

WSH1. Create a "Community Wood" as part of the greenspaces associated with the north-west Cambridge urban extension. Woodland could provide the basis for a "new Country Park" and help screen new and existing communities from the A14 and M11.

WSH2. Identify opportunities to create "Community Orchards" across the city, including as part of the greenspaces associated with the urban extensions. Possible locations include within the north-west Cambridge urban extension greenspaces, associated with the proposed Addenbrooke's Hospital expansion and possibly associated with allotments or other open spaces within the City. Traditional local varieties should be used where possible.

WSH3. Create an area of wet woodland, as an extension to Byron's Pool LNR and part of the Trumpington Meadows proposed "Country Park" in the Cambridge Southern Fringe urban extension.

WSH4. Acquire land adjacent to Barnwell West LNR to create a "Community Wood".

WSH5. Ensure all ancient hedgerows are protected and well managed, in particular hedgerows at Teversham Drift, Church End and Coldham's Lane.

WSH6. Plant new species-rich hedgerows and scrub as part of the landscaping associated with each of the urban extensions.

WSH7. Promote the results of the Cambridge Veteran Tree survey (2004), implement the recommendations from the report, and in particular, encourage a greater number of trees to be retained so they become veterans, and plant replacement trees for the future.

WSH8. Organise a follow up survey of old and veteran trees within the City (including trees on private land), to assess in greater detail their biological value.

WSH9. Ensure important old and veteran trees are protected and well managed, and where appropriate, use Tree Preservation Orders (TPO) to protect such trees.

WSH10. Organise a public survey for White-letter Hairstreak butterflies (associated with Elms) and Purple Hairstreak butterflies (associated with Oak).

6.9. MINOR STREAMS, DRAINAGE DITCHES & WATER VOLES

Key Issues

6.9.1. Most of the minor streams and drainage ditches within the city have until now been managed primarily for flood defence purposes. However, new arrangements are currently being put in place that integrate conservation and flood defence management.

6.9.2. Unfortunately, insensitive management has already resulted in the loss of one of the few remaining Water Vole populations in the city. Water Voles declined by over 94% nationally between 1970 and 1998. In the rural areas around Cambridge they have also disappeared rapidly during the 1990s, mainly due to predation by mink, and as a result of insensitive watercourse management. However, within the City they have often found a refuge, as mink appear to venture less into the urban areas. It is therefore vital that the remaining small and vulnerable populations are conserved and watercourse management practices modified accordingly.

6.9.3. Water Voles have recently been recorded from Bin Brook, Cherry Hinton Brook, First Public Drain, Garrett Hostel Lane drain, Adams Road Sanctuary and Madingley Road Park and Ride. They were formerly present along Coldham's Brook. If suitable habitat is present they could still re-colonise from adjacent sites. Outside of the City limits, Water Voles have been recorded from the Washpit Brook, north of the north-west Cambridge urban extension.

6.9.4. The minor watercourses and drains also provide a habitat for many other wetland species such as dragonflies and water birds such as Moorhen and they act as green corridors through the city. Through integration of conservation management into ditch management plans, much wider benefits for wildlife could be achieved.

Objectives

6.9.5. Enhance the biodiversity of minor streams and drainage ditches through the City.

6.9.6. Increase the abundance and distribution of Water Voles throughout Cambridge. (Water Voles are in decline in the City and under threat of local extinction)

Actions:

DD1. Review management policies and practices for the minor streams and drainage ditches through the City, in partnership with landowners, in order to integrate biodiversity conservation objectives into watercourse management. Prepare specific ditch management plans, starting with Bin Brook, Cherry Hinton Brook, Coldham's Brook, the First Public Drain, Garrett Hostel Lane drain & other ditches along the Backs, and Hobson's Brook and Conduit.

WV1. Regularly monitor the status of all remaining Water Vole populations, including the quality of their habitat, and undertake surveys to assess whether they have returned to former sites or colonised new sites.

WV2. Where Water Vole populations are present and / or have the potential to re-colonise, introduce specific management of watercourses to benefit the species, and monitor results.

6.10. PONDS & GREAT CRESTED NEWTS

Key Issues

6.10.1. Ponds support a wide range of wildlife, including frogs, newts, dragonflies, plants and birds. However, the number of ponds declined dramatically during the 20th century, due to the change from mixed to arable farming. However, while rural ponds were decreasing, the number of garden ponds increased. More recently, it is feared that the numbers of garden and public open space ponds are starting to decline, as gardens become smaller, and as society places an increasingly unrealistic emphasis on creating risk-free environments. However, the move towards Sustainable Urban Drainage Systems (SUDS) provides new opportunities for the creation of ponds.

6.10.2. The UK is the European stronghold for Great Crested Newts, and consequently the species is fully protected under both European and UK laws. Cambridgeshire and Peterborough is one of the strongholds of the species, and although they are rare in the city, a few populations remain.

Objectives

6.10.3. Increase the number of ponds within the City

6.10.4. Increase the abundance and distribution of Great Crested Newts throughout Cambridge. (Great Crested Newts are rare but thought to be stable in the City)

Actions:

P1. Undertake a base-line survey of ponds in the City & promote the benefits of pond creation for wildlife and as a learning experience, as part of wildlife gardening.

P2. As part of management plans for City Council sites, including Byron's Pool and particularly those that support grazing such as Coldham's Common and Stourbridge Common, identify suitable opportunities for creating or restoring ponds.

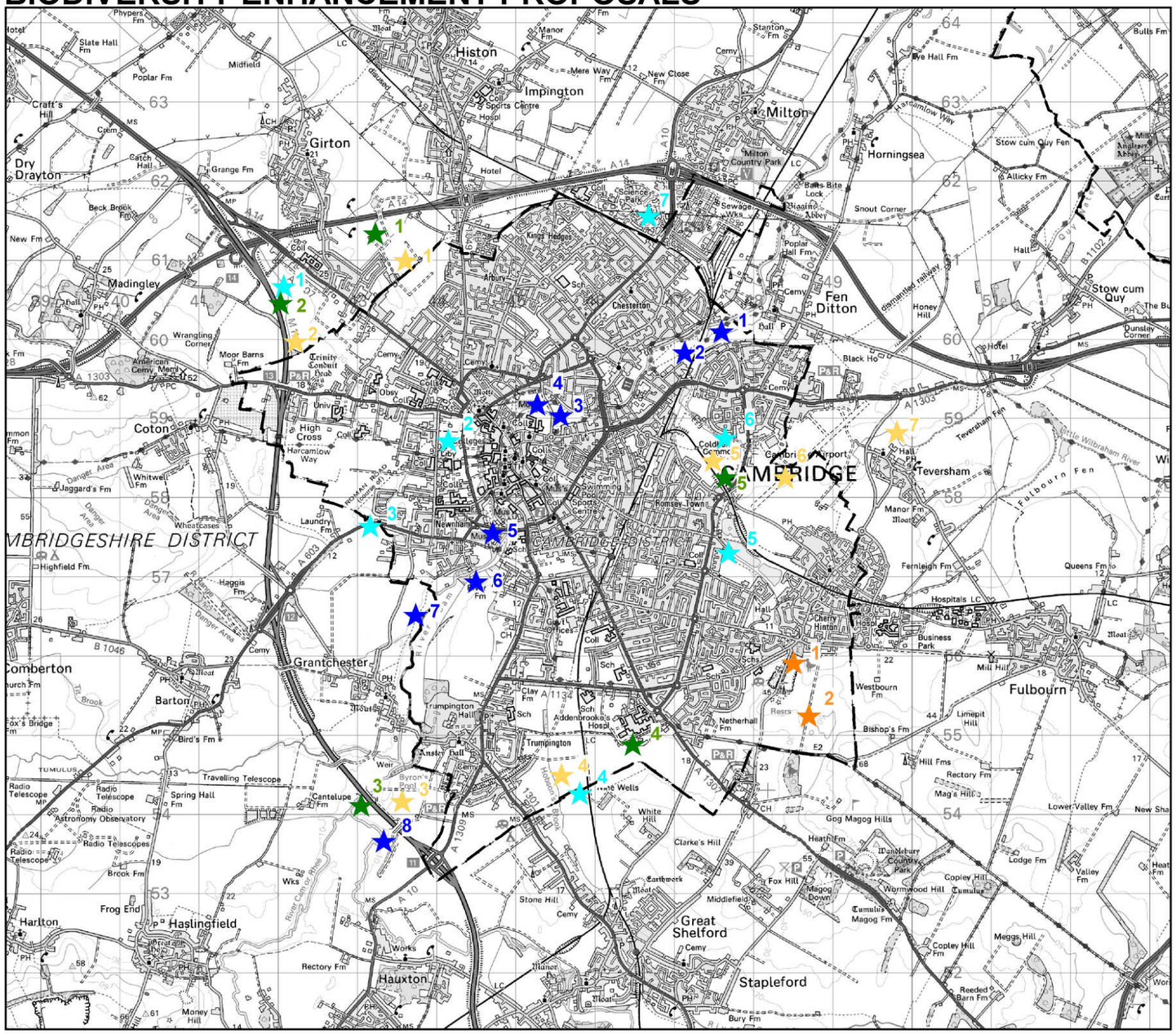
P3. Seek to include ponds, where appropriate, and possibly as part of SUDS, in the design of the greenspaces associated with the urban extensions.

P4. Organise a public survey for amphibians and reptiles in the city.

GCN1. Regularly monitor the status of all remaining Great Crested Newt populations, including the quality of their habitat, and provide management advice to owners and managers, such as the Adams Road Sanctuary management group.

