Sutton Biodiversity Partnership

Biodiversity Action Plan

Foreword

It gives us great pleasure to present Sutton's Biodiversity Action Plan for 2005-2010. For the first time we have brought together a Sutton Biodiversity Partnership comprising key organizations and individuals who contribute to wildlife enhancement in the Borough. This partnership approach has resulted in Sutton's first Biodiversity Action Plan.

We are proud of the existing amount of good work carried out for the benefit of biodiversity in the Borough. It is our intention to build on this strong foundation, and this Biodiversity Action Plan (BAP) represents our clear intention to continue with our commitment to improving biodiversity.

The UK is committed to conserving and enhancing wild species and wildlife habitats and has developed a UK Biodiversity Action Plan to achieve this. However, if the UK BAP is to succeed it requires a means to ensure that the national plan is translated into effective action at local level. The best approach to do this is by way of a Local Biodiversity Action Plan.

By working together, public, private, business and voluntary bodies can deliver far-reaching conservation and enhancement of wild species and wildlife habitats.

This plan also recognises that biodiversity conservation should be broadened to include those groups traditionally not involved in nature conservation. The Sutton plan includes a programme of action to gain broader commitment to biodiversity at every level.

It is important to note that whilst this Local Biodiversity Action Plan is a product; it is also an ongoing process with this first plan continually reviewed and updated as necessary. This sets in place quantifiable targets that haven't been set before. It is the implementation of this plan that is the key and we look forward to delivery of actions and targets for the benefit of biodiversity.

In drawing up this plan we have consulted widely and reached a broad range of people. We express our sincere thanks to all of you who have commented on, or in any way assisted in the development of this plan. Together we will continue to protect and improve biodiversity within the London Borough of Sutton.

Lead Councillor for the Environment
London Borough of Sutton

Chair of Sutton Nature Conservation Volunteers

Executive Summary

This Biodiversity Action Plan (BAP) is a plan for action to conserve, protect and enhance wildlife in the London Borough of Sutton. It will do this by achieving measurable targets for priority habitats and species over the next five years. Following wide consultation the priority habitats are:

- Woodland and Scrub
- Parks and Open Spaces
- Rivers and Wetlands
- Gardens and Allotments
- Chalk grassland
- Cemeteries and Churchyards

Although the list is not exhaustive, the priority habitats were selected as they are national, regional and local habitats at risk, areas important for rare species, as well as culturally valued and characteristic habitats of Sutton. However, this plan does not just seek to conserve those species that are rare or endangered; declines of more widespread or common species require our action too. Within this BAP a Species Action Plan has been prepared for bats (all UK species) as the requirements for their survival are complex, crossing over habitats not covered in this plan.

Measurable targets have been set over five themes. Within these themes examples of measurable targets are: Policy and Strategy - influencing national, regional and local policies on nature conservation; Management and Creation – turning over areas to nature conservation; Advice – ensuring landowners and managers are aware of their responsibilities under wildlife legislation; Raising Awareness – across groups traditionally not involved in nature conservation e.g. disability, youth or black & ethnic minority groups; and Research and Monitoring – surveying Sutton's nature conservation resource.

It follows on from the strategic framework for biodiversity in the UK, from its initial commitment to protecting and enhancing wildlife and habitats at the 'Earth Summit' in Rio de Janeiro in 1992, where the UK was one of the signatories of the Convention on Biological Diversity, through to the establishment of a UK Steering Group setting nationwide objectives, habitats and species for priority action. This culminated in the development of local biodiversity action plans to implement actions and raise awareness at a local level.

This BAP is the culmination of partnership work involving innovative means to incorporate the views of a wide range of partners, including statutory and non-statutory organisations and people living in Sutton.

It will achieve its aims by engaging local people, through inspiring and supporting local ownership and local action. It will stimulate, encourage and publicise the many efforts being made at all levels to halt biodiversity decline. Ultimately to make the biodiversity process work we must make a difference

at a local level. Across Europe a resolution has been made to halt biodiversity loss by 2010. This BAP is Sutton's commitment to achieve that goal.

Acknowledgements

I would like to thank members of the Sutton Biodiversity Partnership for their assistance, advice and guidance in the production of this Biodiversity Action Plan. In addition I would like to thank all those who provided comments, advice and guidance, and of course the partners who have committed to supporting and implementing the actions, without which this plan would not achieve its potential to make a real difference to conserving and enhancing Sutton's wildlife and wildlife habitats.

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Sutton's Biodiversity Partnership was established in 2004 to prepare, consult on and implement the action plan for the protection, conservation and enhancement of Sutton's biodiversity. At the time of publication the Partnership included:

Bat Conservation Trust
Beddington Farm Bird Group
Belmont Allotments Society
Butterfly Conservation
Centre for Environmental Initiatives
Cheam Park Paddock Allotments
Downlands Countryside Management Project/Old Surrey Downs
Environment Agency
Forestry Commission
Friends of Beddington Park & The Grange
Friends of Royston Park
Greater London Authority
Greener Schools Support Network
Greenspace Information for Greater London
Gander Green Lane Allotments
JetSet Club
London Bat Group
London Boroughs Biodiversity Forum
London Borough of Sutton
London Wildlife Trust
Roundshaw Allotments & Leisure Group
Sutton Environment Network Wildlife and Land Use Working Group
Sutton Nature Conservation Volunteers
Surrey Organic Gardening Group
The Warren Allotments
Woodland Trust

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Introduction

1. What is Biodiversity?

Biodiversity or biological diversity simply means the 'variety of life'. This includes all life, in its various forms such as animals, plants, fungi even bacteria and viruses. It encompasses the diversity of species, genetic variability within a species, together with the diversity of and interactions with their environment.

2. Why do we need to conserve biodiversity?

If ever we need a motivation for conserving the variety of life then there is glaring evidence of the unabated loss of biodiversity, and the consequences of that loss. The main threat is massive human population growth, causing increasing land and resource use. Globally, human activities such as unsustainable forms of agriculture, industry, recreation and international commerce are the main threats to biodiversity. These activities have exacerbated climate change. Together, they have caused rapid loss and fragmentation of habitats, and elevated extinction rates of species and local populations. However, it is important to recognise that biodiversity is not static: it is a system in constant evolution. Indeed 99% of the species that have ever lived on earth are extinct today. In spite of this it is the current rate and manner of extinction caused by human activities that concerns us. Current species extinction rates are of the order of 100 to 1000 times greater than 'natural' extinction rates (Vitousek et al. 1997).

We depend upon biodiversity to sustain our lives by regulating and stabilising ecosystem processes. Halting biodiversity loss has an economic benefit preventing the loss of potential foods, medicines, industrial products, and enhances tourism opportunities. Biodiversity also enriches our lives through physical, educational and social interaction and aesthetic appreciation. If biodiversity is lost, then consequently the quality of human life declines.

3. The History of the Biodiversity Action Plan Process

In 1992, the Convention on Biological Diversity (the Rio Convention) was signed by 167 governments at the Earth Summit in Rio de Janeiro. It was the first treaty to provide a legal framework for biodiversity conservation. It called for the creation and enforcement of national strategies and action plans to conserve, protect and enhance biological diversity.

In response the UK Biodiversity Steering Group was created in 1994 and published the framework and criteria for identifying species and habitat types of conservation concern. From this list, action plans for 427 species and 179 habitats were eventually published. The current UK BAP structure, overseen by the UK Biodiversity Partnership, has the aim of bringing together all the partners involved in or with an interest in the UK Biodiversity Action Plan, in policy

on biodiversity, and to co-ordinate action that should be taken forward at a UK level.

In recognition of the need for a London approach, the London Biodiversity Partnership (LBP) was established in 1996 to begin a new biodiversity planning agenda for London. It has published the London Biodiversity Audit in 2000 and an Action Plan in 2001.

The Mayor of London produced a Biodiversity Strategy in July 2002, setting out a broad framework for Biodiversity in London. The priority habitats and species identified in this BAP accord closely with the objectives of the Mayor's Strategy.

The Mayor is encouraging London Boroughs to work towards the principles and proposals set out in his London Biodiversity Strategy, by producing their own Local BAPs. In addition, the Government, through Circular 04/01 advises Councils that BAPs should form an integral part of a local authority's Community Strategy. Our Community Strategy contains an action and target on BAP. Local BAPs reflect the values of local people, cater for local distinctiveness, and are key to the successful delivery of both the UK, and the London Biodiversity Targets.

4. What is Sutton's Biodiversity Action Plan?

A Local Biodiversity Action Plan is a plan of action for protecting, conserving and enhancing wildlife at a local level, using measurable targets. A BAP is far broader than a local authority nature conservation strategy, involving a large number of statutory and non-statutory organisations in its development and implementation. Although 74% of people in the EU rate the environment as being important, there is a sizeable population who neither care nor know about biodiversity. Biodiversity Action Plans are about mobilising a message, popularising our language. This plan will engage more people and convince more people that biodiversity is important in our daily lives, and that biodiversity matters for human well-being.

5. The Sutton Biodiversity Action Plan Partnership

Sutton has set up a core partnership, in line with best practice, to have equal representation in the decision-making process. The core partnership includes Statutory Authorities (London Borough of Sutton, Greater London Authority); nature conservation organisations (London Wildlife Trust, Sutton Nature Conservation Volunteers, Downlands Countryside Management Project, Centre for Environmental Initiatives) to provide a range of expertise, knowledge, and specialist resources necessary for the development of a BAP. The local Council acts as 'lead-partner' as it is often the main land-owner in the Borough, but also acts as secretariat, provides resources, and can provide funding. Sutton is proud of its reputation as the greener, cleaner borough. We realise that the conservation of wild flora and fauna is central to our future where our green spaces are

flourishing, bursting with diverse plants and animals, well used, understood by the community, and protected from development.

5.1 Aims and Objectives

The core partnership has agreed the following aim and objectives for Sutton's Biodiversity Action Plan:

Aim:

To ensure the conservation, protection, and enhancement of biodiversity in the London Borough of Sutton, for current and future generations.

Objectives:

- To produce an audit of biodiversity within the Borough
- To determine species and habitat priorities within Sutton, with regard to both national and London targets and to wildlife valued by local people, and to correlate them with those of neighbouring boroughs
- To develop and implement a long-term plan for protecting, conserving and enhancing Sutton's biodiversity – a Biodiversity Action Plan
- To identify indicators of sustainability, and develop both targets and a means of monitoring the progress of the plan
- Throughout the process to raise awareness of biodiversity issues, and improve availability of information to the people of Sutton
- To encourage practical involvement in biodiversity conservation projects by local people

5.2 Ecological Audit

The core partnership has made an assessment of the habitats and species found in the Borough, using its knowledge, expertise and existing ecological data – an ecological audit. From this, the core partnership drew up a list of candidate habitats and species, with reference to national and London priorities and local values.

5.3 Selecting Priorities

In London, our knowledge of habitats and their status is much better than that of individual species. Therefore, it is more practical to first develop action plans for habitats. The theory being that species will 'look after themselves' if the habitat is of suitable quality and size. However, where a species has significant local conservation value it may warrant a specific action plan. Species can also be used to increase public awareness ('flagship'), or to publicise and promote the activities of the BAP, especially if they are of local significance. A prioritised short list of habitats was developed as a result of extensive consultation with experts and interest groups. The list of prioritised habitats is:

- Woodland and Scrub
- Parks and Open Spaces
- Chalk grassland
- Rivers and Wetlands
- Gardens and Allotments
- Cemeteries and churchyards

Following consultation with ecological specialists within the Core Partnership it has been decided to develop a single SAP. The SAP is for all Sutton's bat species, as the ecological requirements and conservation problems faced by all London's species of bats are believed to be generally similar. Any measures proposed are likely to be of benefit to a number of species. Their ecological requirements encompass a range of roost, breeding and feeding sites that preclude their association with any one habitat type, necessitating a stand alone SAP.

Furthermore, this partnership has agreed Habitat Action Plans (HAPs), Species Action Plans (SAPs), and Generic Actions (such as publicity), that together make up the BAP.

5.4 BAP Consultation

Consultation has been co-ordinated through the Sutton Environment Network's (SEN) ' Wildlife and Land Use Working Group (WLUWG), that includes ecological professionals and interested individuals. The group comprises 64 individuals or societies well placed to implement and promote BAP objectives, as directed by the core partnership. A full list of partner organisations can be found at the front of this publication.

Successful and innovative approaches and techniques were undertaken to improve stakeholder involvement in the biodiversity action planning process.

Although the BAP process seeks to ensure that everyone's input is equal, and reflects their opinion and interests, a balance is struck to ensure that the habitat and species selected take into account popular, as well as scientific opinion.

The selection of priority habitats and species for action is based upon robust ecological principles, and baseline information derived from national and regional guidance; such as habitats for which the UK has international obligations, habitats at risk, and areas important for key species. However, it should be recognised that what the public sees as important may be different from what some experts see as important. For example, a local priority is not required to have international importance, nor be based on rigorous scientific methodology, but still may have merit. That said, in the final assessment habitats and species priorities need to have some scientific rigour.

5.5 Setting and Devising Targets

Integral to a BAP are measurable targets for priority Habitat Action Plans and Species Action Plans set against clear timescales. When setting timescales, it is important to allow for programmed reviews and monitoring every five years.

5.6 Delivery

The Core Group drives the whole process and other partners; in particular the Sutton Environment Network (SEN) Wildlife and Land Use Working Group will be key parts of the delivery mechanism. Delivery of the BAP actions is through consensus and community involvement. Individual members of

the public, organisations and groups, are encouraged to get involved in delivering the actions in the HAP's and SAP and to join the Sutton Biodiversity Partnership.

5.7 Monitoring and reviewing

Monitoring is an essential and integral part of the BAP process. It enables a greater understanding of the conservation status of species and habitats, and measures the success of the BAP as a whole. The partnership will produce a reporting programme every five years so that progress is monitored, and further actions suggested if a species or habitat is under threat. Each review should be set against an overall 25-year target; this is where the need to have constantly updated drafts of the Plan comes into relevance. This is the required period, in ecological terms, to judge the success of a project. Annual progress reports will be produced to demonstrate progress towards Action Plan targets.

5.8 Towards 2010

As part of the international activity, European Governments have made a commitment to halt the loss of biodiversity within the European Union (EU) by 2010, through their European Community Biodiversity Strategy. They recognise the need to halt biodiversity loss, and have agreed cross-sectoral objectives and targets to achieve this. These actions will be achieved through a number of international agreements. This document, and the proposed actions contained within it, will contribute towards the UK and EU commitment to halt the decline of biodiversity by 2010.

Sutton's first BAP review coincides precisely with the 2010 target, and this adds all the more importance to achieve its aims for Sutton's biodiversity.

5.9 Strategic Planning & Development

Habitats or species listed as priorities by Local Biodiversity Partnerships are capable of being a material consideration in the preparation of local development documents, and the making of planning decisions. Information generated by the BAP will assist the planning process, by providing more detailed information as a basis for revision of development plans. Conversely, statutory plans will make a significant contribution to delivery of local biodiversity targets.

As local development documents are revised, local authorities should increase integration of BAP objectives. Flexible approaches and mechanisms need to be incorporated into local development documents so that biodiversity objectives can be adopted into the social, economic, and environmental elements.

Planning Policy Statements (PPS) set out the Government's national policies on different aspects of land use planning in England. Both Planning Policy Statement 1: Delivering Sustainable Development, and Planning Policy Statement 9: Biodiversity and Geological Conservation, seek to promote the conservation and enhancement of wildlife species, habitats and biodiversity through the planning process.

5.10 Open Spaces Strategy

The BAP will link into the assessment of open space, by providing audit information, and assist in a concerted approach to delivering the Open Spaces Action Plan. It is important to invest in key habitats and sites; the Open Spaces Strategy will look at the future use of land.

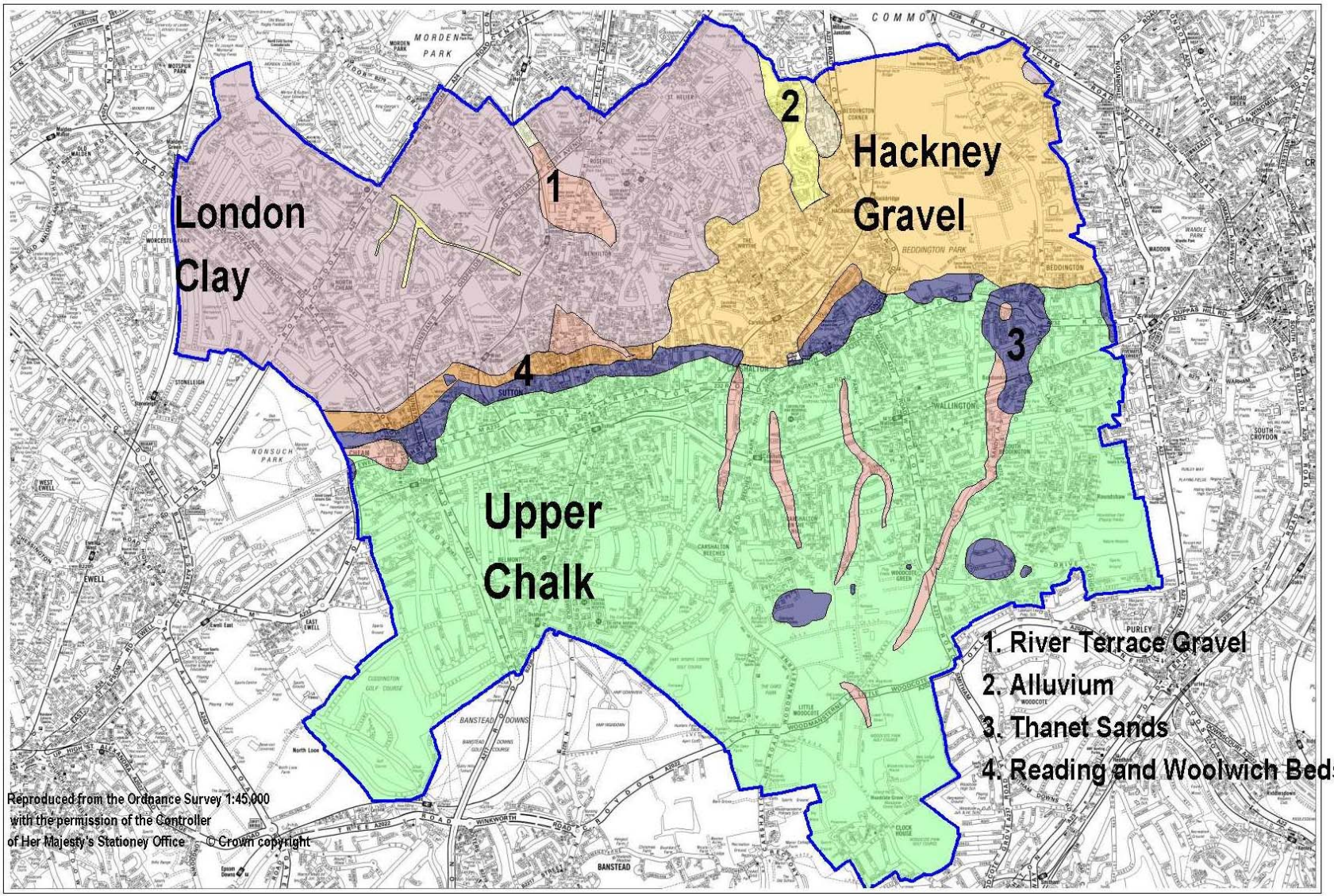
6. Sutton's Biodiversity

Sutton contains an impressive array of wildlife and there is much to celebrate. Nationally declining or rare species such as the small blue butterfly *Cupido minimus*, flowering plants such as the greater yellow rattle *Rhinanthus angustifolius*, invertebrates such as the stag beetle *Lucanus cervus*, and birds such as the skylark *Alauda arvensis*, and probably the largest population of the tree sparrow *Passer montanus* in the country, all make their homes in Sutton. However, it is not just the rare or uncommon that we should protect. Common or familiar species such as blackbirds *Turdus merula*, robins *Erithacus rubecula* and foxes *Vulpes vulpes*, are integral to UK biodiversity.

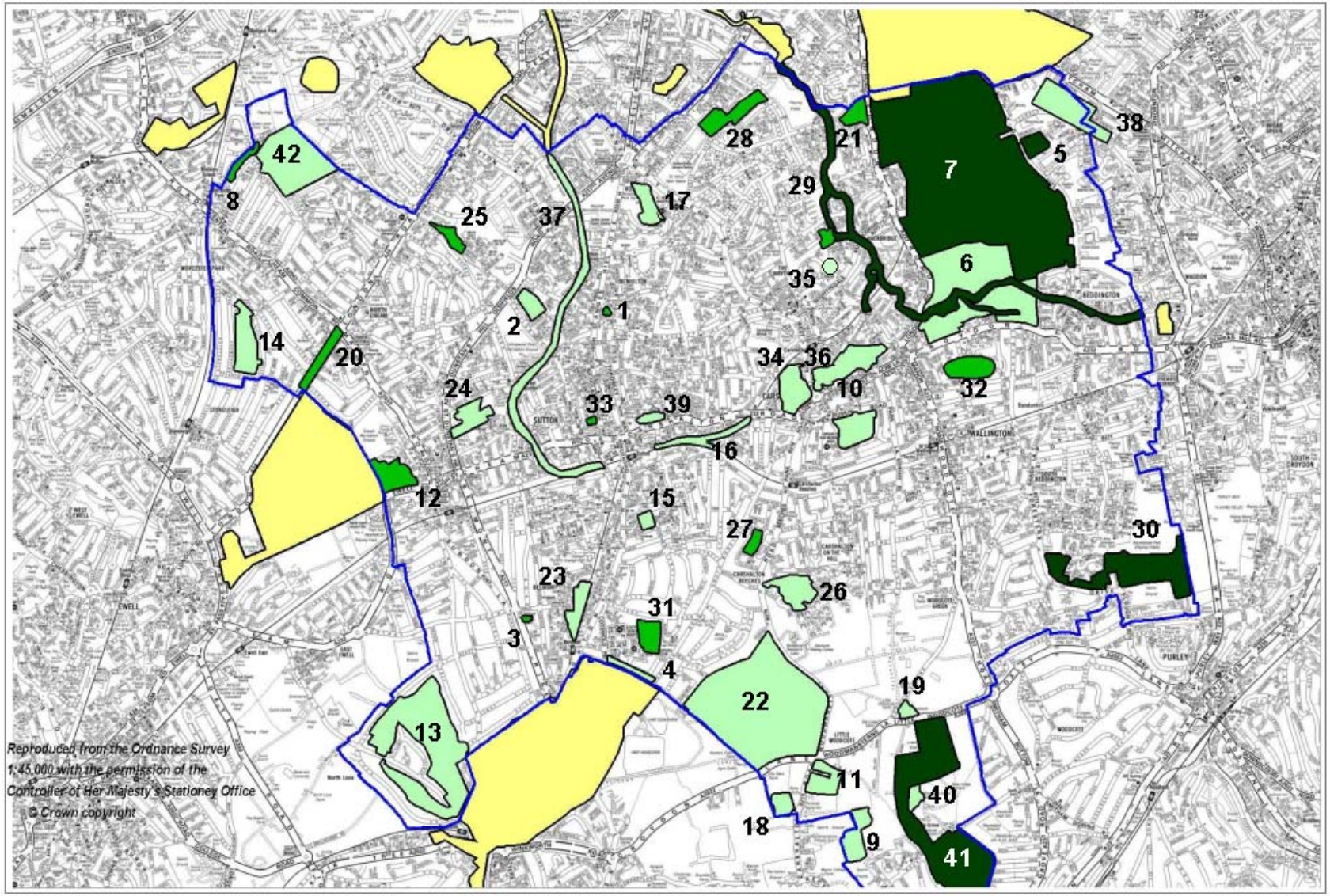
Sutton's natural character is influenced by its geology. In the southern half of the Borough the underlying geology is chalk. Chalky soils are always alkaline, and very free-draining which restricts the type of plants that can grow on them. In the north west river terrace gravels predominate. These gravels are important in the building industry, and their extraction has had a huge impact on the landscape of the area. Current proposals are to restore the 92 ha Beddington Farmlands site, that covers a significant proportion of the river terrace gravels as a site of nature conservation by 2023 as part of a wider Wandle Valley Country Park. The north east of the Borough is dominated by London clay, a heavy, neutral soil that holds a lot of water and is again colonised by characteristic plants. The chalk spring fed river Wandle, the Beverley Brook and Pyl Brook support a rich diversity of invertebrate life and fish species. Chalk Rivers are subject to a national Biodiversity Action Plan, because of their characteristic plants and animals and threats to their vitality.

The mainly urban setting in the northern half of the Borough does not prove to be an obstacle for many forms of wildlife to live and flourish. However, where habitats are fragmented or isolated from one another, this can lead to local extinctions. This BAP aims to build upon existing habitat and wildlife information acquired as part of wildlife surveys, such as the Phase 1 Habitat Surveys of the 1990's, and the London Wildlife Survey of 1984/85. These have since been added to by the endeavours of the local authority, and the many dedicated statutory and non-statutory conservation organisations operating in the Borough.

Map: Underlying geological strata in Sutton



Map: Key nature conservation sites



Key to site numbers in Figure 2.