FIGURE 7:

BIODIVERSITY ENHANCEMENT PROPOSALS



Key:

- Chalk grassland proposals
- Woodland proposals
- Wet grassland proposals
- Neutral grassland proposals
- Drainage ditch proposals

Chalk Grassland
1 Cherry Hinton East Pit SSSI
2 Gog Magogs Countryside Project

Woodland
1 NW Cambridge NIAB
2 NW Cambridge University Farm
3 Trumpington Meadows
4 Addenbrookes Hospital Community Orchard
5 Barnwell West extension

Wet Grassland
1 Ditton Meadows
2 Stourbridge Common
3 Midsummer Common
4 Jesus Green
5 Coe Fen and Sheep's Green
6 Meadows and Drains CityWS
7 Grantchester Meadows
8 Trumpington Meadows

Neutral Grassland
1 NW Cambridge (NIAB) Greenspaces
2 NW Cambridge University Greenspaces
3 Trumpington Meadows
4 Cambridge Southern Fringe Green Corridors
5 Coldhams Common
6 Cambridge East Green Corridor
7 Teversham Country Park

Drainage Ditch
1 Washpit Brook
2 Bin Brook
3 Bin Brook
4 Hobson's Brook
5 Cherry Hinton Brook
6 Coldham's Common
7 First Public Drain

District Boundary

6.11. THE BUILT URBAN ENVIRONMENT

Key Issues

6.11.1. In order to provide a comprehensive ecological network through the city, biodiversity needs to be incorporated throughout the built environment and not just in identified nature conservation sites. Many species will move between the more formal urban areas and the areas of semi-natural vegetation. The Parks and Open Spaces managed by the City Council form a significant area. The parks and open spaces owned by the University and Colleges are also of major importance, as are the College gardens in the City Centre. Many parks and open spaces are already of both social and environmental value (as identified in the Open Space & Recreation Strategy, 2004). However, there is considerable potential to enhance the biodiversity of many more formal Open Spaces. Integrating biodiversity into a multi-functional approach to parks management can help produce more interesting, stimulating and enjoyable open spaces. The immediate priority should be those sites that are present in parts of the city that are otherwise deficient in accessible natural greenspaces.

6.11.2. An analysis of areas deficient in accessible natural greenspace has been undertaken, using the English Nature ANGST standards (Accessible Natural Greenspace Standard). The key target for provision of natural greenspace accessible to all is "*everyone should have access to at least one natural greenspace of at least 2 hectares within 300 metres"*. This target was been based on detailed research undertaken by University College London in the 1990s. This research assessed the distance that people, and in particular children, would travel by foot or cycle from their homes to visit a greenspace. It also assessed the minimum size of greenspace at which a variety of experiences, including solitude, could be gained during a visit.

6.11.3. Figures 8A and 8B show the results of this analysis. Figure 8A shows all County Wildlife Sites, City Wildlife Sites and City Council open spaces of environmental importance, over 2 ha in size, with their 300 metre catchments. This analysis shows significant parts of the city to be deficient in accessible natural greenspace, including Chesterton, King's Hedges and Arbury in the north of the city, and Romsey, Coleridge and parts of Queen Ediths in the south of the city.

6.11.4. This analysis was then repeated, with the proposed open spaces and green corridors associated with each of the Growth Areas included. Figure 8B shows these results and while the proposed open spaces associated with the Growth Areas will serve these new communities, they will not address the deficiencies in local natural greenspace identified above.

6.11.5. This analysis corresponds well with a similar analysis undertaken as part of the development of the Parks for Cambridge People Strategy. This showed that Cambridge is well provisioned with larger parks that have a function at the district level and serve a large catchment area. However, the quantity and quality of parks and open spaces is deficient at the neighbourhood level.

6.11.6. To achieve a multi-functional approach to park management, good information is required. All parks and open spaces will need to be fully evaluated, both for their intrinsic values and their potential for enhancement. In addition, user surveys are required to understand current uses and the views and aspirations of local people for the parks. The Open Spaces Manager has undertaken the initial analysis, however the next stage, which assesses the potential for providing new functions within open spaces, particularly in areas of deficiency, has yet to be undertaken. Assessment of the potential for biodiversity enhancement should be integral to this process.

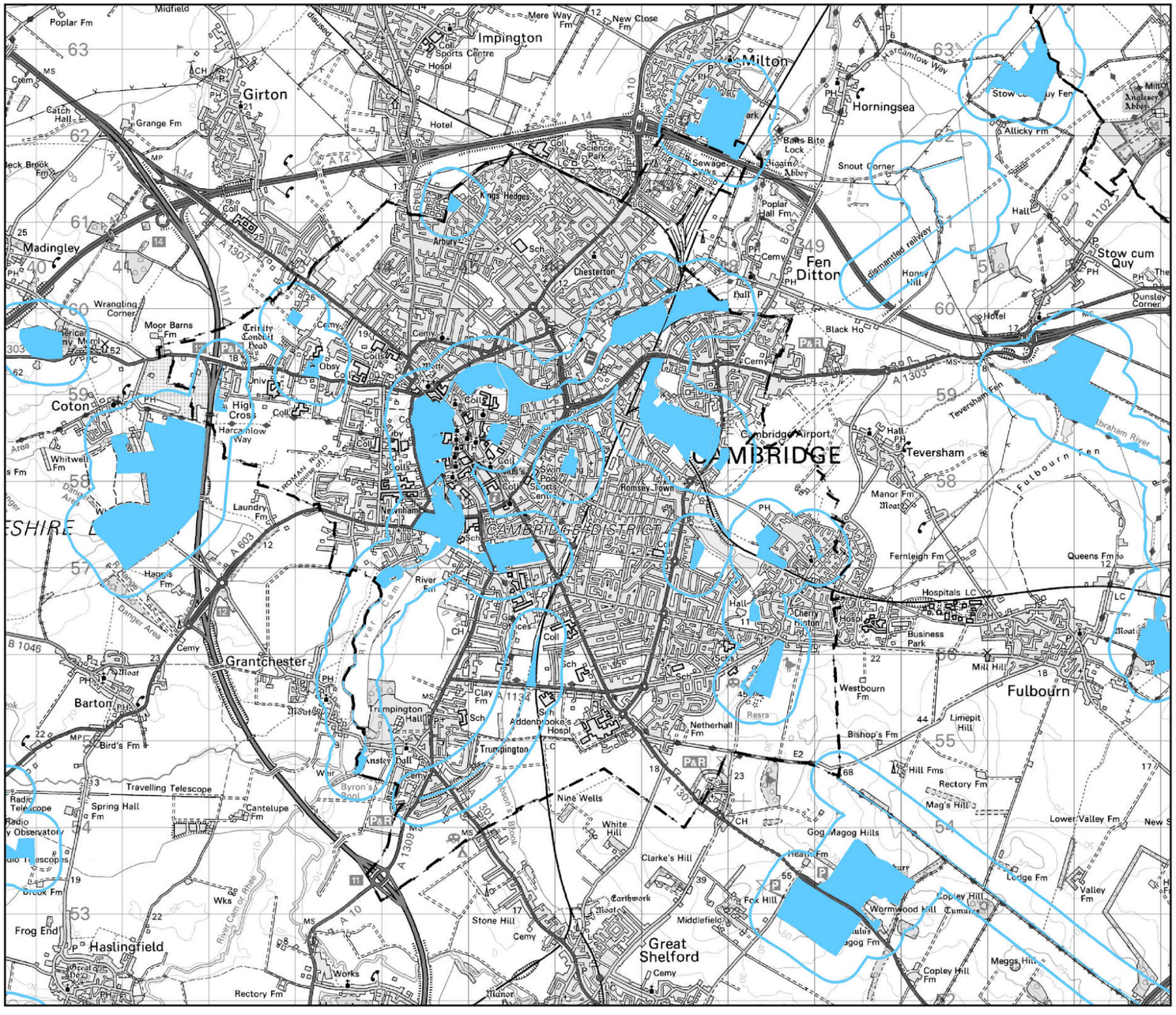
6.11.7. In addition to the open spaces, other vegetation including street trees, shelterbelts, hedgerows, and gardens make a significant contribution to the biodiversity of the city. There are 12,000 street trees across the city, of 50 different genera, ranging in age from 1 to 140 years old. The aim should be to maintain these and increase them wherever possible. In the past 8 years, 4,000 trees have been planted, representing a net gain of 2,000 trees. During this period the use of native species has become increasingly important. In some parts of the city, large gardens form a vital element in the ecological network. Moves to increase housing densities at the expense of vegetation could therefore undermine the wider ecological network. In the City Centre the College gardens are important "green lungs".

6.11.8. A strong network of vegetation also provides other benefits helping to ameliorate local climate and reduce pollution. As climate change is likely to increase temperatures over the coming decades and add to the urban heat island effect, increasing the area of vegetation will help mitigate some of these anticipated impacts. Cambridge already suffers from poor air quality on occasions, and this may worsen with warmer temperatures. Increased vegetation may mitigate some of these impacts and help to decrease future health costs.

6.11.9. The urban extensions provide significant opportunities to enhance biodiversity. The greenspaces will provide the major opportunity, as discussed elsewhere and will take on an added importance because the new houses will be built at higher densities than in the past. However, there are also significant opportunities associated with the urban fabric. Buildings can be designed to incorporate features of benefit to wildlife, for example spaces for bats to roost or birds such as Swallows and Swifts to nest. Very often this will have to be in the form of specially designed nest boxes or bricks, because the improved build of modern developments removes the crevices and holes that used to be present. Climbing plants such as Ivy can be planted against walls to provide food, shelter and nesting sites, as well as helping to enhance the visual appearance of buildings and provide cooling and insulation. Native species can be used even in more formal landscaping. Lifting fences 150mm off the ground can allow small mammals such as hedgehogs to make use of new garden spaces. Dropped kerbs or their complete removal can assist the movement of small animals such as frogs and toads. Where development densities are high, "green roofs" can be provided on a sample of buildings, from garages, to houses to offices or factories. Commonly succulent plants such as Sedums are grown, however in Germany and Switzerland, grass and wildflower meadow roofs have been designed. In Germany, Skylarks have been reported to nest on large green roofs on factories. As well as habitats for wildlife they can provide interesting communal spaces for people. In addition to providing opportunities for biodiversity, green roofs can also provide water attenuation by reducing run-off rates, increase thermal insulation and improve air quality by reducing the level of airborne particulates.