	Site	Ref
1	All Saints Churchyard, Benhilton	L
2	Anton Crescent Wetland	BII
3	The Avenue Primary School Nature Garden, Belmont	L
4	Banstead Downs	BI
5	Beddington Lane Paddock	BII
6	Beddington Park and St Mary's Churchyard	BI
7	Beddington Sewage Farm	M
8	Beverley Brook and Back Green, Worcester Park	L
9	Big Wood and Ruffett Wood	BI
10	Carshalton Ponds, The Grove and All Saints Churchyard	BII
11	Carshalton Road Pastures and Grove Lane	BI
12	Cheam Park	L8
13	Cuddington Golf Course and Cuddington Hospital	BI
14	Cuddington Recreation Ground	L
15	Devonshire Avenue Children's Playground	BII
16	East Surrey Railway Lines (The Warren)	BII
17	Greenshaw Wood	BI
18	Lambert's Copse	BII
19	Little Woodcote Wood	BII
20	London Road Edge, North Cheam	L
21	Mill Green	L
22	The Oaks Park and Golf Course	BI
23	Old Belmont Hospital Site	BII
24	Perretts Field and Sutton Water Works	BII
25	Pyl Brook, Stonecot	L
26	Queen Mary's Hospital Wood and Wellfield Plantation	BII
27	Radcliffe Gardens Woodland	L
28	Revesby Road Wood	L
29	River Wandle	M
30	Roundshaw Downs	M
31	Royal Marsden Hospital Grassland	L
32	St Mary's Court, Bute Road	BII
33	St Nicholas Churchyard, Sutton	L
34	St Philomena's Lake	BII
35	Spinney, The	L
36	Sutton Ecology Centre	BI
37	Sutton to St Helier Railway Line	BII
38	Therapia Lane Rough	M
39	Water Gardens Bank	BII
40	Woodcote Grove Wood	BII
41	Woodcote Park Golf Course	M
42	Worcester Park Sewage Works	BII

M	Sites of Metropolitan Importance
BI	Sites of Borough Importance, Grade I
BII	Sites of Borough Importance, Grade II
L	Sites of Local Importance

References

Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

Guest P., Frith M., Leigh-Hunt S., 1998; Biodiversity Action Plans getting involved at a local level, London Wildlife Trust

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Scott Wilson Business Consultancy, Sutton Open Space Strategy, Draft Report v.1 for London Borough of Sutton, January 2005

Vitousek, P. M., H. A. Mooney, J. Lubchenco, and J. M. Melillo. 1997. Human domination of Earth's ecosystems. *Science* 277:494-499.

Websites: London Biodiversity Partnership English Nature; London Wildlife Trust; UK BAP

Habitat Action Plans

The Habitat Action Plans

Woodlands & Scrub

Wild Service tree © Mike Waite

"Of all the trees that grow so fair,
Old England to adorn
Greater are none beneath the Sun
Than Oak, and Ash, and Thorn"

(A Tree Song – Rudyard Kipling)

1. Aim

- To maintain the current area of semi-natural woodland, scrub and trees, which are of landscape, wildlife and historic interest
- To enhance the quality of these areas by appropriate management
- To promote the importance of these habitats for biodiversity in the Borough

2. Introduction

Our association with woodlands began with the primeval wildwood that covered most of lowland Britain following the last Ice Age. Few fail to be inspired by the splendour of ancient woodland, indeed, without the influence of our human ancestors, London would have been swathed today in extensive forest. However, only remnants of this ancient woodland (meaning having been in existence since 1600 A.D.) remain today. Nevertheless, many people enjoy and value access to all types of woodland. Woodland with a good age structure of young to ancient trees can provide habitat for a huge array of organisms. However, the majority of woodland in Sutton is semi-natural, often

re-established after clearances, or derived from plantations. Even so, this habitat has the potential for a rich assemblage of species.

3. Current Status

3.1 Area & Distribution

In comparison with other European Countries, Britain has one of the lowest land areas covered by woodland, with all types of woodland contributing to 7% of the land surface. Perhaps more importantly, in ecological terms, ancient semi-natural broad-leaved and yew woodland covers only 1% of the land surface.

A woodland is a plant community dominated by trees and shrubs. The UK Woodland Assurance scheme definition of small woodland is an area 'up to 100 hectares (250 acres)'. However, it is accepted that woodlands can be considerably smaller; for example Little Woodcote Wood in Sutton is only 1.9 ha. Scrub includes all stages from scattered bushes to closed canopy vegetation. Scrub is dominated by locally native or non-native shrubs and tree saplings, usually less than 5m tall, occasionally with a few scattered trees. It is the dominance of woody species that distinguishes woodland and scrub from grasslands and other communities. Within this general classification, woodland is sub-divided into a wide range of community types, including semi-natural broadleaved native woodland, non-native broadleaved woodland, coniferous, carr and scrub. Within Sutton, woodland and scrub communities are defined as 'semi-natural', as they all will have had management in the past. Woodlands and scrub occur on all soils found in the Borough; a characteristic woodland community type grows depending on factors such as soil type, slope, aspect, climate and past management.

Of Suttons' woodland resource, the largest block is Ruffett and Big Wood, comprising 7 ha in total. The only likely ancient woodland present in the Borough is a strip at the western end of Roundshaw Downs Local Nature Reserve. Typical indicator species of ancient woodland can be found here, including wood sedge *Carex sylvatica*, moschatel *Adoxa moschatellina* and goldilocks buttercup *Ranunculus auricomus*. Most of Sutton's woodland is undoubtedly secondary, the result of 18th and 19th century plantations, or natural colonisation of unmanaged land. Significant areas of secondary woodland exist at Oaks Park, with smaller plantations at Little Woodcote Wood, Wellfield Plantation, and the adjacent former Queen Mary's Hospital site. These sites contain a mixture of both native and non-native tree species.

In the north, Sutton's woodlands comprise dominant canopy species of oak, ash and sycamore, with occasional horse chestnut on London clay and soils derived from river terrace gravels. Common understorey species include hawthorn and field maple.

In the south, canopy species of oak, ash, sycamore and beech dominate, with occasional horse chestnut. Chalk scrub has

developed at sites such as Woodcote Park, Cuddington Golf Course, Roundshaw Downs and Carshalton Road Pastures. This community type is often underestimated as it forms a valuable habitat for birds and invertebrates. In Sutton, chalk scrub consists of predominantly hawthorn, but has components of buckthorn, dogwood, spindle, wayfaring tree, privet and blackthorn.

Scrubland also dominates railway line sites. Willow species and alder are present along the river corridor.

Sutton is one of the least wooded of the London Boroughs, with only an estimated 2.4% cover of the land surface. However, by way of contrast, in relation to other London Boroughs, Sutton contains large numbers of street and garden trees: 186,140, with a high density of 42.86/ ha (London Tree Survey 1993), compared to other London boroughs. Where woodland is present, it exists as small discreet blocks with low connectivity. This is a product of clearance of forest in medieval times for pasture in the south of the Borough, and for arable crops and parklands in the north.

3.2 Trends

Without the historical clearance by humans, the climax vegetation of London would be woodland. The removal of native woodlands has resulted in small (less than 20 ha), widely scattered parcels of secondary woodland within Sutton.

Historical management techniques, such as coppicing have established a ‘selected for’ community in secondary woodland such as ash, field maple, hornbeam, beech, sweet chestnut and hazel over oak, birch, elm, rowan, holly and sycamore. Where more recent secondary woodlands have established a more natural canopy may develop than those associated with this traditional management practice. That said the recent revitalisation of these techniques is recognised as providing ideal habitat opportunities for a number of rare and declining woodland species.

In practice, the current pattern is to diversify woodland, to establish a naturalistic planting scheme using native species, and not to imitate a particular natural community type.

Recent natural processes, such as the great storms of 1987, have had a profound effect on the landscape. The storm caused the loss of thousands of trees in woodland areas, such as Oaks Park in the south of the Borough.

Most of the extant secondary woodland is botanically poor. The absence of significant grazing and browsing by herbivores, has favoured species such as holly and ivy. The undergrowth in some woodland is being smothered by aggressive invasive species, such as snowberry *Symphoricarpos albus* at the Spinney, shading out the native flora. Woodlands are ever popular for playing, walking and educational purposes. However, their overuse, particularly in heavily populated urban areas results in soil compaction and vandalism. Even the perception that they are unsafe, has led to the clearance of shrub vegetation to improve sightlines. The overall

effect of human land use is to produce an impoverished ground flora, and lack of canopy regeneration.

Nevertheless, demand for community woodlands remains high. The cultural perception of high wildlife value of woodlands means that they are held in high regard. This is apparent when tree felling or clearance takes place, as this generates significant public interest, even when the overall aim is sympathetic conservation management.

Through the process of succession, trees regenerate on wasteland, and along corridors such as railways, rivers etc., creating new secondary woodlands. There is increasing acceptance among the public of the value of deadwood habitats, and their associated species.

Climate change is likely to cause a further shift in species composition, as factors such as decrease in rainfall, increase in average temperatures, and greater extremes of temperature favour certain tree species over others.

4. Specific Factors Affecting the Habitat

- Selling off woodland for development
- Increased fragmentation of woodland
- Inappropriate management or neglect
- Reinstatement of traditional management techniques where appropriate (e.g. coppicing)
- Successional processes
- Invasion of aggressive non-native species
- Recreational overuse, dumping and vandalism
- Establishing woodland on other valuable habitat (e.g. chalk grassland)
- Desire for new planting
- Loss of deadwood habitats, and conversely creation of new deadwood habitats
- Health and safety requirements of unsafe trees
- Lack of money, resources to manage woodlands
- Opportunities for complimentary recreational use
- Climate change
- Pollution

5. Current Action

5.1 Legal Status

There are numerous woodland habitat action plans, statements and many species action plans relevant to woodland. A statutory woodland local nature reserve, owned by the Woodland Trust, has been designated at Ruffett and Big Wood. There are a number of local nature reserves, and Sites of Importance for Nature Conservation (SINCs) designated within Sutton, that have a woodland or scrub component. Protection also comes in the form of planning policies in the Unitary Development Plan (UDP). UDP's set out detailed policies to guide development in a local authority area. Many trees and hedgerows are protected by Tree Preservation Orders and

within Conservation Areas. Protected species associated with woodlands include the stag beetle, particularly deadwood habitats, badger and bats (all species). The fact that considerable numbers of breeding birds use trees to nest in effectively means that those trees are essentially protected from felling from March until the end of August.

5.2 Mechanisms targeting the habitat

Creation, enhancement, and maintenance of woodland habitats is central to a number of strategies; including the UK Sustainable Development Strategy, England Forestry Strategy, The England Biodiversity Strategy, and the Sustainable Communities Plan encouraging the role of Community Forests.

Over the next 20 years, the Mayor of London, the Greater London Authority, and the Forestry Commission are committed to maintaining and enhancing London's trees and woodlands. This will be achieved through the London Tree & Woodland Framework, to meet the goal of no overall loss of habitat for wildlife, and access to quality 'natural' space. The Framework provides guidance on the right place for the right tree, to help ensure that London remains green in the face of pressure from a growing population and economy.

Within the Borough practical management is carried out at a number of sites, such as Ruffett and Big Wood by the Woodland Trust, and by the Sutton Nature Conservation Volunteers (SNCV), in partnership with Sutton Council. Until recently the SNCV managed a Surrey County Council owned site at Little Woodcote Wood. It is hoped that this can be returned to favourable management in the future. Bird monitoring using the 'Standard Walk' methodology is carried out on a monthly basis by London Borough of Sutton staff.

6. Flagship Species

Common Name	Latin	Brief Description
Spindle	*Euonymous europaeus*	Common on chalky soils. Bright green twigs and small flowers in summer give way to vivid pink fruits that, in turn, split to reveal an orange seed.
Speckled wood butterfly	*Pararge aegeria*	Attractive brown butterfly with cream coloured spots and a small dark eye-spot near the tip of the upper wing. Commonly seen in areas where the sunlight

		breaks through the trees.
Stag beetle	*Lucanus cervus*	An enigmatic giant of the insect world. The larvae live in dead and decaying wood for up to 7 years. Sutton is a hotspot for this declining species.
Great spotted woodpecker	*Dendrocopos major*	Familiar woodpecker, often heard searching for larvae and wood-boring insects in woodland using its characteristic drumming technique.

7. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Support and help implement the actions of the UK and London Biodiversity Action Plan, including its topic groups (e.g. Woodland Working Group)	Maintain representative on working groups.	LBS	FC, GLA, LWT
	Protect important woodland & scrub through the planning process.	Identify and ensure important areas of woodland are protected, under TPO's or conservation designations, by 2008.	LBS	LWT, WT
	Maintain semi-natural condition of woodlands & scrub.	Adopt right place, right tree policy of London Tree & Woodland Framework.	LBS, WT	LWT, GLA
	Open Spaces	Ensure the OSS	LBS	

Theme	Objective	Actions	Lead	Other Partners
	Strategy	takes account of wildlife value & potential of woodland & scrub.		
	Promote use of FSC certification in all of Sutton's woods.	Ensure all woodland sites certified by 2010.	FC, WT	LBS, GLA
Management & Creation	Ensure all woodland SINCs, and local nature reserves, are managed for nature conservation.	Produce management plans for woodland sites by 2007. Management plans to be revised every 5 years.	LBS	WT, LWT, SNCV
	Manage additional woodland & scrub sites for nature conservation.	Aim to bring in 2 new sites under management by 2010.	LBS	SNCV
	Avoid unsympathetic creation of woodland, or scrub habitat, on other valuable community types (e.g. chalk grassland).	Implement right place, right tree policy of London Tree & Woodland Framework.	LBS	WT, LWT, SNCV
	Encourage local community groups to become more involved in the management of their local woodland & scrub.	Set up 2 'Friends of' Groups by 2010.	LBS, WT	SNCV, GLA
Advisory	Inform private landowners of the availability of grants, management techniques, and value of	Identify & contact all landowners and land managers by 2010, to offer appropriate management advice.	LBS	GLA, FC, WT

Theme	Objective	Actions	Lead	Other Partners
	woodlands & scrub, including specific sites.			
	Ensure landowners and managers are aware of their responsibilities with regard to protected species and TPO's.	Identify & contact all landowners and land managers by 2010, to offer appropriate management advice.	LBS	GLA, FC, WT
Awareness	Emphasise the benefits of woodland to owners and the wider society.	Publicise & promote advice by 2006 by providing links to national & regional initiatives.	LBS, GLA	WT, FC
	Publicise advice on conservation and sustainable woodland management, for woodland managers and policy makers.	Publicise & promote advice by 2006 by providing links to national & regional initiatives.	LBS, GLA	WT, FC
	Promote the value of woodlands & scrub through talks, guided walks, and events.	Hold at least 5 per year. Ensure at least 50% are targeted with those groups traditionally not involved in nature conservation, e.g. disability, youth or black & ethnic minority groups.	LBS	WT, LWT
Research & Monitoring	Survey existing woodland to establish status and extent to which they are managed.	By 2010.	LBS, GLA	WT, FC
	Input all available flora and fauna on to RECORDER database & share with GIGL.	Update annually.	LBS, GLA	GIGL

Relevant Action Plans

Local Plans
Parks & Open Spaces, Chalk Grasslands, Bats.

London Plans
London Tree and Woodland Framework, Chalk Grassland; Churchyards and Cemeteries; Bats, Stag Beetle, Black Poplar, Mistletoe; Railway Linesides Audit; Open Landscapes with Ancient/Old Trees Audit.

National Plans
Lowland beech and yew woodland, Lowland wood-pasture and parkland, Wet woodland, song thrush *Turdus philomelos*, stag beetle *Lucanus cervus*.

Key References
Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Countryside Commission (1993). Action for London's trees (CCP 433).

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley, The Bromley Biodiversity Action Plan 2nd Edition 2003-5

London Biodiversity Partnership 2004, Woodland Habitat Action Plan

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Rackham, O (1987). The History of the Countryside. Dent & Sons

Rackham O., 1980; Ancient Woodland – its history, vegetation and uses in England, Edward Arnold

Scott Wilson Business Consultancy, Sutton Open Space Strategy, Draft Report v.1 for London Borough of Sutton, January 2005

Websites: JNCC, The Woodland Trust, English Nature, Forestry Commission, UK BAP, London Wildlife Trust, DEFRA, London Biodiversity Partnership

Abbreviations

DEFRA – Department of Environment, Food and Rural Affairs

FC – Forestry Commission

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

LBS – London Borough of Sutton

SNCV – Sutton Nature Conservation Volunteers

UDP – Unitary Development Plan

TPO – Tree Preservation Order

WT – Woodland Trust

LWT – London Wildlife Trust

SINC – Site of Importance for Nature Conservation

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Parks & Open Spaces

"Most cherished in this mundane world is a place without traffic;
Truly in the midst of the city there can be mountain and forest."
-Wen Zhengming (1470-1559)

1. Aim

- To diversify and increase the extent of wildlife habitats within Parks and Open Spaces
- To increase the connectivity between these areas
- Survey Parkland to establish the existence of any remnant semi-natural habitats
- To promote the importance of Parks and Open Spaces for biodiversity in the Borough

2. Introduction

Most parkland has gone through a series of transformations over many centuries to establish what we understand as a park today. In general, parkland is perceived as wide-open spaces with scattered trees, either singly or in blocks, typified by the 18th century English landscape park. However, urban parkland may be much smaller scale, and can include open access gardens with formally planted areas. Outside of gardens these places are often where we have our first-hand experiences of 'nature'. Parks offer a wide range of breeding, foraging and refuge opportunities for wildlife, and they can provide suitable links between existing wildlife sites. Today, the aim of parks is to deliver a recreational, social and environmental role. In seeking to achieve this balance, many areas are set aside or managed sympathetically to establish wildlife-friendly areas within parks.

3. Current Status

3.1 Area & Distribution

In 1992 the London Ecology Unit audited parkland and found that it comprises 12,500ha or 8% of London's total land area.

Within the Borough there are 61 parks and 25 open access gardens covering some 600 hectares. Of these a number have strong ecological components, such as the Oaks Park nature trail and chalk grassland meadow. Beddington Park has a chalk river running through it, as well as little disturbed wetland and woodland features, that provide ideal wildlife habitat. Parkland and open space is present throughout the Borough, although they range in physical and social quality and accessibility. A recent audit and assessment rated the habitat component for nature of Sutton's parks and open spaces in a wide range of good to poor status. However, it should be acknowledged that audits or surveys need to include both habitat and species e.g. birds and butterflies; without this the true contribution of 'ordinary parks' can easily be missed - e.g. as habitat for song thrush, robin etc. Certainly areas of natural habitats are best, but it is important not to ignore the rest!

3.2 Trends

Much of Sutton's parkland was formally part of estates, traditionally managed for deer or other grazing, such as Beddington Park and the Oaks Park. Typical town parks exist today composed mainly of short-mown grass and ornamental trees with flowerbeds, such as the Grove Park and Manor Park. This is a legacy of the last period of large-scale park creation at the end of the 19th century. This period was also heralded as the heyday of public parkland planting.

The realisation that funding is unlikely to ever again reach the comparatively high levels of the nineteenth century, has led to the decline in public landscape maintenance. Over the last 20 years this has created opportunities for wildlife in parklands, as management input for nature conservation is relatively low, and maintenance costs are perceived as low. This situation often creates areas within parkland that are sustainable, with varied plant communities, and supporting a large amount of wildlife. The movement has been away from non-native species and cultivars, to relatively intensively managed native plant communities. Essentially the aim is to develop plantings along ecological lines.

Current thinking fundamentally offers three approaches to parkland management for the benefit of wildlife. These are i) Habitat Restoration; trying to re-establish what species might have occupied the site in the past ii) Creative Conservation; creates new wildlife landscapes using native species that are suited to the environmental conditions that exist on the site; and iii) Naturalistic vegetation; in essence attempts to replicate the structure of natural plant communities, but does not have to use exclusively native species.

Today, the vegetation of many formal parks is comprised mostly of

non-native species and species poor grassland, large areas of amenity grassland and often neglected areas of ruderal -'weed' species. Formal landscaping areas can have wildlife value, these are areas where the flora may be almost entirely non-native, but the habitat is still valuable for birds, bats, butterflies etc. For example the birds that use ornamental shrubberies will be mainly woodland species, whereas seed-eating open country species e.g. goldfinch *Carduelis carduelis*, will make more use of meadows.

However, parks and open spaces often contain relic habitats, from pre-suburban landscapes such as veteran trees, copses, hedgerows and specialized plants that survive in less intensively managed areas of grass. Typical bird species of formal parks include blue tit *Parus caeruleus*, great tit *Parus major*, song thrush *Turdus philomelos*, blackbird *Turdus merula* and robin *Erithacus rubecula*. Older trees provide breeding and feeding habitat for lesser and great spotted woodpecker. Butterflies such as holly blue *Celastrina argiolus* and peacock *Inachis io* are often present and, within wooded habitat, speckled wood butterflies *Pararge aegeria* are increasingly common. Where there are lakes moorhen *Gallinula chloropus* and grey heron *Ardea cinerea* may be found, as well as dragonflies such as southern hawker *Aeshna cyanea*, brown hawker *Aeshna grandis* and blue-tailed damselfly *Ischnura elegans*, where there are some areas of marginal vegetation.

Woodland rides and edges provide important feeding habitat for bats, and are particularly important for the Serotine bat *Eptesicus serotinus* in Sutton.

4. Specific Factors Affecting the Habitat

- Negative public response of disorderly appearance of nature areas
- Damaging pesticide & herbicide usage
- Vandalism, illegal dumping & litter
- Conflicting recreational & social pressures
- Increasing recognition of biodiversity value of parks
- Loss of deadwood habitats, and conversely creation of new deadwood habitats.
- Health & safety requirements of unsafe trees
- Financial constraints on parks management
- Voluntary sector involvement
- Inappropriate management or neglect
- Invasion of aggressive non-native species
- Disturbance to wildlife by dogs & enrichment by their faeces
- Skills of contract staff - often linked to constraints of contract specification

5. Current Action

5.1 Legal Status

Many parks are SINCs, some have listed historic park protection, or Metropolitan Open Land and Greenbelt designation. They are thus protected by planning designations and policies contained in the UDP. Certain trees and hedgerows within parks are protected by Tree Preservation

Orders. Protected species found within parks include the stag beetle (deadwood habitats) and bats (all species).

Although it does not confer legal status, parkland and wood pasture are a priority habitat under the UK Biodiversity Habitat Action Plan. This ensures that conservation of this habitat type is encouraged through national and local policy and action.

5.2 Mechanisms targeting the habitat

Sutton Council's Parks Department maintains many semi-natural areas for nature conservation within parks, such as the chalk grassland meadow at Oaks Park. Many 'Friends of' groups actively manage, and lobby for, wildlife areas in their parks.

Deadwood habitats are now left to decay in many parks, where this does not conflict with health and safety requirements.

Monthly monitoring of bird populations is carried out at the Oaks Park by London Borough of Sutton staff, using the 'Standard Walk' methodology. In parks throughout the Borough regular bat walks are undertaken by London Wildlife Trust members, and Sutton Council staff.

Natural plant communities probably survive within urban parks in Sutton to a greater extent than in boroughs in central London. These are obviously a priority for protection. In some cases this interest may be latent e.g. where wild flowers get mown before they have a chance to flower. This has been demonstrated by leaving a wildflower meadow to regenerate on former amenity grassland at Oaks Park.

It is not necessary to go all the way from amenity grass to meadow to improve wildlife value, some intermediate regimes can have good value e.g. flowery lawns (left for six weeks in late spring/early summer so low growing plants can flower).

However, large areas of grassland within parks are cut for amenity use with little consideration for biodiversity. These areas are maintained using public money and under often intense public scrutiny. If they are left to revert to their relic habitats there is the perception that they are unmanaged and of less value.

Butterflies may move between wild and formal areas e.g. meadow brown feeding on lavender. Creating meadow areas can therefore enhance the biodiversity contribution of ornamental areas. A holistic approach is therefore preferred, rather than seeing biodiversity as a function only in 'wildlife areas'.

Future benefits for biodiversity in parks require an integrated approach to management, balancing natural or naturalistic plant communities with areas of more formal landscaping, whilst also catering for recreational and social requirements. It is important to recognise the contribution of formal areas (particularly for birds), and look for ways to maximise this value that are compatible with their primary role.

6. Flagship Species

Common Name	Latin	Brief Description
Veteran trees		Sweet chestnut in Carshalton Park, Hornbeams at Cuddington Rec. London Plane at the Ecology Centre.
Stag beetle	*Lucanus cervus*	An enigmatic giant of the insect world. The larvae live in dead and decaying wood for up to 7 years. Sutton is a hotspot for this declining species.
Hedgehog	*Erinaceus europaeus*	Found in parks where woodland edges, hedgerows and suburban habitats provide plenty of food, but thought to be declining.
Serotine bat	*Eptesicus serotinus*	Serotines are recorded in Sutton's Parks, although they are thought to be declining.

7. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Ensure LDF has relevant policies to protect, create, and enhance parks for biodiversity.	Implement policy where appropriate.	LBS	
	Protect trees.	Implement the tree removal policy, and protect and enhance the tree stock.	LBS	
	Open Spaces	Ensure the OSS	LBS	

Theme	Objective	Actions	Lead	Other Partners
	Strategy.	takes account of wildlife value & potential within parks.		
	Identify parks, or open spaces, for enhancement within, or near mapped Areas of Deficiency in access to nature in Sutton.	Seek to bring sites of Local Importance for nature conservation up to Borough status, and sites with no existing status up to Local status by 2010.	LBS, GLA	
	Encourage sustainable practice in maintenance of parks & open spaces.	Eliminate, or reduce use of peat, minimise herbicide use on shrubberies and around edges, compost and re-use of leaf litter to encourage soil invertebrates etc. by 2010.	LBS	GLA
Management & Creation	Write management plans with Parks Department for biodiversity.	Include biodiversity and sustainable practice in all parks management plans by 2010.	LBS	Working group
	Aim to create natural or naturalistic plantings in parks.	Create or enhance 1 habitat annually.	LBS	Working group
	Allow areas of amenity grassland to grow up into 'flowery lawn', or meadow, and manage for wild flowers and butterflies.	Create or enhance 1 habitat annually.	LBS	Working group
	Enhance wildlife value of areas of scattered trees or planted shrubbery.	Improve vegetation structure to achieve a mix of graduated heights from canopy to low shrubs, and	LBS	Working group

Theme	Objective	Actions	Lead	Other Partners
		ground flora in 1 area annually. Increase proportion of native shrub species, including berry-bearing varieties, encourage ivy up tree trunks and suitable walls, and erect nest boxes.		
	Review management of herbaceous planting, seeking to enhance biodiversity value.	Include nectar and seed bearing species, and where appropriate leave seed heads for winter bird food.	LBS	Working group
	Aim to create dead wood habitats within parks.	Create 1 deadwood habitat per year.	LBS	Working group
Advisory	Relevant Council contractors/employees to be appropriately trained to carry out works without detrimental effects to biodiversity in parks.	Hold 1 training event annually for Council contractors/employees working within parks.	LBS	GLA
Awareness	Raise awareness of the value of natural or naturalistic plantings for biodiversity.	Give talks to all 'Friends of' groups by 2008.	LBS	
	Promote the value of parks for wildlife through talks, guided walks and events.	Hold at least 5 per year. Ensure at least 50% are targeted with those groups traditionally not involved in nature conservation, e.g. disability, youth or black & ethnic	LBS	

Theme	Objective	Actions	Lead	Other Partners
		minority groups.		
	Encourage local community groups to become more involved in the management of their local park.	Set up 2 'Friends of' Groups by 2010.	LBS	CEI, Working Group
Research & Monitoring	Encourage participation in national and regional wildlife surveys.	Promote via events & website links (e.g. LWT stag beetle survey).	LBS, LWT	
	Undertake Phase I/II habitat surveys of all parks/areas within parks managed for nature conservation.	By 2010.	LBS, GLA	
	Input all available flora and fauna on to RECORDER database & share with GIGL	Update annually	LBS	GIGL

Relevant Action Plans

Local Plans
Woodland and scrub; chalk grassland; rivers and wetlands; cemeteries and churchyards; bats.

London Plans
Woodland; Open Landscapes with Ancient/Old Trees; Chalk grassland; Grassland, Meadows and Pasture; Ponds, Lakes and reservoirs; churchyards and cemeteries; rivers and streams; Parks, amenity grasslands and city squares habitat statement; London Tree and Woodland Framework

National Plans
Lowland beech and yew woodland; Lowland wood-pasture and parkland; Wet woodland; Lowland calcareous grassland; Chalk rivers; pipistrelle bat *Pipistrellus pipistrellus*; stag beetle *Lucanus cervus*

Key References

Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Dunnett, N. & Hitchmough, J. Ed., 2004; The Dynamic Landscape. Spon Press, London

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Scott Wilson Business Consultancy, Sutton Open Space Strategy, Draft Report v.1 for London Borough of Sutton, January 2005

Abbreviations

CEI – Centre for Environmental Initiatives

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

LBS – London Borough of Sutton

LDF – Local Development Framework

LWT – London Wildlife Trust

OSS – Open Spaces Strategy

SINC – Site of Importance for Nature Conservation

UDP – Unitary Development Plan

Working Group – a consortium of 'Friends of' groups

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Chalk Grasslands

Sheep grazing © Downlands Countryside Management Project

"Because half a dozen grasshoppers under a fern make the field ring with their importunate chink …… do not imagine that those who make the noise are the only inhabitants of the field"

(Edmund Burke)

1. Aim

- To maintain the current area of unimproved and semi-improved chalk grassland
- To enhance the quality of these grassland areas by appropriate management
- To increase the extent of chalk grasslands
- To promote the importance of chalk grasslands for biodiversity in the Borough

2. Introduction

Chalk grasslands are important for biodiversity. Sutton contains some of the best examples of chalk grassland habitats in London. These nutrient poor grasslands are rare and threatened in the UK, and in London in particular. Chalk or calcicolous grassland (meaning plants that thrive on lime-rich soils), is primarily the product of the practice of farming using grazing animals, that began in pre-historic times. Although chalk grassland would have existed naturally in openings and glades, much of its expansion is due to the human clearance of scrub and trees and subsequent livestock grazing. Today, within urban areas, it is more likely to be the sensitive mowing and removal of cuttings, rather than grazing by herbivores that maintain the grassy swards, although grazing remains the best means of management, as it removes

vegetation gradually, giving invertebrates a chance to survive, and produces a better sward structure than cutting.

Ultimately, the response of plants to soil, slope, aspect, climate and management history produces an often rich and delightful assemblage of plants, and an important habitat for invertebrates. These flower rich grasslands evoke in us a sense of our rural past, are valued for their beauty, and have attracted a long and abiding fascination from ecologists and amateur naturalists alike.

3. Current Status

3.1 Area & Distribution

Sutton supports approximately 52 ha of chalk grassland. In the London context Sutton contains 12 % of the London resource. Within the UK, chalk grassland is estimated to cover 40 – 50,000 ha of the land surface. In London, natural chalk grassland is restricted to the southern edge, across the Boroughs of Sutton, Croydon and Bromley on the North Downs, and to the extreme northwest, in the Borough of Hillingdon, where outliers of the Chiltern Hills just reach the capital. Within Sutton the underlying geology is chalk, along an east-west line that roughly divides the borough in half. The majority of existing chalk grassland of current ecological value is restricted to two large sites, at the Oaks Park and Roundshaw Downs. Many of the other sites are of limited size, fragmented and isolated such as The Warren, Devonshire Avenue Local Nature Reserve and the Royal Marsden hospital grassland. A considerable proportion of the surviving chalk grassland resource is turned over to golf courses. Most of the Sutton sites also have considerable recreation and amenity use.

Sutton's chalk grasslands support a number of rare species including the nationally rare and protected greater yellow rattle *Rhinanthus angustifolius*, and nationally scarce species such as knapweed broomrape *Orobanche elatior*, and man orchid *Aceras anthropophorum*. Characteristic flowers such as kidney-vetch *Anthyllis vulneraria*, marjoram *Origanum vulgare*, and greater knapweed *Centaurea scabiosa* enrich the grass sward. Key animals include the nationally scarce small blue butterfly *Cupido minimus* (BAP Species of Conservation Concern), and birds such as the skylark *Alauda arvensis* ('Red List' species of 'Birds of Conservation Concern' and BAP Priority Species).

In the southern half of the Borough shallow lime-rich soils have developed overlying the chalk. All soils are nutrient poor and basic within the pH range of 6.5 and 8.5.

3.2 Trends

Current estimates indicate that chalk grassland has suffered dramatic declines nationally. This is a product of a combination of factors such as 'agricultural improvement', by the addition of fertiliser or re-seeding with high yield pasture grasses as animal feed. The national decline of grazing, and the decreased influence of rabbits due to

myxomatosis in the mid-1950s, led to the invasion of chalk grassland by scrub and trees through the process of natural succession. More recently, lack of manpower and financial resources for management of these sites, for their nature conservation value, has led to a gradual decline in quality. Continued, regular management is necessary to halt successional change.

Recently, conservation management practice on chalk grassland seeks to achieve structural diversity to encourage biodiversity. For example short, sparse chalk grassland, or even bare ground where temperatures are higher than in other habitats, is important for invertebrates, some of which are nationally scarce, and enables seeding in of annual plants. Although succession to scrub and woodland is a threat, chalk scrub of varied age and species is important in itself, because of the invertebrates it supports, and the shelter it provides. Because Sutton sites are small, however, scrub on them is best confined to hedges and boundaries, rather than scattered across open grassland.

Significantly, re-establishing chalk grassland is currently popular, and a number of grant aided schemes are available to achieve this, such as DEFRA's environmental stewardship schemes.

4. Specific Factors Affecting the Habitat

- Cessation of traditional agricultural practices leading to encroachment by scrub and trees
- Frequent mowing
- Pressure for development
- Fragmentation and isolation
- Inappropriate pesticide use, application of fertiliser, tree planting, re-seeding
- Increasing recreational pressure, signs of trampling, disturbance, nutrient enrichment from dog faeces.
- Pollution and climate change
- Genetic variation of 'non-native' see Flora locale
- Increasing management costs of current reserve
- Invasive non-native species, especially cotoneaster *Cotoneaster spp.* and golden rod *Solidago canadensis*.

5. Current Action

5.1 Legal Status

Significant areas of chalk grassland are under Council ownership. Three chalk grassland sites have been declared as local nature reserves, and are managed for nature conservation.

Sutton has a number of chalk grassland sites, or sites with a proportion of chalk grassland. There are 9 sites in the Borough notified for their chalk grassland communities covering an area of approximately 52 ha; These sites were graded based on criteria outlined in Ecology Handbook 3 *Nature Conservation Guidelines for London* (Greater London Council 1985), as subsequently revised in the report Sites of Metropolitan Importance for Nature Conservation (London Ecology Unit 1989). Two sites, Roundshaw

Downs and Woodcote Park Golf Course are designated as Sites of Metropolitan Importance i.e. those which contain the best examples of London's chalk habitats, sites which contain rare species, rare assemblages of species, important populations of species, or which are of particular importance within large areas of otherwise heavily built up London. Sites of Borough Importance Grade I with a component of chalk grassland are Carshalton Road Pastures, The Oaks Park and Golf Course, part of Banstead Downs, Cuddington Golf Course and Cuddington Hospital. A number of other sites are SINCs and have some protection under the Unitary Development Plan.

Two chalk grassland specialists are specially protected under the Wildlife and Countryside Act 1981. These are the greater yellow-rattle flowering plant and the small blue butterfly. The greater yellow-rattle is a nationally rare (Red Data Book) plant given special protection against picking, uprooting, destruction and sale. The small blue butterfly is protected only from trade.

5.2 Mechanisms targeting the habitat

The London Borough of Sutton, in partnership with organisations such as the DCMP and SNCV, currently manages the majority of the Sutton's chalk grassland sites. The traditional method of grazing with livestock, for the benefit of nature conservation, occurs on two sites within the Borough, at Cuddington Meadows and Wellfield Grassland. Elsewhere, management involves a combination of cutting and removal of woody shrubs and invasive species, mowing and most importantly removal of cut material, to maintain the low nutrient status. Where these practices have ceased on chalk grassland, there has been a shift from grassland to scrub. Previous work to reverse the decline and improve the quality of chalk grassland, has taken place at Roundshaw Downs and The Oaks Park. These sites show unquestionably the results of selective conservation management for chalk grassland, and it is hoped that such management can be extended in the future.

English Nature's Wildspace! funding enabled the resourcing of a Local Nature Reserves Officer in 2004, to implement management of three sites with a significant chalk grassland component at: Belmont Meadows, Carshalton Road Pastures and Roundshaw Downs.

Section 106 agreements have provided financial support, in terms of revenue and capital for works, to benefit nature conservation at a number of chalk grassland sites.

Historically, plant monitoring has taken place to enable a better knowledge of the range of habitats and species in the Borough. However, recently there has been a lack of co-ordinated surveying and monitoring since the Phase 1 habitat surveys of 2000.

6. Flagship Species

Common Name	Latin	Brief Description
Marjoram	*Origanum vulgare*	Widespread on chalk soils, this aromatic herb was recommended by Culpepper as a cure for a great number of ills.
Pyramidal orchid	*Anacamptis pyramidalis*	A frequently encountered species of limestone grasslands such as Woodcote Park Golf Course and Wellfield Grassland
Quaking grass	*Briza media*	'Tottering grass' is a delicate and distinctive plant most commonly found on chalk grassland.
Marbled white	*Melanargia galathea*	One of the most easily identified and attractive butterflies, often seen in large numbers in high summer.
Common blue butterfly	*Polyommatus icarus*	Chalk grassland is an important habitat for this butterfly.
Small blue butterfly	*Cupido minimus*	Kidney vetch, a rare plant, is the only larval foodplant of this nationally rare and declining butterfly found on chalk grassland.
Skylark	*Alauda arvensis*	A species in rapid decline nationally. It is generally found in open grassland habitats.

7. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Support and help implement the actions of the UK and London	Maintain representative on working groups	LBS	

Theme	Objective	Actions	Lead	Other Partners
	Biodiversity Action Plan, including its topic groups (e.g. Chalk Grassland Working Group).			
	Protect important grassland and seek to establish new areas through the planning process.	Establish an additional 5 ha of chalk grassland by 2010.	LBS	
	Open Spaces Strategy.	Ensure the OSS takes account of wildlife value & potential of chalk grassland	LBS	
Management & Creation	Ensure all important chalk grassland sites are covered by management plans.	Management plans to be revised every 5 years. Manage existing habitat for nature conservation annually.	DCMP/OSD*, LBS	BC
	Within management plans, identify specialist management requirements for key species.	Review every 5 years.	DCMP/OSD*	BC
	Explore the possibility of extending conservation grazing to other chalk grassland sites.	Conservation graze 2 additional sites by 2010.	DCMP/OSD*	LBS
	Seek to connect key grassland sites.	Identify opportunities to create 'stepping stones' to link 2 sites by 2010.	LBS	DCMP/OSD*
	Encourage local community	Set up 2 'Friends of' Groups by 2010.	DCMP/OSD*, LBS	

Theme	Objective	Actions	Lead	Other Partners
	groups to become more involved in the management of their local chalk grassland.			
	Introduce juniper at appropriate sites.	Identify sites and encourage the restoration of scrub with juniper where appropriate by 2008.	DCMP/OSD*, LBS	
Advisory	Inform private landowners of the availability of grants, management techniques and value of grasslands including specific sites.	Hold regional conference and workshop by 2006 on maintaining golf courses for chalk grassland species.	LBS	SUN Project Partners, DCMP/OSD*
Awareness	Promote the value of chalk grasslands through talks, guided walks and events.	Hold at least 5 per year. Ensure at least 50% are targeted with those groups traditionally not involved in nature conservation, e.g. disability, youth or black & ethnic minority groups.	DCMP/OSD*, LBS	
	Promotion of value of sites to ward councillors.	Invite ward councillors to visit sites to increase their appreciation of them and their potential.	DCMP/OSD*, LBS	
	Promote the value of chalk grassland through web site.	Produce web based information on size, condition, and species composition of chalk grassland sites. Link to national & regional strategies	DCMP/OSD*, LBS	
	Encourage the creation of	Hold one workshop/event per	LBS	CEI

Theme	Objective	Actions	Lead	Other Partners
	wildlife gardens on chalk.	year.		
Research & Monitoring	Undertake phase I/II surveys on all chalk grassland SINCs.	Develop and undertake programme of monitoring by 2006.	GLA, LBS	
	Monitor small blue butterfly populations on all chalk grassland SINCs.	Carry out annual survey.	BC	
	Establish surveying or monitoring on all chalk grassland SINCs of selected species.	Survey or monitor 5 groups by 2010.	DCMP/OSD*, LBS	
	Input all available flora and fauna on to RECORDER database & share with GIGL.	Update annually.	LBS	DCMP/OSD*, GIGL

* OSD expect to be confirmed January '06

Relevent Action Plans

Local Plans
Woodland and Scrub; Parks and Open Spaces; Gardens and Allotments; Cemeteries and churchyards; Bats

London Plans
Woodland; Private Gardens; Churchyards and Cemeteries; Parks, Amenity Grasslands and City Squares; Wasteland; Railway Linesides Audit; Farmland Audit; Small Blue (Cupido minimus) Species Action Plan 2000

National Plans
Lowland Calcareous Grassland; Calcareous Grassland Habitat Statement; Surrey Chalk Grassland and Scrub HAP (currently under review); Small Blue Butterfly Species Action Plan (Surrey) 2004

Key References
Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

Rodwell J.S. (eds) 1998 ; British Plant Communities Vol. 3 Grasslands and montane communities, Cambridge University Press, Cambridge

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Scott Wilson Business Consultancy, Sutton Open Space Strategy, Draft Report v.1 for London Borough of Sutton, January 2005

Abbreviations

BC – Butterfly Conservation

CEI – Centre for Environmental Initiatives

DCMP/OSD – Downlands Countryside Management Project/Old Surrey Downs

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

LBS – London Borough of Sutton

SNCV – Sutton Nature Conservation Volunteers

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Rivers & Wetlands

River Wandle © Environment Agency

" We forget that the water cycle and the life cycle are one."

Jacques Cousteau, Oceanographer

1. Aim

- To maintain and enhance existing areas of rivers and wetland for biodiversity throughout the Borough
- To increase the area of these habitats where appropriate
- To improve connectivity between these habitat types
- To survey and monitor rivers and wetlands to determine their ecological status
- To promote the importance of rivers and wetlands for biodiversity

2. Introduction

Within Sutton this group is represented by a broad range of aquatic habitats including rivers and streams, ponds, lakes, reedbeds, and even swamps and marsh. Alongside the dominant habitat type may be a mosaic of different wetland habitats, for example, an area of open water may have a reedbed at one end; or an area of wet grassland adjacent to a watercourse. They all have in common surface water or a water table that is near or above ground level for most of the year.

3. Current Status

3.1 Area & Distribution

3.1.1 Rivers

The main river in Sutton is the River Wandle. It is an example of a ground-water fed chalk river. The river enters the Borough east of Waddon Ponds and flows west and then northwards to join the Thames at Wandsworth. Of its total 9 miles (14 km) length, a little under 4 miles (5.9km) comprises the Sutton extent. In the west of the Borough lies the Beverley Brook that flows through Sutton before joining the River Thames at Barnes. Its tributary the Pyl Brook drains into the Wandle.

3.1.2 Lakes & ponds

Lakes are defined as areas of water greater than 2 ha. There are a number of artificial lakes and ponds of varying sizes throughout the Borough. The larger lakes are a result of gravel extraction. Artificial lakes have been created at Worcester Park and Beddington Farmlands. The lake, islands and shores at Beddington Farmlands benefit from ecological management constraints for the enhancement of key bird species, such as little ringed plover *Charadrius dubius*, and redshank *Tringa totanus*.

There is no accepted definition of a pond but these are generally recognised as small water bodies, less than 0.25ha. Ornamental ponds can be found at Beddington Park and Carshalton Ponds, providing roosting and nesting habitat for familiar species of waterfowl, such as tufted duck *Aythya fuligula*, Canada geese *Branta canadensis*, mute swans *Cygnus olor*, mallard *Anas platyrhynchos*, coot *Fulica atra* and moorhen *Gallinula chloropus*.

Ponds that are actively being managed for nature conservation can be found at Sutton Ecology Centre and Anton Crescent. Thousands of school children visit the Ecology Centre every year, and carry out pond-dips to discover smooth newts, common frogs and toads, and invertebrates such as dragonflies and damselflies.

3.1.3 Marsh & Swamp

Marsh vegetation establishes where the water table is close to the surface for most of the year, but does not usually flood above ground level. We tend to associate swamps with the Everglades in Florida, USA, however in the UK, swamp vegetation exists where the water table is at or above the surface for most of the year. A complete audit of these habitat types in Sutton has not been carried out. There are limited areas of swamp and marsh in the Borough often relegated to the margins of lakes, ponds or streams. A small area of relict marshland exists in Beddington Park, containing typical species such as great pond-sedge *Carex riparia*, and great hairy willow herb *Epilobium hirsutum*.

3.1.4 Reedbeds

These habitats are characterised as wetlands, dominated by stands of common reed *Phragmites australis*, where the water table is at or above ground level for most of the year. It is the dominance of

reed that distinguishes this habitat type from marsh and swamp. Although not large in area, all are less than 1 ha, they are amongst the most important habitats for breeding birds in the UK. Artificially planted reedbeds exist at a number of sites; 0.25 ha at Anton Crescent, and a tiny area at the Sutton Ecology Centre. The reedbed at Spencer Road Wetland developed on long abandoned commercial watercress beds. In future the area of reedbeds will hopefully increase with areas currently targeted for creation at Beddington Farmlands.

3.1.5 Carr

Carr is swampy woodland often found in association with marshes. Where this habitat type exists, such as at Anton Crescent and Beddington Farmlands, it occurs together with areas of open water or reedbeds that form a mosaic of wetland habitats.

3.2 Trends

3.2.1 Rivers and streams

Sutton is fortunate in having a substantial stretch of one of the finest chalk rivers in the capital. Historically, water abstraction from the River Wandle has led to low flow conditions along the river. It is now artificially supplemented by input at Carshalton Ponds, from sources further downstream, to augment the natural flow. Low flow conditions, combined with predicted climate change of drier summers, and future demands for water, will almost certainly increase pressure on the River.

Significantly, this type of spring fed chalk-river is categorised as among the most biologically rich, and productive of all habitats. This is a product of clear water, moderate nutrient levels, and a gravel substrate, providing ideal conditions for a diverse community of submerged and waterside plants to become established. This in turn supports a rich and diverse range of invertebrates and fish species. Uncommon plant species for London such as marsh ragwort *Senecio aquaticus* and opposite-leaved pondweed *Groenlandia densa* occur along the River Wandle. Both water cress *Rorippa nasturtium aquaticum* and fools water cress *Apium nodiflorum* can be found forming extensive beds. Planted species such as royal fern *Osmunda regalis*, a London rarity, in the Grange add to the biodiversity of the watercourse. Recent releases have occurred of captive bred brown trout *Salmo trutta* and salmon *Salmo* spp. by the Jetset Club to augment the existing fish population.

Until recently urban development right up to the waterside, had altered the structure of the natural course of rivers and streams. This decrease in the amount of available flood plain, and increased canalisation, has had detrimental impacts by removing valuable habitat for biodiversity. However, even in low flow rivers like the Wandle, the potential of flooding is leading to a significantly more cautionary approach being applied. Future development along the riverbanks will have benefits for wildlife. This recent reversal in the use of hard engineering of riverbanks has had a positive effect on water voles *Arvicola terrestris*, encouraging their dispersal by providing burrowing opportunities.

Insensitive weed-cutting and bank management to 'tidy up' nature means the loss of marginal habitat, important for chalk river biodiversity. The current paradigm to 'tidy up' nature often conflicts with the aims of nature conservation.

Notably, both biological and chemical water quality continues to improve. Better sewage treatment and better quality discharges, particularly relevant in Sutton from sites such as Beddington Farmlands; has led to a reduction in the amount of polluting chemicals, such as phosphorus, entering rivers causing negative impacts from eutrophication.

Indicators of a cleaner Wandle are the established breeding populations of declining bird species, such as kingfisher *Alcedo atthis*, and grey wagtail *Motacilla cinerea*, a species in moderate decline.

3.2.2 Lakes and ponds

There are a number of impermanent water bodies located throughout the Borough. Although declining, Sutton has a large area of old style sewage treatment works that provide sludge lagoons and flooded fields, attracting a variety of migratory and transient birds. These wet habitats are in decline, but are being offset by habitat creation schemes, such as lakes at Beddington Farmlands, and Worcester Park development.

3.2.3 Other habitats

Reedbeds, swamp, marsh and carr cover a tiny proportion of Sutton's land surface. The tendency is for these areas to progressively dry out as they develop into woodland and scrub, by the process of succession. Where these habitats remain they do so primarily as a consequence of active management for conservation.

4. Specific Factors Affecting the Habitat

- Abstraction leading to low flows, increased sediment build up, with loss of current-loving species
- Invasive species leading to loss of native species and habitats
- Pollution
- Damage to riparian species and habitats by weed-cutting and bank clearance
- Impact of pressure of development leading to habitat loss including trend to have paths along both banks
- Historical modification of the river course leading to reduction in diversity of physical habitat features of value to wildlife
- Disturbance of species due to vandalism
- Rubbish deposition and accumulation
- Rising cost of development within the flood plain
- Successional processes

5. Current Action

5.1 Legal Status

Chalk rivers and reedbeds are recognised as a priority habitat under the UK Biodiversity Action Plan. Habitat statements have been produced for marsh and swamp, and rivers and streams. Statutory protection has been applied at four Local Nature Reserves with wetland elements within the Borough, at Wandle Valley Wetland, the Sutton Ecology Centre, Spencer Road Wetland, and Wilderness Island. In addition, Sutton has afforded strong protection to rivers and wetlands against the adverse effects of built development, through non-statutory nature conservation designations in the UDP.

Sutton has secured further protection and significant enhancement of sites for wetland conservation, through formal management agreements at key sites, such as the former Worcester Park Sewage Treatment works, Beddington Farmlands and Anton Crescent Wetland.

The Environment Agency exercises a pollution control function over watercourses in the UK.