FIGURE 8A:

ACCESSIBLE NATURAL GREENSPACE OVER 2HA WITH 300M CATCHMENT

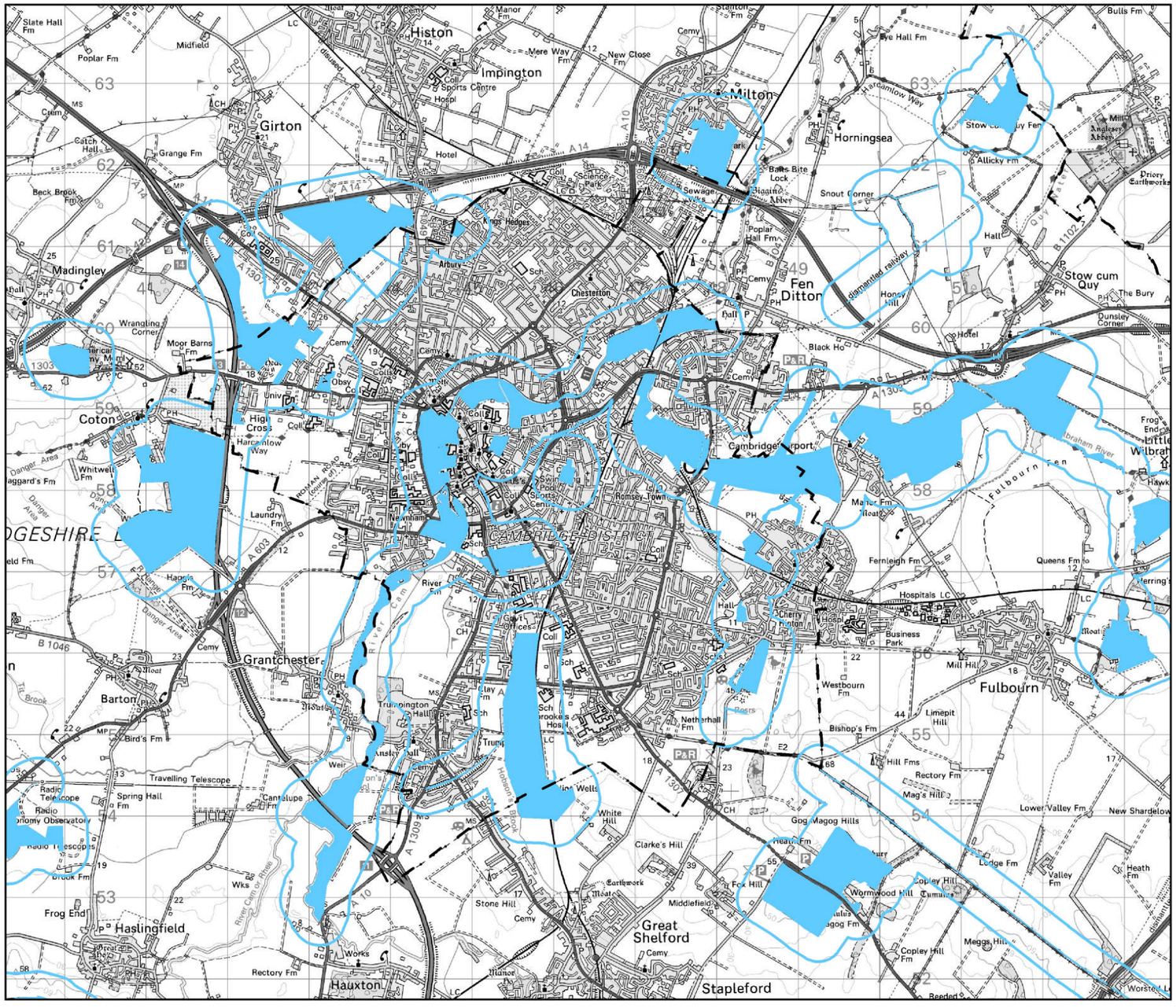


District boundary
Accessible Natural Greenspace over 2ha
300m Catchment

Note: Not all sites are open access. Access to some sites may be restricted to public Rights of Way, by opening hours or to visual access from adjacent public areas

FIGURE 8B:

ACCESSIBLE NATURAL GREENSPACE OVER 2HA WITH PROPOSED URBAN EXTENSIONS



District Boundary

Accessible Natural Greenspace over 2ha with Urban Extensions

Accessible Natural Greenspace over 2ha with Urban Extensions

300m Catchment

Note: Not all sites are open access. Access to some sites may be restricted to public Rights of Way, by opening hours or to visual access from adjacent public areas

Objectives

6.11.10. Adopt a multi-functional approach to the management of City Council open spaces, integrating biodiversity with other objectives.

6.11.11. Maintain an inter-connected network of vegetation, beyond identified nature conservation sites, throughout the city, including open spaces, shelterbelts and hedgerows, street and park trees, grass verges and gardens.

6.11.12. Incorporate features of benefit to biodiversity throughout the built design and landscaping of the urban extensions.

6.11.13. Make provision for biodiversity in and on buildings through the provision of suitable spaces for nesting and shelter (e.g. bird or bat boxes / bricks, use of climbing plants).

Actions:

BU1. Through implementation of the Parks for Cambridge People action plan, identify a list of formal and informal Open Spaces with the potential to provide new or enhanced natural greenspace, particularly within identified areas of deficiency as shown by Figures 8A & 8B. Assess the potential of each Open Space and develop detailed biodiversity enhancement proposals for inclusion within appropriate site management plans and contracts.

BU2. Work with the University and Colleges to identify the biodiversity enhancement potential of their open spaces, and to deliver this potential through the adoption of conservation management plans and practices.

BU3. Develop management plans for all City Council managed cemeteries that incorporate biodiversity objectives.

BU4. Maintain and seek to increase the number of street trees and trees in parks across the City, favouring native species where appropriate.

BU5. Promote allotments as areas for biodiversity and healthy living and work with allotment holders to develop plans to incorporate features of biodiversity value.

BU6. Prevent the loss of areas of significant vegetation, including shelterbelts, hedgerows, road verges, street trees and large gardens through rigorous application of adopted planning policies, and management of the City Council landholding.

BU7. In areas of natural greenspace deficiency (see Figure 8B: Arbury, Kings Hedges, Chesterton, Romsey, Coleridge & Queen Ediths), resist the loss of gardens, particularly large gardens, through subdivision of plots, unless new open spaces, that include natural greenspace, can be provided to meet needs.

BU8. If major re-development occurs in areas of the city with an identified deficiency in greenspace (see Figure 8B: Arbury, Kings Hedges, Chesterton, Romsey, Coleridge & Queen Ediths), seek opportunities for the provision of new open space, including natural greenspace.

BU9. Regularly review and update the Cambridge Sustainable Development guidelines to ensure that they are up-to-date with respect to biodiversity best practice.

BU10. Use planning policies and design guidelines to include biodiversity features throughout new developments and in particular the proposed urban extensions. Biodiversity features should be included in formal landscaping and on buildings, walls and roofs. Examples include the adoption of wildlife gardening principles and novel approaches such as SUDS and green roofs.

BU11. Incorporate features of benefit to biodiversity on all suitable City Council property or buildings (e.g. Housing areas, the Guildhall, car parks). Examples include erection of bird or bat boxes and adoption of wildlife gardening principles in landscaping, such as use of native species or climbing plants on walls or buildings.

BU12. When building or refurbishing City Council buildings, adopt the highest environmental standards, for example by using at least the BREEM Eco-Homes excellent standard or a future equivalent benchmark. Incorporate features of benefit to biodiversity, for example bird or bat boxes, and wildlife gardening principles including landscaping using native plants, wherever practicable.

6.12. GREEN CORRIDORS

Key Issues

6.12.1. Green corridors through the city and out into the surrounding countryside form an essential component of the city's ecological network. While there is a debate in ecological circles about whether and how different species use Green Corridors, they do help to provide links between habitats for some more mobile species and they will, if well designed, act as valuable habitats in their own right. Green Corridors should therefore be viewed as part of the overall network of habitats throughout the city. Their main role should be seen as providing high quality habitats in which wildlife can nest, shelter and feed, though this role will be enhanced if there is a high degree of interconnectivity between them and other areas of habitat.

6.12.2. Green Corridors have a dual purpose, to provide areas of habitat through an area of intensive land use, whether that be urban or agricultural, and to provide access routes for people. There is, however, an inherent contradiction between these two functions. Increased human access and disturbance will limit the numbers of species using a Green Corridor and its value as part of an ecological network. The function and design of any Green Corridor therefore needs to carefully considered.

6.12.3. One example concerns the use of lighting which could contribute to the increasing fragmentation of habitats in the city for some species such as bats and moths. Safety concerns are increasingly giving rise to demands for improved lighting. However, lighting results in sub-urbanisation of the corridors, extra light pollution and adverse impacts on the value of the corridors as habitats for wildlife. Such sub-urbanisation should be resisted in Green Corridors that are of high value to wildlife. Where possible a better option may be to provide and promote alternative well-lit and safe evening routes rather than light up Green Corridor. The recent example of the proposed cycle path improvements, including lighting along Hobson's Brook, is a good example. There is no need for lighting along this route, which has a rural feel, when there is already a well-lit route parallel along Trumpington Road, and the proposed Cambridgeshire Guided Bus route will provide a second well-lit parallel route within a few years. There is a balance to be struck, between providing habitats that wildlife can use and providing access for people. It will not always be possible to provide for both in each and every Green Corridor. Where a Green Corridor or open space is required for both wildlife and access by people, and lighting is deemed essential, the type of lights can be critical. Low pressure Sodium monochromatic lights produce light wavelengths that are outside those perceived by most animals and therefore preferable to the increasingly used high pressure full spectrum lights.

6.12.4. The following principles should be used to guide the design and management of Green Corridors.

- A network of Green Corridors should provide a high degree of connectivity between habitats within and beyond the city.
- Green Corridors should be as wide as possible to maximise their benefits for wildlife.
- Green Corridors should include high quality habitats that can support a diverse range of species, whether or not they also function as a migration corridor.
- The function of each Green Corridor, whether it be a natural environment corridor, a sustainable transport (walking, riding & cycling) corridor, or both, should be identified, to inform detailed management decisions.

6.12.5. Cambridge is fortunate in already having a good network of Green Corridors. However, the quality of these could be enhanced, particularly for biodiversity, although some could also be enhanced as sustainable transport routes. Significant management is required to maximise the habitat potential of the existing Green Corridors for wildlife. Some of the Green Corridors are incomplete and would benefit from the creation of new links.

6.12.6. Elsewhere there are opportunities to create new links through the city and beyond, particularly associated with each of the urban extensions to the south, east and north-west of the city.

6.12.7. The proposed network of Green Corridors is shown on Figure 9. This is based on that published in the Green Infrastructure Strategy for the Cambridge Sub-Region, but also includes additional suggestions within the city.

Objectives

6.12.8. Protect, enhance and create the identified network of Green Corridors, both through the City and between the City and surrounding countryside, as an integral part of the City's ecological network and as sustainable transport routes for people.

Actions:

GC1. Protect and enhance the existing Green Corridors listed below through relevant planning documents and policies and through implementation of integrated management plans.

Existing links[1]:
- 4 & 6 River Cam corridor
- C9 Hobson's Conduit & Vicar's Brook to River Cam
- C10 Cherry Hinton Brook & Coldham's Brook

GC2. Develop the new green access corridors listed below (where they are within Cambridge) through relevant planning documents and policies, greenspace management initiatives and access improvements.

Key new links[1]:
- C1 Cambridge Southern Fringe: Enhanced Chalklands Access
- C2 Northern Cambridge / Cam Corridor
- C3 Northern Fringe East Enhanced Access
- C4 NW of Cambridge – Improved Access to Coton
- C5 Wimpole Way Green Corridor
- C6 Granchester Link
- C7 Outer Orbital Recreation Route
- C8 Cambridge East links
- C9 Cambridge Southern Fringe: Clay Farm to Nine Wells

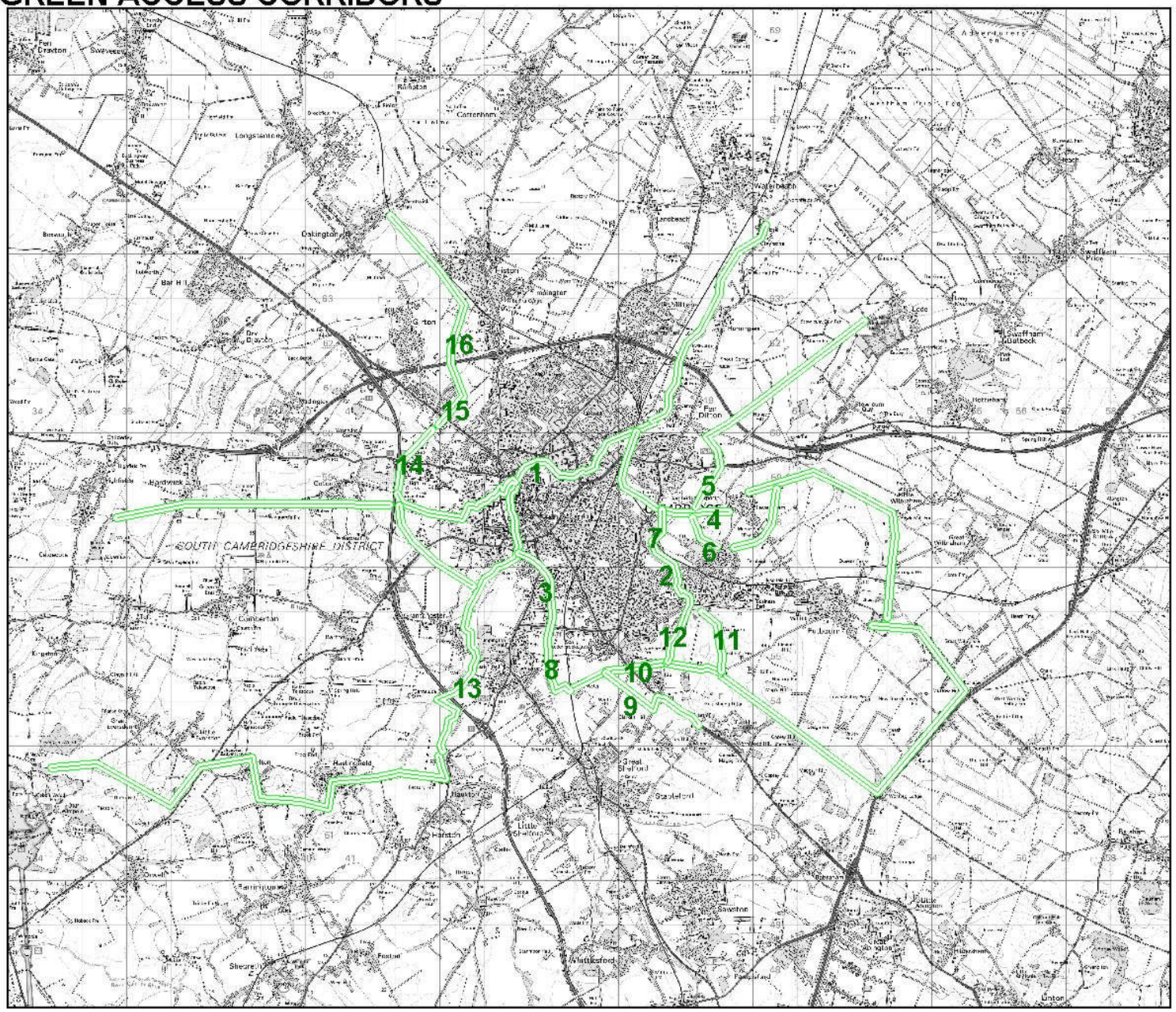
GC3. Develop a series of promotional leaflets to publicise green access routes through the City. The first two of these, Barnwell East to Lime Kiln Hill and the Trumpington Loop will be published in 2006.

Other future leaflets could include:
- River Cam by foot
- River Cam by punt
- Hobson's Brook

[1]These links are derived from the Green Infrastructure Strategy for the Cambridge Sub Region and the numbering system accords with that (except C9 and C10 which are additional numbers used specifically for this Strategy).

FIGURE 9:

GREEN ACCESS CORRIDORS



Key:

Green Access Corridors

1 River Cam corridor
2 Cherry Hinton Brook & Coldham's Brook
3 Hobson's Conduit & Vicar's Brook
4 Barnwell to Teversham
5 Cambridge East: Fen Ditton link
6 Cambridge East: Cherry Hinton link
7 Barnwell to Cherry Hinton Brook
8 Hobson's Brook South & Nine Wells
9 Nine Wells to Wandlebury
10 Nine Wells to Beechwoods
11 Cherry Hinton to Roman Road/Wandlebury
12 Lime Kiln Hill
13 River Cam & Byron's Pool
14 University Farm to Coton
15 University Farm to NIAB
16 NIAB to Girton

6.13. PROMOTION OF BIODIVERSITY

Key Issues

6.13.1. As we've become an increasingly urbanised society, people's understanding and appreciation of nature has declined. While Cambridge is lucky in having a high quality network of greenspaces, there is often a gap between the value of this network for biodiversity and people's appreciation of that biodiversity. Yet, biodiversity is one of the main determinants of a place's liveability and of quality of life. Having access to high quality greenspaces, rich in biodiversity, can promote more active lifestyles and can help contribute to a decrease in health related problems, particularly where those greenspaces are understood and appreciated. Becoming involved in nature conservation activities can also promote a sense of place and community and provide wider benefits for social cohesion.

6.13.2. If these potential benefits are to be fully realised, more action is required to promote biodiversity and the value of LNRs and other greenspaces and to increase people's understanding and appreciation of nature. Much is already done in this area, however, there is considerable scope for additional activity, including on the City Council's own landholding. One of the easiest ways for people to become involved is through wildlife gardening activities. Such activities may range from providing a bird feeder to managing a whole garden for wildlife, with bird and bat boxes, a pond, meadow, hedgerow and deadwood piles. A public participation survey of wildlife in gardens was undertaken a few years ago, run by members of the Wildlife Trust local group in Cambridge. In recent years an informal group of College Head Gardeners have been promoting wildlife gardening practice in the College gardens. This work could be publicised more widely and the group could be ambassadors for wildlife gardening.

Objectives

6.13.3. Increase the number of people actively involved in nature conservation activities, such as conservation work parties & guided walks, nature talks and participating in the Sustainable City Biodiversity and Wildlife Gardening Group.

6.13.4. Increase the number of people actively gardening for wildlife.

Actions:

BP1. Organise a programme of events on City Council managed LNRs and other open spaces, aimed at increasing the number of people actively involved in conservation related activities on these sites. In addition, seek to establish one or more self-sustaining "Friends" groups associated with the LNRs.

BP2. Every year, chose a species or group of species for which to promote conservation action across the City, e.g. Bats, Amphibians & Reptiles, Song Thrush, House Sparrow, Swallows and Swifts.

BP3. Establish and maintain a new demonstration wildlife garden, for example associated with a Cambridge City Council housing area, another other greenspace, or a College garden.