5.2 Mechanisms targeting the habitat

A considerable amount of management is carried out by individuals, committed voluntary and non-statutory organisations, often in partnership with Sutton Council. This small-scale enhancement work, including regular litter clearances along the Wandle, reed cutting, removal of vegetation to maintain areas of open water, silt removal, and re-profiling of banks, has contributed greatly to the maintenance and enhancement of these natural habitats.

The majority of areas of reedbeds are subject to programmed management. It is hoped to bring an area of *Phragmites* reedbed at Anton Crescent under management, in partnership with the Environment Agency. As part of this programme, component wetland habitats such as marsh, swamp and Carr are being sustained.

The largest privately owned land usage at Beddington Farmlands is subject to a Conservation management plan. This involves creation of new wetland habitat including lakes, reedbed and marginal aquatic habitat.
Future implications for water resources require a holistic approach to catchment management, with land use practices that reduce rapid runoff and peak flood flows, enhance aquifer recharge, and restore the natural function of river and flood plain. The Water Framework Directive requires all inland and coastal waters to reach "good status" by 2015. It will do this by establishing a river basin district structure, within which demanding environmental objectives will be set, including ecological targets for surface waters.

6. Flagship Species

Common Name	Latin	Brief Description
Sticklebacks	Three-spined stickleback: *Gasterosteus aculeatus* Ten-spined stickleback: *Pungitius pungitius*	Two species are found in Sutton. The three-spined stickleback is one of the most familiar fish of Britain's freshwater streams and ponds.
Brown trout	*Salmo trutta*	A distinctive light brown fish with silvery sides and pronounced black spots on the back. An indicator species of the unpolluted nature of the River Wandle.
Watercress	*Rorippa nasturtium-aquaticum*	A native species - watercress was grown commercially alongside the Wandle well into the last century.
Kingfisher	*Alcedo atthis*	Historical population decline but now recovering. Vulnerable to habitat degradation through pollution or unsympathetic management of watercourses.
Grey wagtail	*Motacilla cinerea*	Often seen along the Wandle and more colourful than its name suggests with a distinctive yellow breast and under-tail.
Water vole	*Arvicola terrestris*	It is suggested that this species no longer inhabits Sutton's waterways. A London-wide project seeks to reintroduce this charismatic mammal.

7. Objectives and Actions

Theme	Wetland Habitat	Objective	Actions	Lead	Other Partners
Policy & Strategy	**All Habitats**	Support and help implement the actions of the UK and London Biodiversity Action Plan, including its topic groups (e.g. Wetland Habitat Working Group).	Maintain representative on working groups.	LBS	
		Ensure LDF has relevant policies to protect, create, and enhance rivers and wetlands.	Implement policy where appropriate. Strengthen nature conservation policy in line with national & regional guidance.	LBS	EA
		Ensure planning developments impacting on wetlands, particularly those on the flood plain, are commented on for biodiversity.	Implement policy where appropriate.	LBS, EA	
	Rivers	Ensure CAMS implemented to balance water abstraction with the conservation of aquatic habitats.	LBS to input into CAMS process.	EA, LBS	
		Establish riparian landowners policy with respect to vegetation management & rubbish accumulation.	Produce policy by 2008.	LBS	

Theme	Wetland Habitat	Objective	Actions	Lead	Other Partners
Management & Creation	**All Habitats**	Ensure all nature reserves & SINCs to be managed sympathetically for biodiversity.	Management plans to be in place by 2008. Reviewed every 5 years.	LBS, LWT (for Spencer Road and Wilderness Island)	EA
		Ensure all Council-owned property with riverside to be managed sympathetically for biodiversity.	Management plans to be in place by 2008. Reviewed every 5 years.	LBS	EA
		Implement measures to control invasive plant species e.g. Himalayan balsam.	Dedicate task days to invasive species removal.	LBS, SNCV	
		Re-introduce the water vole.	Work with London Water Vole Project Officer to reintroduce the water vole to Sutton by 2007.	LBS, LWT, EA	
		Improve and promote the recovery of degraded stretches of the river corridor, especially for flagship species.	Identify, develop and implement management proposals for 10 priority areas by 2010.	LBS	LWT / University of Greenwich/EA
		Seek opportunities to create new reedbeds where appropriate.	By 2010.	LBS	
		Publicise results of management, advice & survey	Produce annual report.	LBS	EA

Theme	Wetland Habitat	Objective	Actions	Lead	Other Partners
		work.			
Advisory		Highlight invasive species, and raise awareness, to include lobby against certain aquatic species not to be sold in garden centres.	Publicise & promote advice by 2006 by providing links to national & regional initiatives.	LBS	EA
		Provide advice to riparian landowners on sympathetic riverside management for biodiversity.	Publicise & promote advice by 2006 by providing links to national & regional initiatives.	LBS	EA
Awareness		Litter clearance.	Organise quarterly litter pick and clearance of debris. Organise 1 high profile event annually.	LBS	EA, JetSet club
		Promote nature conservation via interpretation boards at key wetland sites.	Install 2 interpretation panels per year.	LBS, LWT	
		Promote the value of rivers & wetlands for wildlife through talks, guided walks, and events.	Support Wandle Festival & nature reserve open days. Include those groups traditionally not involved in nature conservation, e.g. disability, youth or black & ethnic minority	LBS, LWT	EA

Theme	Wetland Habitat	Objective	Actions	Lead	Other Partners
			groups.		
Research & Monitoring		Identify all wetlands on GIS and key corridors and buffer zones.	Map on GIS by 2007.	LBS	GLA, EA
		Undertake Phase I/II habitat surveys of all wetland SINCs.	By 2007.	GLA, LBS	
		Encourage the public to report sightings of flagship species.	Record & report e.g. on website by 2007.	LBS	LWT
		Survey wetland habitats to determine the distribution of the water vole.	By 2006.	LWT	
		Monitor captive-bred water vole population following release.	Carry out one pre and post breeding survey a year per site by 2010.	LWT	
		Collect and assess information, in line with water framework directive, from biological grading based on presence or absence of indicator freshwater groups, to provide a broad assessment of water quality.	Collect and assess baseline data to improve habitat by 2010.	EA, LBS	
		Input all available flora and fauna on to RECORDER database & share with GIGL.	Update annually.	LBS, GLA	GIGL

Relevant Action Plans

Local Plans

Woodland and Scrub; Parks and Open Spaces; Chalk grassland; Gardens and Allotments; Bats

London Plans

Ponds; Lakes and Reservoirs; Bats; Water Vole; Grey Heron; Sand Martin; Black Poplar

National Plans

Chalk Rivers; Eutrophic Standing Waters; Wet Woodland; Fen, Marsh and Swamp; Reedbeds; Rivers and Streams; Standing Open Water and Canals; Pipistrelle Bat; Water Vole

Key References

Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

Cox M., Straker V., Taylor D., (eds), Proceedings of the International Conference, Wetlands Archaeology and Nature Conservation, 1994, London HMSO

Environment Agency 2004, The State of England's Chalk Rivers

Environment Agency 2005, Rivers and Streams Habitat Action Plan

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Scott Wilson Business Consultancy, Sutton Open Space Strategy, Draft Report v.1 for London Borough of Sutton, January 2005

Websites: Environment Agency, UK BAP, London Wildlife Trust, DEFRA, London Biodiversity Partnership

Abbreviations

CAMS – Catchment Abstraction Management Strategy

EA – Environment Agency

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

LBS – London Borough of Sutton

LWT – London Wildlife Trust

SNCV – Sutton Nature Conservation Volunteers

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Gardens & Allotments

Wildlife Garden © Centre for Environmental Initiatives

"Stay gardening wild and sing a few songs while you're doing it!"

Michaela Strachan's gardening philosophy

1. Aim

- Maintain the biodiversity of gardens and allotments in the Borough
- Look for opportunities to expand the biodiversity of these habitats
- Increase awareness of the role gardens and allotments play in supporting wildlife
- Promote wildlife areas in allotments
- Encourage new developments to have gardens/wildlife areas

2. Introduction

The importance of private gardens and allotments to nature conservation cannot be underestimated. Gardens and allotments have been considered together because these habitats exhibit similarities and are artificial environments. Community gardens within school grounds are also covered by this Action Plan. Both habitats require considerable manpower and cultivation to maintain the assemblage of ornamental and cultivated plants that characterise them. Gardens and allotments are defined by their ownership or function and do not have a distinctive community, although traditionally we associate them with areas of grass, trees, flowerbeds etc. They can include elements of other community types such as woodland and chalk grassland in microcosm. Areas of adjacent gardens can have a continuity and, provided they are managed in a wildlife friendly way, can form a green corridor for wildlife.

These areas of land adjacent to our homes provide us with opportunities to experience nature at first hand. We can explore the interdependence of plants and animals, or just relax and enjoy the profusion of colour, scents and wildlife-rich interest that results.

3. Current Status

3.1 Area & Distribution

Nationally it is estimated that there are half a million hectares of domestic gardens. Analysis of aerial photographs taken in 1981 estimated that private gardens covered 20% of Greater London, equivalent to 30,000 hectares. There are no accurate estimates of the land covered by private gardens in Sutton. Allotments are a relatively minor resource covering an estimated 47ha. This equates to 1% of the Sutton's land surface.

Gardens and allotments occur on every soil type represented in the Borough, and therefore do not have a specific ecology. Larger gardens occur predominantly in the south of the Borough, and have the most potential for biodiversity in terms of variety of habitats. Smaller gardens occur in the north.

There has been little co-ordinated study of the extent, and variety of garden and allotment habitats nationally or regionally, and so the current status of these sites is unknown.

3.2 Trends

Gardens and allotments are managed for aesthetic or functional reasons, rather than in an effort to conserve a specific community type. However, recently there has been a shift in emphasis, whilst still maintaining their functionality, to gardening for the benefit of wildlife.

Wildlife-friendly gardening can have enormous benefits for all manner of native plants and animals. However, that is not to say that non-native species do not have a place in our gardens. It is widely recognised that these non-natives or as they are now known 'neophytes' i.e. plants that have arrived in the last 500 years, can have positive associations for native animals e.g. barberry *berberis* spp. or blackcurrant *Ribes nigram* attract a host of bees and moths to their nectar, and provide a food source for birds.
Lavender *Lavendula* spp, benefits butterfly and bees;
Nasturtium tropaeolum cvs. is excellent for bumble bees and ice plant *Sedum spectabile* is beneficial for late pollinators such as butterflies, bees and hoverflies.

Although large gardens are regarded as being the best for wildlife, it is important to recognise the incredible value of all gardens whatever their size. It is acknowledged that even the smallest of gardens can have a strong biodiversity interest. The current trend in wildlife gardening can even extend to small gardens or window boxes. Those that avoid the application of toxic chemicals, and leave a corner 'untidy', can become an invaluable refuge for wildlife. Also, the collective effect of groups of interlinking gardens together can have a 'nature reserve' effect, even if the gardens are individually small, the

biodiversity interest over the whole area could be immense.

Gardens can play a role in helping to stop the decline of threatened species such as house sparrow *Passer domesticus*, starling *Sturnus vulgaris*, stag beetle *Lucanus cervus*, common frog *Rana temporaria* and bumble bee *Bombus* spp., and are a refuge for threatened wildlife as well as wildlife in general.

The increasing pressure to develop in urban areas has meant that large gardens are often used for infill or backland development.

Feeding of garden birds is now a muti-million pound business that has important implications for the status of many garden birds. Gardens also provide important habitats for frogs and toads.

4. Specific Factors Affecting the Habitat

- Direct loss of habitat through infill or backland development
- Increasing popularity of wildlife gardening
- Increased awareness of the contribution of wildlife gardening to biodiversity
- Inappropriate management and damage to habitat and species from pesticide and fertiliser application

5. Current Action

5.1 Legal Status

The majority of protection comes from planning policies in the UDP. This includes a policy preventing the loss of backgarden land in established residential areas. Many trees and hedgerows are protected by Tree Preservation Orders. Protected species using gardens and allotments include the stag beetle, badger and bats (all species). All buildings associated with gardens, but in particular houses, provide many species of bat with potential roosts.

5.2 Mechanisms targeting the habitat

No comprehensive audit of management for the benefit of wildlife has been carried out within the Borough, although it is recognised that many residents already engage in wildlife gardening to some extent. There is a broad range of measures that can be implemented on the small scale to benefit a wide range of species, which when combined with the often considerable resources available, can deliver intensive ecological management on the small scale. There is great potential and scope to benefit biodiversity. Schools, daycentres, and allotment societies have created wildlife habitats, including features such as artificial nestboxes, deadwood habitats for invertebrates and garden ponds. Sutton celebrates gardens as wildlife habitat through events such as ‘Sutton in Bloom’ Best Wildlife Garden category.

National surveys are carried out such as the Royal Society for the Protection of Birds annual *Big Garden Birdwatch* (400,000 people participated in 2004); and the Mammals Trust is gathering information on mammals in gardens through its *Living with Mammals* survey.