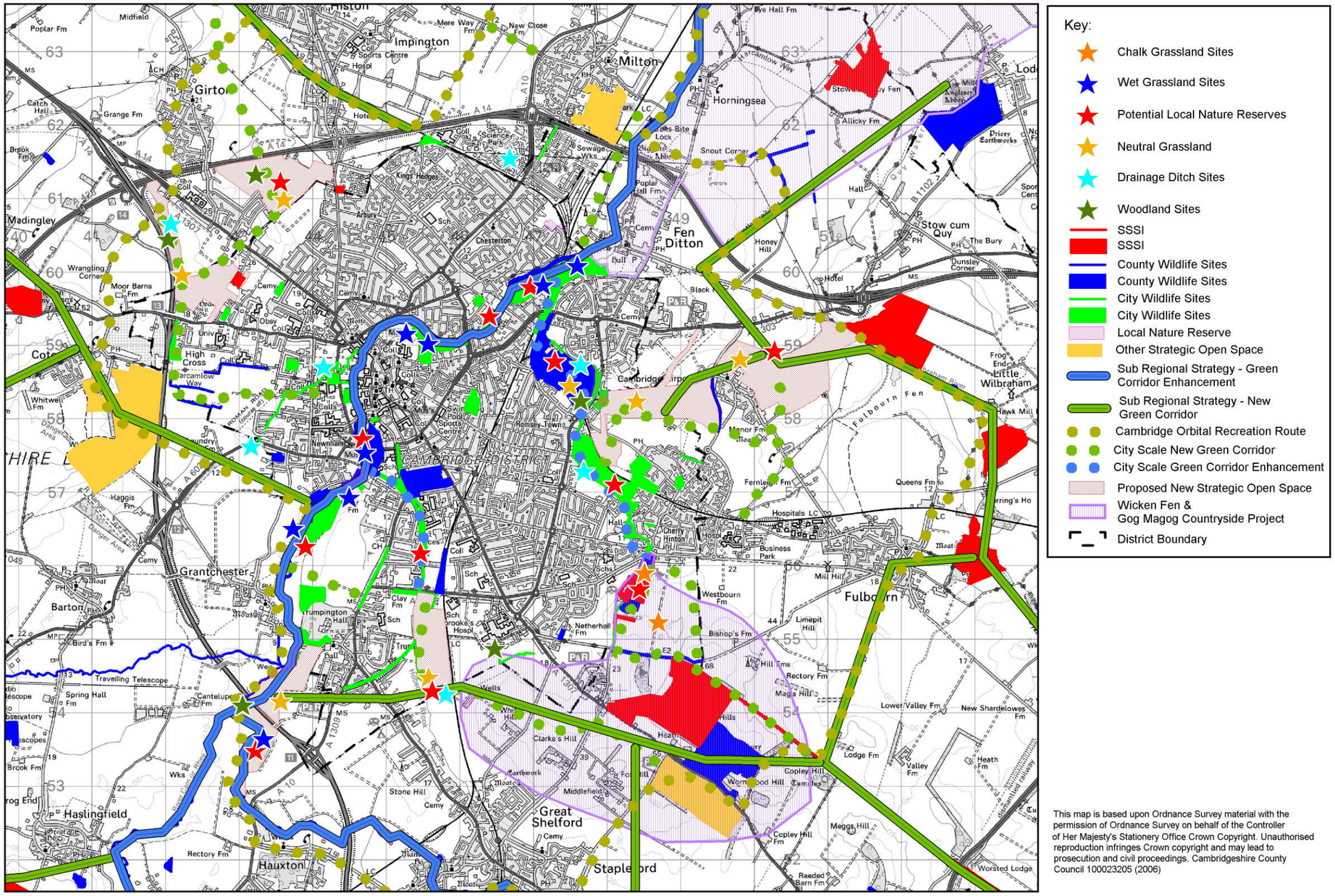
BP4. Promote wildlife gardening activities through events including organising a repeat of the Wildlife Gardening survey to assess the value of gardens for wildlife and the numbers of people actively involved in wildlife gardening.

BP5. Provide a varied programme of well-publicised events in partnership with local organisations. Review publicity arrangements for events outside Environment Week.

BP6. Through the Cambridge Sustainable City programme, monitor the numbers of people involved in nature conservation activities (If appropriate adopt a target through the relevant corporate strategy or individual service plans).

FIGURE 10:

OVERALL SPATIAL VISION



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7. BEYOND CAMBRIDGE - CLIMATE CHANGE & GLOBAL BIODIVERSITY

7.1. KEY ISSUES

7.1.1. When it comes to the environment and biodiversity Cambridge cannot be viewed in isolation. The activities of the City Council and all who live and work in the city have impacts way beyond the City's boundaries. The scientific consensus now accepts that the climate is changing more rapidly as a result of human activities. This will have a very real impact on biodiversity both globally and locally and on people's lives across the planet. Many habitats have become so fragmented, that species are in effect trapped in "semi-natural zoos", with no chance of them moving to find alternative habitats if environmental conditions become unsuitable. In the UK, we need to rebuild a viable ecological network, to help counter such impacts, hence the over-arching theme to this strategy.

7.1.2. In other areas, our economic and consumption patterns are completely unsustainable. It is estimated, that the if current patterns of consumption in the "western world", were repeated in the developing world, then the human population would need at least 3 planets on which to survive. Globally, habitat destruction is responsible for an estimated 30% of the world's species being under threat of extinction. Purchasing policies can contribute to the conservation of global diversity, for example by, ensuring that timber is sourced from sustainably managed forests; that plants used in landscaping are not grown in peat; and that materials purchased from developing countries are based on fair trade.

7.1.3. Cambridge is in the driest part of England. Locally, most of the wetland SSSIs around Cambridge are in an unfavourable condition, with a lack of water being one of the major causes. Yet the proposed growth in households will increase pressure on already scarce water resources. State-of-the-art water conservation measures must not only be adopted in the urban extensions, but must also be included in existing buildings.

7.1.4. The Cambridge Sustainable City programme has been developed to promote the adoption of more sustainable lifestyles; to think globally, act locally. This programme should be continued, as it remains as relevant today as when it was first established.

7.1.5. The City Council is taking this forward through its medium term objectives and annual statements. These seek to address the impact of global warming, balancing this with protecting and enhancing the prosperity and dynamism of the local economy. The aim is to be an exemplar of good practice and then, in the longer term, build on this good practice with other partners to encourage individuals, community organisations and businesses to work with us to create a carbon neutral sub-region. The Council is committed to signing up to a carbon reduction pledge and monitoring it's progress towards achieving it, and taking steps to reduce it's own carbon footprint.

7.1.6. Key themes that can be addressed across the City Council's operations include the adoption of a policy framework and climate change strategy, with specific targets, to promote and implement climate neutral policies across the whole of the City Council's activities. City Council purchasing policies can be kept under review to ensure that biologically based products are sourced only from sustainable sources, for example, timber from sustainably managed forests, plants used in landscaping not grown in peat based media and peat-free growing media and composts are used for all products. Land use policies within the future Cambridge Local Development Framework, can promote the most sustainable patterns of development and quality of building design, in order to reduce and limit carbon emissions and promote the highest standards of water efficiency. Finally, the City Council can take the lead by maximising water efficiency within its own buildings and operations.

8. STRATEGY REVIEW & MONITORING

8.1. MONITORING IMPLEMENTATION

Key Issues

8.1.1. Each of the action plans in section 6 contains a series of objectives and actions which can be measured. Appendix 1: Taking the Actions Forward, summarises the actions allocating a priority and timescale for each action. It also states whether the actions can be met through existing resources or whether new resources will need to be identified. Finally it identifies the partners to be involved in delivery of each action.

8.1.2. Monitoring of implementation needs to take two forms. Firstly progress in implementation of the actions will need to be reported on regularly. Secondly, and more importantly, changes in biodiversity as a result of the both the identified actions and other influences need to be measured.

8.1.3. A set of performance indicators must be developed and agreed. Regular monitoring and reporting must take place against these indicators. It would be beneficial if the performance indicators were consistent and comprehensive so that they could also be used to monitor the Cambridge Local Plan and Local Development Framework, the Cambridgeshire & Peterborough Local Biodiversity Action Plan and other relevant strategies such as Parks for Cambridge People, the Open Spaces and Recreation Strategy and the Community Strategy. A sub-group of the Cambridgeshire and Peterborough biodiversity partnership is currently assessing monitoring needs across the county, with the aim of devising such a unified scheme that could be adopted by all Local Authorities in Cambridgeshire.

8.1.4. It may be best to incorporate monitoring into existing monitoring arrangements where these exist. For example, the area and condition of nature conservation sites, the area of key habitats and status of key species could be monitored through the Local Plan monitoring process. Objectives related to the provision of accessible natural greenspace could be monitored through the Parks for Cambridge People Strategy and Open Space and Recreation Strategy, Local Plan and LDF` monitoring processes.

8.1.5. The following represent some suggestions for performance indicators:

- The area of SSSI's
- The management condition of SSSIs
- The area of land meeting County Wildlife Site and City Wildlife Site selection criteria
- The management condition of County Wildlife Sites and City Wildlife Sites
- The area of Local Nature Reserves per 1000 population
- The numbers of residents (or % proportion of the City area) with a deficiency in accessible natural greenspace.
- The area of each priority habitat
- The numbers of populations of priority species

8.1.6. For some of these performance indicators data is already available, for example area of SSSI, condition of SSSI, and area of Local Nature Reserves, County Wildlife Sites and City Wildlife Sites. However, information on the condition of County and City Wildlife Sites is incomplete. The absence of a detailed baseline habitat audit is a major drawback, preventing the

establishment of detailed targets for the priority habitats and monitoring of progress. Likewise insufficient information is available from species surveys to provide an accurate baseline, though from know information and recent surveys a reasonable baseline situation could be described for Great Crested Newt and Water Vole.

8.1.7. In addition to monitoring of particular outcomes, a mechanism needs to be put in place to ensure the regular review and updating of the strategy, particularly as actions are completed. One mechanism to do this would be to continue and formalise the Officer Nature Conservation Strategy Group, possibly expanding it to include other key external partners. It is suggested that the proposed Council joint delivery plan, which will take forward the highest priority actions from the strategy action plan, be reviewed annually. In addition, the strategy action plan and objectives should be reviewed every three years and new priorities agreed for inclusion in the joint delivery plan. The results of these reviews should be formally reported to Council and where appropriate disseminated to a wider audience of key partners and / or the wider public.

Objectives

8.1.8. Develop a monitoring and review programme for the Nature Conservation Strategy, that ensures reporting against actions and the development of a series of performance indicators to enable monitoring and reporting of biodiversity outcomes.

Actions:

SRM1. Develop a series of performance indicators to monitor the success of the strategy and whether the aim of a “net gain” in biodiversity is realised.

SRM2. Undertake a baseline audit of the current status of priority habitats and species within Cambridge city.

SRM3. Agree and implement a mechanism and timescales for reporting on actions, for monitoring the chosen performance indicators and reviewing the strategy.

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APPENDIX 1 : TAKING THE ACTIONS FORWARD

Each action has been allocated a priority (high, medium or low) based on its potential biodiversity benefit.
In addition, a timescale has been set for each action, short (2007-2010), medium (2010-2013) or long (2013-2016), depending on when it might be realistically achieved

SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI) / COUNTY WILDLIFE SITES / CITY WILDLIFE SITES

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
SS1	Provide advice and support to the owners of Traveller's Pit SSSI and Cherry Hinton East Pit SSSI, to ensure that they are in and remain in a favourable condition	Natural England		Existing	Existing revenue	High	S	This is part of Natural England's statutory function.
SS2	Maintain Cherry Hinton West Pit SSSI / LNR (owned by Cambridge City Council, but leased to the Wildlife Trust) in a favourable condition.	Wildlife Trust	Cambridge City Council, Natural England	Existing	Existing revenue & capital	High	Ongoing	The Wildlife Trust, sometimes with additional financial support from the City Council manage this site.
CWS1	Manage Skaters Meadow CountyWS to maintain it in a favourable condition.	Wildlife Trust		Existing	Existing revenue & capital	High	Ongoing	The Wildlife Trust manage this nature reserve.
CWS2	Prepare and implement detailed, costed management plans for each of the sites listed below, to ensure that the sites are conserved and where necessary enhanced, to retain or bring them into a favourable condition. Lime Kiln Close LNR, Paradise LNR, Worts Causeway RSV, Coe Fen, Sheep's Green, Coldham's Common	Cambridge City Council / Cambridgeshire County Council	Wildlife Trust	Existing & new	New or reallocated revenue & capital	High	SM	Additional resources will be required to ensure that the County Wildlife Sites are in a favourable condition.
CWS3	Through the Wildlife Trust, offer advice and support to private owners of County Wildlife Sites, to help them to maintain their sites and where necessary bring them into favourable condition. Lime Kiln Reservoirs, Netherhall Farm Meadow, Triangle North of Long Road, Barton Road Pool, Coton Path Hedgerow, Hedgerows East of M11, Cambridge Botanic Gardens.	Wildlife Trust, private landowners	Cambridge City Council	Existing	Existing revenue	High	SM	City Council supports the Wildlife Trust City Greenways Project. In addition, the Wildlife Trust have secured additional funding through the Rural Enterprise Scheme, which will help provide strategic support to the Wildlife Sites system in Cambridge.
CityWS1	Prepare and implement detailed, costed management plans for each of the sites listed below, to ensure that the sites are conserved and where necessary enhanced, to retain or bring them into a favourable condition. Midsummer Common, Stourbridge Common, Logans Meadow LNR, Mill Road Cemetery, Coldham's Brook, Barnwell Road West LNR, Barnwell Road East LNR, Cherry Hinton Brook, Cherry Hinton Hall Bird Sanctuary, Cherry Hinton Hall Brook, Lime Kiln Road verge and hedge, Kings Hedges Triangle, The Spinney / Haystor Open Space, Byron's Pool LNR.	Cambridge City Council	Cambridgeshire County Council, private landowners	Existing & new	New or reallocated revenue & capital	Medium	SML	Additional resources will be required to ensure that the City Wildlife Sites are in a favourable condition.
CityWS2	Offer advice and support to private owners of City Wildlife Sites, to encourage them to maintain their sites and where necessary bring them into favourable condition.	Wildlife Trust, private landowners	Cambridge City Council	Existing	Existing revenue	Medium	SML	City Council supports the Wildlife Trust City Greenways Project.

LOCAL NATURE RESERVES

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
LNR1	Identify potential new LNRs and designate sufficient new sites to meet the objective. Potential sites for 2007 to 2010 include: Extension to Byron's Pool LNR Extension to Nine Wells LNR Extension to Logans Meadow LNR Coldham's Common (part) & Barnwell West "Community Woodland" extension Cherry Hinton East Pit SSSI Potential sites beyond 2011 include: Coe Fen & Sheep's Green Stourbridge Common Bentley Road Paddocks and Empty Common All or parts of the "Country Park" areas associated with Cambridge East, NW Cambridge and Cambridge Southern Fringe urban extensions Norman Cement Pits, The Spinney & Haystor Open Space.	Cambridge City Council	Developers, SCDC, Cambridgeshire County Council, Natural England, private landowners	Existing	Existing	High	SML	The continuing employment of the Community Reserves Officer should allow progress towards this action to be met (depending on work programmes). However, additional staff and management resources would undoubtedly be required to fully implement this action and to prepare and implement the required management plans.
LNR2	Ensure that each LNR is managed in accordance with an up to date, full and detailed management plan (with costs), with the aim of enhancing and promoting biodiversity and enjoyment by local people. (See also CountyWS2 and CityWS1).	Cambridge City Council	Natural England, University of Cambridge (Nine Wells only)	Existing & new	New revenue & capital to manage sites	High	Ongoing	The continuing employment of the Community Reserves Officer will enable this action to be delivered.
LNR3	Ensure high quality on and off site interpretation materials are produced for the LNRs, including entrance signs, interpretation boards and leaflets, and web-based materials to promote a greater understanding of nature.	Cambridge City Council	Wildlife Trust, University of Cambridge	Existing	New capital	High	Ongoing	Where additional funding is required, grant applications can be made to heritage funding sources or the Sustainable City Capital Grants programme.

RIVER VALLEY HABITATS

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
RV1	Review the conservation management plans for Coe Fen / Sheep's Green and Stourbridge Common. Management should be based on grazing, selective mowing, ditch management and willow management. In selected areas create species-rich grassland, through either the introduction of native wildflower seed, or spreading of green hay collected from nearby species-rich grasslands.	Cambridge City Council	Wildlife Trust	Existing & new	New or reallocated revenue & capital	High	S	Grazing and some mowing is already organised on these sites, but new management plans and enhanced conservation management are required.
RV2	Review or prepare a conservation management plan for Jesus Green and Midsummer Common. Investigate the potential for the creation of species-rich grassland and introduction of conservation management in selected areas.	Cambridge City Council	Wildlife Trust	Existing & new	New or reallocated revenue & capital	Medium	M	Grazing or mowing is already organised on these sites, but new management plans and enhanced conservation management is required.
RV3	Liaise with the private landowners to promote a conservation management regime for the Meadows and Drains City Wildlife Site, Ditton Meadows, Granchester Meadows and Chesterton Fen, and in selected areas create species-rich grassland. (Although Granchester Meadows are in South Cambridgeshire, they are adjacent to the Skaters Meadow group and opposite the Meadows & Drains CityWS, so all these sites should be considered as a single ecological unit).	Wildlife Trust	FWAG, private landowners	Existing	Existing	Medium	ML	City Council supports the Wildlife Trust City Greenways Project.
RV4	Enhance the recently created floodplain meadows and create new species-rich meadows as part of the proposed Trumpington Meadows "Country Park", associated with the Cambridge Southern Fringe urban extension.	Developers	Cambridge City Council, SCDC	New	New through S106 money	High	SML	Should be secured through the Southern Fringe development. The City Council role will be through planning policy and negotiating planning agreements.
RV5	Seek to prevent further development in the floodplain of the River Cam and its tributaries, through rigorous implementation of planning policies, to prevent the loss of opportunities for restoration and rehabilitation of floodplains.	Cambridge City Council	Environment Agency	Existing	Existing	High	Ongoing	Part of City Council planning function and Environment Agency statutory duties.
RV6	Undertake a comprehensive survey of the biological condition of willows along the River Cam and its floodplain through Cambridge, to inform future management decisions.	Cambridge City Council, Biological Records Centre	Wildlife Trust, Cam Conservators, private landowners	Existing	Potential Sustainable City capital grant bid	Low	L	The survey should involve invertebrate, lower plant and fungi experts to assess the biological value of the mature and ancient willows.
RV7	Continue the programme of willow management along the River Cam and on associated floodplain sites. Maintain a proportion of trees, particularly pollards as over-mature, veteran trees, leaving a few un-pollarded, to collapse naturally.	Cambridge City Council	Cam Conservators, private landowners	Existing	Existing	High	Ongoing	The City Council and Cam Conservators have a regular programme of management (re-pollarding). In some areas (possibly Coe Fen / Sheep's Green) it would be desirable to allow a few willows to naturally collapse and regenerate
RV8	Work with the Environment Agency to enhance the ecological status of the River Cam, through implementation of the Water Framework Directive and associated measures.	Cambridge City Council, Environment Agency		Existing & new	Existing	High	L	This is part of the Environment Agency's statutory function.
RV9	Develop an integrated habitat management plan for the River Cam and its associated floodplain through the City, in partnership with major landowners including the City Council, University and Colleges.	Cambridge City Council, University of Cambridge & Colleges	Environment Agency, Wildlife Trust, other private landowners, Cam Conservators, Cam Valley Forum	New	New capital for study & capital / revenue to implement projects	Medium	M	The Wildlife Trust, through their Water for Wildlife Project is looking at the Cam upstream from the City limits. It may be possible to extend this work into the City and to build a wider partnership to take forward this action.
RV10	Prepare and implement a detailed plan for the rehabilitation of Hobson's Brook and Conduit as part of the Cambridge Southern Fringe urban extension. This should address water quality, water quantity, structure of the channel and associated habitats.	Developers, Hobson's Conduit Trust	Environment Agency, Cambridge City Council, SCDC	Existing & new	New capital for studies & to implement projects	Medium	SM	The aim should be to secure this through the Southern Fringe development, though the Environment Agency will have to give approval and probably be closely involved in the design.

NEUTRAL GRASSLAND & MEADOWS

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
NG1	Prepare a conservation management plan for Coldham's Common. This should be based on grazing and selective mowing (for the non-playing field areas). In selected areas create species-rich grassland, through either the introduction of native wildflower seed, or spreading of green hay collected from nearby species-rich grasslands.	Cambridge City Council	Wildlife Trust	Existing & new	New or reallocated revenue & capital	High	S	Grazing and mowing is already organised on this site, but a new management plan and enhanced conservation management are required.
NG2	Create new species-rich meadows as part of the greenspaces associated with the Southern Fringe (around Nine Wells, in the Hobson's Brook and Conduit green corridor and at Trumpington Meadows), Cambridge East and NW Cambridge urban extensions.	Developers	Cambridge City Council	New	New capital & revenue through s106 money	Medium	SML	Should be secured through the Cambridge urban extensions. The City Council role will be through planning policy and negotiating planning agreements.

CHALK GRASSLAND

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
CG1	Work with the private owners to develop Cherry Hinton East Pit into a high quality chalk grassland natural greenspace with safe access for the quiet enjoyment of nature.	English Nature	Wildlife Trust, Cambridge City Council, private landowner	Existing	New capital to implement management	High	SML	A partnership between interested organisations is likely to be the only means of securing this action.
CG2	Implement a conservation management regime for Lime Kiln Hill SSSI road verge to maintain the populations of Moon Carrot and Grape-hyacinth and monitor their status and to Wort's Causeway RSV to recover the population of Perennial Flax.	Cambridgeshire County Council	Cambridge City Council, Wildlife Trust	Existing	Existing	High	SML	Management of the road verges can be done through existing budgets with support from the Wildlife Trust. Better use of existing resources is required rather than more resources.
CG3	Through the University's Ecology Strategy for the West Cambridge site, implement a conservation management regime for Coton Path Hedgerow CountyWS to maintain the population of Yellow Vetchling and monitor it's status.	University of Cambridge	Wildlife Trust, Cambridgeshire County Council, Cambridge City Council	Existing	Existing	High	SML	Better management & use of existing resources is required rather than new resources. The role of the City Council is through planning & enforcement.
CG4	Seek to work with Netherhall School to establish a chalk grassland wildlife conservation area adjacent to Cherry Hinton Chalk Pits.	Cambridgeshire County Council	Wildlife Trust	Existing	New capital to create and reallocation of revenue to manage	Low	M	The Wildlife Trust has the resources through the City Greenways Project to approach the school, but the school may require resources to implement a conservation plan.
CG5	Establish a wider partnership to promote and implement the proposal for a "Gog Magogs Countryside Enhancement Area", to provide a strategic open space on the southern edge of the City.	Wildlife Trust / Cambridge Preservation Society	Cambridgeshire County Council, South Cambridgeshire District Council, Cambridge City Council & private landowners	Existing & new	New capital to create and revenue to manage. Potential for use of s106 money	High	SML	Realisation of the Countryside Enhancement Area will be a long-term, landscape-scale project, with discrete phases. The initial aim is to achieve widespread support for the idea by 2008.

WOODLAND, SCRUB, HEDGEROWS & VETERAN TREES

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
WSH1	Create a “Community Wood” as part of the greenspaces associated with the NW Cambridge urban extension. Woodland could provide the basis for a “new Country Park“ and help screen new and existing communities from the A14 and M11.	Developers	South Cambridgeshire District Council, Cambridge City Council	New	New capital & revenue through s106 money	Medium	ML	Should be secured through the Cambridge NW development. The City Council role will be through planning policy and negotiation of planning agreements.
WSH2	Identify opportunities to create “Community Orchards” across the city, including as part of the greenspaces associated with the urban extensions. Possible locations include within the north-west Cambridge urban extension greenspaces, associated with the proposed Addenbrooke’s Hospital expansion and possibly associated with allotments or other open spaces within the City. Traditional local varieties should be used where possible.	Developers, Cambridge City Council	South Cambridgeshire District Council, Addenbrook’es Hospital Trust	New	New capital & revenue. Possible s106 money in urban extensions	Low	ML	Should be secured through the Cambridge NW development. The City Council role will be through planning policy and negotiation of planning agreements.
WSH3	Create an area of wet woodland as an extension to Byron’s Pool LNR as part of the Trumpington Meadows proposed “Country Park”, in the Cambridge Southern Fringe urban extension.	Developers	Cambridge City Council, South Cambridgeshire District Council	New	New capital & revenue through s106 money	H	SM	Should be secured through the Southern Fringe development. The City Council role will be through planning policy and negotiating planning agreements.
WSH4	Acquire land adjacent to Barnwell West LNR to create a “Community Wood”.	Cambridge City Council		Existing	New capital & revenue. Possible use of s106 money	Medium	ML	While this will depend on the current landowner’s willingness to sell, such a project could be linked to s106 funding from the proposed Cambridge East urban extension.
WSH5	Ensure all ancient hedgerows are protected and well managed, in particular hedgerows at Teversham Drift, Church End and Coldham’s Lane	Cambridge City Council	Private landowners	Existing & new	Existing	High	Ongoing	The hedgerow at Church End was damaged as a result of a new development a few years ago. The City Council planning department and Tree Team have a lead role to play.
WSH6	Plant new species-rich hedgerows and scrub as part of the landscaping associated with each of the urban extensions.	Developers	Cambridge City Council, South Cambridgeshire District Council	New	New capital & revenue through s106 money	Medium	SML	Should be secured through the Cambridge urban extensions. The City Council role will be through planning policy and negotiating planning agreements.
WSH7	Promote the results of the Cambridge Veteran Tree survey (2004), implement the recommendations from the report, and in particular, encourage a greater number of trees to be retained so they become veterans, and plant replacement trees for the future.	Cambridge City Council, Cambridge University Botanic Gardens	Sustainable City Biodiversity & Wildlife Gardening Group, Wildlife Trust	Existing	Existing	Medium	SM	The City Council Tree Team can play a leading role.
WSH8	Organise a follow up survey of old and veteran trees within the City (including trees on private land), to assess in greater detail their biological value.	Biological Records Centre, Cambridge City Council	Sustainable City Biodiversity & Wildlife Gardening Group, Cambridge University Botanic Gardens, Wildlife Trust	Existing	Potential Sustainable City capital grant bid	Low	M	The survey could be run as a volunteer and public participation survey.
WSH9	Ensure important old and veteran trees are protected and well managed, and where appropriate, use Tree Preservation Orders (TPO) to protect such trees.	Cambridge City Council	Wildlife Trust, private landowners	Existing	Existing	High	Ongoing	The City Council Tree Team can play a leading role ensuring that veteran trees on their land are well managed and possibly by making use of TPOs to protect some trees.
WSH10	Organise a public survey for White-letter Hairstreak butterflies (associated with Elms) and Purple Hairstreak butterflies (associated with Oak).	Butterfly Conservation, Wildlife Trust	Biological Records Centre, Sustainable City Biodiversity & Wildlife Gardening Group	Existing	Potential Sustainable City capital grant bid	Low	S	Survey already planned for 2006.

MINOR STREAMS, DRAINAGE DITCHES & WATER VOLES

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
DD1	Review management policies and practices for the minor streams and drainage ditches through the City, in partnership with landowners, in order to integrate biodiversity conservation objectives into watercourse management. Prepare specific ditch management plans, starting with Bin Brook, Cherry Hinton Brook, Coldham's Brook, the First Public Drain, Garrett Hostel Lane drain and Hobson's Brook and Conduit.	Cambridge City Council / Environment Agency	Hobson's Conduit Trust, private landowners (including University & Colleges), Wildlife Trust	Existing	New or reallocated revenue & capital	High	SM	The results and management recommendations from the Water Vole surveys will need to be incorporated into management plans. Implementation of management plans are likely to require additional management resources.
WV1	Regularly monitor the status of all remaining Water Vole populations, including the quality of their habitat, and undertake surveys to assess whether they have returned to former sites or colonised new sites.	Wildlife Trust		Existing	Existing	High	Ongoing	Survey undertaken in 2006 & recommendations made.
WV2	Where Water Vole populations are present and / or have the potential to re-colonise, introduce specific management of watercourses to benefit the species, and monitor results.	Cambridge City Council / Environment Agency	Wildlife Trust, Hobson's Conduit Trust, Developers, other private landowners	Existing	New or reallocated revenue & capital	High	SM	A survey was undertaken in 2006. The results and recommendations will need acting upon and may require additional management resources, though changes to management within existing resources may be sufficient for some populations.

PONDS & GREAT CRESTED NEWTS

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
P1	Undertake a base-line survey of ponds in the City & promote the benefits of pond creation for wildlife and as a learning experience, as part of wildlife gardening.	Cambridge City Council, Biological Records Centre	Sustainable City Biodiversity & Wildlife Gardening Group	Existing	Potential Sustainable City capital grant bid	Low	L	Project mainly run by volunteers; likely to be eligible for Sustainable City Capital Grant.
P2	As part of management plans for City Council sites, including Byron's Pool and particularly those that support grazing such as Coldham's Common and Stourbridge Common, identify suitable opportunities for creating or restoring ponds.	Cambridge City Council	Wildlife Trust	Existing	New or reallocated revenue & capital	Low	L	Part of the City Council's open space management function.
P3	Seek to include ponds, where appropriate, and possibly as part of SUDS, in the design of the greenspaces associated with the urban extensions.	Developers	Cambridge City Council	New	New capital	Low	SML	Should be secured through the Cambridge urban extensions. The City Council role will be through planning policy and negotiating planning agreements.
P4	Organise a public survey for amphibians and reptiles in the City.	Cambridgeshire Amphibian & Reptile Group, Biological Records Centre	Sustainable City Biodiversity & Wildlife Gardening Group, Wildlife Trust, Cambridge City Council	Existing	Potential Sustainable City capital grant bid	Low	M	Project mainly run by volunteers; likely to be eligible for Sustainable City Capital Grant.
GCN1	Regularly monitor the status of all remaining Great Crested Newt populations, including the quality of their habitat, and provide management advice to owners and managers, such as the Adams Road Sanctuary management group.	Wildlife Trust	Cambridgeshire Amphibian & Reptile Group	Existing	Existing	High	Ongoing	Some monitoring is undertaken through the City Greenways Project.

THE BUILT URBAN ENVIRONMENT

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
BU1	Through implementation of the Parks for Cambridge People action plan, identify a list of formal and informal Open Spaces with the potential to provide new or enhanced natural greenspace, particularly within identified areas of deficiency as shown by Figures 8A & 8B. Assess the potential of each Open Space and develop detailed biodiversity enhancement proposals for inclusion within appropriate site management plans and contracts.	Cambridge City Council	Wildlife Trust	Existing & new	New or reallocated capital & revenue	High	SM	Through the City Council Technical Services team.
BU2	Work with the University and Colleges to identify the biodiversity enhancement potential of their parks and open spaces, and to deliver this potential through the adoption of conservation management plans and practices.	Cambridge City Council	University of Cambridge, Wildlife Trust	Existing & new	New or reallocated revenue & capital	High	SML	Establishment of closer working relations with the University of Cambridge and Colleges would help to maximise the potential benefits of their estate to the wider population.
BU3	Develop management plans for all City Council managed cemeteries that incorporate biodiversity objectives.	Cambridge City Council	Wildlife Trust	Existing	New or reallocated revenue & capital	Medium	SM	The City Greenways Project has secured funding to survey the sites and prepare management recommendations in 2006. Additional funding may be required to implement the recommendations.
BU4	Maintain and seek to increase the number of street trees and trees in parks across the City, favouring native species where appropriate.	Cambridge City Council		Existing	Existing	High	Ongoing	The Arboricultural Strategy and work of the Tree Team has made significant progress in recent years.
BU5	Promote allotments as areas for biodiversity and healthy living and work with allotment holders to develop plans to incorporate features of biodiversity value.	Cambridge City Council	Allotments Network, Sustainable City Biodiversity & Wildlife Gardening Group	Existing	Existing	Low	ML	This could be achieved through the re-invigoration of the allotments network.
BU6	Prevent the loss of areas of significant vegetation, including shelterbelts, hedgerows, road verges, street trees and large gardens through rigorous application of adopted planning policies, and management of the City Council landholding.	Cambridge City Council	Developers	Existing	Existing	High	Ongoing	Part of the City Council's planning function.
BU7	In areas of natural greenspace deficiency (see Figure 8B: Arbury, Kings Hedges, Chesterton, Romsey, Coleridge & Queen Ediths), resist the loss of gardens, particularly large gardens, through subdivision of plots, unless new open spaces, that include natural greenspace, can be provided to meet needs.	Cambridge City Council	Developers	Existing	Existing	High	Ongoing	Part of the City Council's planning function.
BU8	If major re-development occurs in areas of the City with an identified deficiency in greenspace (see Figure 8B: Arbury, Kings Hedges, Chesterton, Romsey, Coleridge & Queen Ediths), seek opportunities for the provision of new open space, including natural greenspace.	Cambridge City Council	Developers	Existing	New capital & revenue through s106 money	High	SML	Part of the City Council's planning function.
BU9	Regularly review and update the Cambridge Sustainable Development guidelines to ensure that they are up-to-date with respect to biodiversity best practice.	Cambridge City Council		Existing & new	Existing	Medium	SML	Part of the City Council's planning function.
BU10	Use planning policies and design guidelines to include biodiversity features throughout new developments and in particular the proposed urban extensions. Biodiversity features should be included in formal landscaping and on buildings, walls and roofs. Examples include the adoption of wildlife gardening principles and novel approaches such as SUDS or green roofs	Developers	Cambridge City Council, South Cambridgeshire District Council	Existing	Existing	Medium	SML	Should be secured through the Cambridge urban extensions. The City Council role will be through planning policy and negotiating planning agreements.

BU11	Incorporate features of benefit to biodiversity on all suitable City Council property or buildings (e.g. Housing areas, the Guildhall, car parks). Examples include erection of bird or bat boxes and adoption of wildlife gardening principles in landscaping, such as use of native species or climbing plants on walls or buildings.	Cambridge City Council		Existing	New or reallocated capital & revenue	Medium	SML	This action provides an opportunity to engage with and involve other departments within the City Council such as housing and estates.
BU12	When building or refurbishing City Council buildings, adopt the highest environmental standards, for example by using at least the BREEM Eco-Homes excellent standard or a future equivalent benchmark. Incorporate features of benefit to biodiversity, for example bird or bat boxes, and wildlife gardening principles including landscaping using native plants, wherever practicable.	Cambridge City Council		Existing	New or reallocated capital	Medium	Ongoing	This action provides an opportunity to engage with and involve other departments within the City Council such as housing and estates.

GREEN CORRIDORS

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
GC1	Protect the existing Green Corridors listed below through relevant planning documents and policies and through implementation of integrated management plans. 4 & 6 River Cam corridor C9 Hobson's Conduit & Vicar's Brook to River Cam C10 Cherry Hinton Brook & Coldham's Brook	Cambridgeshire County Council, Cambridge City Council	University of Cambridge & Colleges, Hobson's Conduit Trust, other private landowners	Existing & new	Existing to protect. New capital & revenue to develop & manage. Possible use of s106 money	High	SML	Part of the City Council's planning and land management functions.
GC2	Develop the new Green Corridors listed below through relevant planning documents and policies, greenspace management initiatives and access improvements. Key new links are: C1 Cambridge Southern Fringe: Enhanced Chalklands Access C2 Northern Cambridge / Cam Corridor C3 Northern Fringe Enhanced Access C4 NW of Cambridge – Improved Access to Coton C5 Wimpole Way Green Corridor C6 Granchester Link C7 Outer Orbital Recreation Route C8 Cambridge East links C9 Cambridge Southern Fringe: Clay Farm to Nine Wells	Cambridgeshire County Council, Cambridge City Council, SCDC	Developers, other private landowners, Cambridge Preservation Society, Wildlife Trust	Existing & new	New capital & revenue to develop & manage. Possible use of s106 money	High	SML	Part of the City Council's planning and land management functions.
GC3	Develop a series of promotional leaflets to publicise green access routes through the City. The first two of these, Barnwell East to Lime Kiln Hill and the Trumpington Loop will be published in 2006. Other future leaflets could include: River Cam by foot River Cam by punt Hobson's Brook	Cambridge City Council, Wildlife Trust	potential private sponsors	Existing	Potential Sustainable City capital grant bid	Medium	S	First walks leaflets funded through Sustainable City Capital Grants programme and prepared by the City Greenways Project. Further leaflets should also be eligible for this funding.

PROMOTION OF BIODIVERSITY

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
BP1	Organise a programme of events on City Council managed LNRs and other open spaces, aimed at increasing the number of people actively involved in conservation related activities on these sites. In addition, seek to establish one or more self-sustaining "Friends" groups associated with the LNRs.	Cambridge City Council		Existing	Existing	High	Ongoing	Part of the role of the Community Reserves Officer.
BP2	Every year, chose a species or group of species for which to promote conservation action across the City, e.g. Bats, Amphibians & Reptiles, Song Thrush, House Sparrow, Swallows and Swifts.	Wildlife Trust	Sustainable City Biodiversity & Wildlife Gardening Group	Existing	Potential Sustainable City capital grant bid	Medium	Ongoing	Co-ordinated through the City Greenways Project.
BP3	Establish and maintain a new demonstration wildlife garden, for example associated with a Cambridge City Council housing area, another greenspace or a College garden.	Cambridge City Council	Sustainable City Biodiversity & Wildlife Gardening Group, University Colleges	Existing	Potential Sustainable City capital grant bid	Medium	M	Project mainly run by volunteers, supported by City Council staff; project likely to be eligible for Sustainable City Capital Grant.
BP4	Promote wildlife gardening activities through events including that planned for 2007. Organise a repeat of the Wildlife Gardening survey to assess the value of gardens for wildlife and the numbers of people actively involved in wildlife gardening.	Sustainable City Biodiversity & Wildlife Gardening Group	Cambridge City Council, Wildlife Trust, University Colleges	Existing	Existing for event & new for survey.	Medium	SML	Project mainly run by volunteers; likely to be eligible for Sustainable City Capital Grant.
BP5	Provide a varied programme of well-publicised events in partnership with local organisations. Review publicity arrangements for events outside Environment Week.	Cambridge City Council, Cambridgeshire County Council	Sustainable City Biodiversity & Wildlife Gardening Group	Existing	Existing	High	Ongoing	Many organisations already run their own events. The County Council co-ordinates a listing of events quarterly, though the effectiveness of this could be reviewed.
BP6	Through the Cambridge Sustainable City programme, monitor the numbers of people involved in nature conservation activities (If appropriate adopt a target through the relevant corporate strategy or individual service plans).	Cambridge City Council		Existing	Existing	Medium	SML	Establish monitoring arrangements through the Sustainable City programme.

STRATEGY REVIEW & MONITORING

	Action	Lead	Other Partners	Staff Resources	Financial Resources	Priority	Timescale	Comments
SRM1	Develop a series of performance indicators to monitor the success of the strategy and whether the aim of a "net gain" in biodiversity is realised.	Cambridge City Council	Biodiversity Partnership working group	Existing & new	Existing & new revenue	High	S	A unified set of indicators should be developed, applicable to monitoring across the full range of plans and strategies
SRM2	Undertake a baseline audit of the current status of priority habitats and species within Cambridge city.	Cambridge City Council	Biological Records Centre, Wildlife Trust	Existing	Reallocation of existing revenue / capital	High	S	A baseline survey could be undertaken as a desk exercise, using GIS and aerial maps, site reports, supplemented with targeted site visits.
SRM3	Agree and implement a mechanism and timescales for reporting on actions, for monitoring the chosen performance indicators and reviewing the strategy.	Cambridge City Council		Existing & new	New or reallocation of revenue	High	SML	An officer Nature Conservation Group will be required and should also involve other key external partners