6. Flagship Species

Common Name	Latin	Brief Description
Pipistrelle bat	Common pipistrelle *Pipistrellus pipistrellus* Soprano pipistrelle *Pipistrellus pygmaeus*	There are two species in Sutton. Pipistrelles are the smallest European bats often seen flying around gardens at dusk. They have dark red/brown fur and a characteristic black/brown wing membrane.
Stag beetle	*Lucanus cervus*	Sutton is a hotspot for stag beetles, with gardeners regularly turning up the large larvae whilst digging amongst deadwood.
Swifts	*Apus apus*	Often viewed in flight over our gardens emitting its characteristic 'scream' call. It has long, scythe-like wings and a short, forked tail.
House sparrow	*Passer domesticus*	Once a common bird, now declining in the UK.
Robin	*Erithacus rubecula*	The UK's favourite bird and gardener's companion.
Hedgehog	*Erinaceus europaeus*	Possibly one of the most popular species in the capital. Renowned for eating slugs. Absent from central London. Threats include road traffic, steep-sided ponds, and the consumption of slugs that are dying from slug pellets.
Common toad	*Bufo bufo*	Common toads occur in a broad variety of

		habitats, including gardens. The most obvious feature that distinguishes this species from frogs is its warty skin.
Smooth newt	*Triturus vulgaris*	This newt is, with the common frog Britain's most widespread amphibian. Often found in garden ponds, particularly where there are no fish, they are also found under refuges such as logs or stones.
Common frog	*Rana temporaria*	Frogs can be found across Sutton, and provide fascination to many gardeners.
Slow worm	*Anguis fragilis*	The slow worm is actually a legless lizard. They may be found in gardens and compost heaps, where food is plentiful and the rotting plant material creates suitable warm conditions.
Song thrush	*Turdus philomelos*	A familiar and popular garden songbird whose numbers are declining seriously.

7. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Protect back gardens as important for nature conservation, and encourage sympathetic landscape design.	Discourage back garden development considered to be of ecological value, through strong policies in the LDF.	LBS	GLA
	Protect gardens as important for nature conservation, and encourage sympathetic landscape design.	Provide nature conservation and climate change landscaping guidance to all developers. Review annually.	LBS	
	Protect trees through TPO's and Conservation Areas.	Ensure site surveys, through the planning process, are carried out to establish whether there are trees worthy of a TPO; and ensure retention of trees via landscaping conditions.	LBS	
	Open Spaces Strategy.	Ensure the OSS takes account of wildlife value & potential on allotments, school grounds, and back gardens, and that open spaces stakeholders are consulted.	LBS, WLWUG	

Theme	Objective	Actions	Lead	Other Partners
	Protect, create and enhance allotments for wildlife.	Ensure LDF has strong policies to protect allotment space against built development, or other change of use leading to loss of wildlife/food sustainability value. Develop strategy for wildlife areas in allotments by 2008.	LBS	
Management & Creation	Encourage use of allotments as areas for wildlife conservation.	Target 2 allotments per year for wildlife area creation. Wildlife sites to include ponds for amphibians and other wildlife, other than fish, bog gardens, dead wood habitats as appropriate to sites.	LBS, CEI	Working Group
	Create and ensure maintenance of new wildlife gardening sites in schools and colleges. Produce simple wildlife management plans.	Target 4 schools per year. Wildlife sites to include ponds, bog gardens, dead wood habitats as appropriate to sites.	CEI, LBS, SNCV, GSSN	
	Encourage the provision of nest boxes for breeding birds in gardens and allotments.	Provide 100 bird boxes throughout the Borough by 2010.	LBS, CEI	
Advisory	Give guidance and support to wildlife gardening in the Borough.	Hold one event per year.	SOGG/ CEI	

Theme	Objective	Actions	Lead	Other Partners
	Update wildlife gardening leaflet.	By 2006, incorporate advice about protected species.	LBS, WLUWG, CEI	
	Provide web-based advice.	Establish and maintain up to date links with existing wildlife gardening schemes, and incorporate advice and links about protected species, by 2005. Review 6 monthly.	CEI	LBS
	Resource outreach service to schools and allotment societies.	Target 4 schools/associations per year.	LBS, CEI	
	Support garden centres in marketing wildlife friendly products and advice.	Target 2 garden centres per year. Send wildlife gardening leaflets to gardens centres annually.	LBS, CEI	
Awareness	Identify responsibilities of garden & allotment holders under wildlife legislation.	Produce 2 articles per year e.g. Environment News.	LBS	CEI
	Promote wildlife gardening to allotment holders.	Incorporate wildlife gardening techniques into funded conservation projects on allotments, e.g. 'Beanstalk Project' learning sessions, Food Reminiscences Project, and Young People's Food Growing project.	CEI	LBS

Theme	Objective	Actions	Lead	Other Partners
	Provide guidance and support to allotment societies applying for funding for conservation projects.	Write letters of support for allotment societies applying for funding.	CEI	LBS
	Promote wildlife gardening to householders with gardens.	Distribute flyers and other promotional material to libraries etc, and incorporate articles in other publications e.g. Environment News, and press releases	CEI, LBS	
	Promote nature conservation via interpretation boards in allotments/school grounds.	Install 2 interpretation panels per year.	LBS	
	Hold competition for best small/large wildlife garden/allotment.	Incorporate into competitions such as 'Sutton in Bloom', Greener Schools Support Network.	LBS /CEI	GSSN
	Establish Sutton Ecology Centre as training centre and exhibition gardens for biodiversity.	Hold one workshop/event per year. Provide training.	LBS	
	Utilise CEI as a training centre for wildlife gardening.	Hold one workshop/event per year where funds available.	CEI	
	Ensure Council Planners are appropriately trained to safeguard biodiversity.	LBS Biodiversity Team to provide 1 training course annually to raise awareness of the importance of biodiversity.	LBS	

Theme	Objective	Actions	Lead	Other Partners
Research & Monitoring	Encourage participation in national and regional wildlife surveys.	Promote via events, press releases & website links (e.g. RSPB *Big Garden Bird Watch*; BTO *garden bird watch*; MT *Living with mammals*).	LBS,CEI	
	Carry out a survey of uptake of wildlife/ environment friendly allotment gardening.	Publish survey results in LBS Parks allotment newsletter every three years from 2006.	CEI, LBS	
	Encourage participation in surveys for target species.	Set up annual surveys or commit to existing surveys. Collate data and produce report annually.	LBS,GLA	
	Identify the extent of gardens and allotments as habitat for wildlife.	Map on GIS by 2008.	LBS	
	Input all available flora and fauna on to RECORDER database & share with GIGL.	Update annually.	LBS, GLA	GIGL

Relevant Action Plans

Local Plans
Woodland and Scrub; Chalk grassland ;Rivers and Wetlands; Bats

London Plans
Chalk Grassland; Reptiles; Bats; House Sparrow; Grey Heron; Stag Beetle; Mistletoe; House Martin; Swift; Humble Bumble and Exotic Flora statements.

National Plans
Built Up Areas and Gardens; Urban; Long tongued Bumble Bee; Stag Beetle.

Key References
Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

London Biodiversity Partnership 2004, Private Gardens Habitat Action Plan

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Websites: London Wildlife Trust, London Biodiversity Partnership, Sefton Coast Partnership

Abbreviations

CEI – Centre for Environmental Initiatives

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

GSSN – Greener Schools Support Network

LBS - London Borough of Sutton

SOGG – Surrey Organic Gardening Group

SNCV – Sutton Nature Conservation Volunteers

WLUWG – Wildlife and Land Use Working Group

Working Group – a consortium of groups

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Cemeteries & Churchyards

"Now fades the glimmering landscape on the sight,
And all the air a solemn stillness holds,
Save where the beetle wheels his droning flight,
And drowsy tinklings lull the distant folds;"
(Elegy written in a Country Churchyard - Thomas Gray)

1. Aim

- Maintain, enhance and where appropriate expand these areas for biodiversity
- Survey these habitats to determine their extent and value for wildlife
- Increase awareness of the role played by cemeteries and churchyards in supporting wildlife

2. Introduction

Churchyards are defined as the grounds surrounding a church, and cemeteries are burial grounds found outside the confines of a church. They are a relatively minor resource in terms of land cover, and yet make a significant contribution to overall biodiversity by providing examples of relic semi-natural habitats, such as chalk grassland, act as links in green chains, and provide relatively undisturbed areas for wildlife. Grassland within old churchyards may have been relatively undisturbed for hundreds of years. Cemeteries were established a lot later in the first half of the 19th century. With increasing loss of traditionally managed meadows and pastures, they are practically the last remnants of unimproved semi-natural grasslands, and may have high botanical importance because of this. Trees and shrubs are also important features in these areas as they offer food and shelter to many insects and birds. Both church and gravestones may be important for lichens. Due to their age many support a range of rare or uncommon plant species,

such as rustyback fern *Asplenium ceterach*, and on chalk, hoary plantain *Plantago media* and dark mullein *Verbascum nigrum*; as well as more familiar garden birds such as blackbirds *Turdus merula* and wrens *Troglodytes troglodytes*.

A sympathetically managed churchyard or cemetery can be both aesthetically pleasing for visitors and mourners, and can also provide wildlife refuges for invertebrates, small mammals, and birds, as well as semi-natural plant communities. Moreover, churchyards and cemeteries can be an important focus for community action, and an excellent educational resource.

3. Current Status

3.1 Area & Distribution

London's cemeteries have been estimated to cover an area of 1300 hectares (ha), or approximately 1% of Greater London's land surface. Sutton has 3 cemeteries comprising a total of 16 ha. Within the Borough there are 4 churchyards of nature conservation value covering a total of 4.7 ha. These include All Saints churchyard, Carshalton 1.5 ha; All Saints churchyard, Benhilton 0.8 ha; and St Nicholas churchyard 0.3 ha; and St Mary's churchyard 0.9 ha which forms part of the larger Beddington Park SINC.

3.2 Trends

In Sutton the earliest churchyard dates from the medieval period, and will have remained in the same usage since then, exhibiting a unique managed habitat. Other churchyards will have existed for less time, but even so, due to their relative antiquity, may support important relic semi-natural habitat.

The majority of churchyards and cemeteries are managed to maintain a neat and 'tidy' appearance. This paradigm often leads to a regime of managed close mown turf, that offers little in the way of opportunities for biodiversity conservation and enhancement.

A report, produced by The London Planning Advisory Committee in 1997, identified that cemeteries and churchyards in London were close to capacity for burial space. The report identified that legislation is needed to enable cemetery managers to re-use graves. This could impact upon biodiversity by crowding in new plots between old ones damaging the semi-natural habitats they contain. However, this report specifically refers to the need to conserve biodiversity, following any re-use of burial sites. Moreover, the Mayor's Biodiversity Strategy in 2002 recommends an informed approach, to achieve a balance between provision and management of burial space, and biodiversity interest.

Within Sutton, 5 closed churchyards, where burials have been discontinued; are managed by the local authority under church ownership. They offer potential opportunities for sympathetic management for nature conservation.

There is no statutory duty on Local Authorities to provide burial space, therefore management of these

areas is not a priority, and financial provision for this service has declined. This has a secondary effect in that management of cemeteries and churchyards for nature conservation is seen as a low priority.

It is unlikely, owing to the limited availability of suitable land, and the pressure for different land use, that new cemeteries will be established within London offering little opportunity for habitat creation.

4. Specific Factors Affecting the Habitat

- History of low intensity management
- Lack of resources to manage for nature conservation
- Development pressure on ‘open land’
- Invasion of aggressive non-native species e.g. Japanese knotweed
- Vandalism and neglect
- Pressure to reuse land with graves over 100 years old
- Perceived demand to maintain ‘tidy’ churchyards & cemeteries
- Can act as green links reducing fragmentation and isolation
- Recognition of the existing value of these habitats to nature conservation
- Opportunities to incorporate biodiversity into these sites

5. Current Action

5.1 Legal Status

Legislation relating to cemeteries dates back to 1847, which allows private cemeteries to be sold for development.

Policies within the UDP to protect churches, churchyards and cemeteries, may indirectly affect biodiversity by protecting the buildings, structures and grounds. Buildings or other structures can be 'listed' for special architectural or historic interest, affording them statutory protection. However, the Local Authorities Cemeteries Order 1977 allows the clearance of monuments from cemeteries that are not listed. Sites may be included in Conservation Areas, scheduled as an ancient monument, or designated as an archaeological area, placing restrictions on the amount of disturbance or development of a particular site. A number of churchyards in the Borough are classified as Sites of Importance for Nature Conservation. Within certain churchyards and cemeteries, trees and hedges are protected by Preservation Orders.

5.2 Mechanisms targeting the habitat

Responsibility for maintaining the churchyard in good condition rests with the parochial church council (pcc), except in the case of a closed burial ground, where the responsibility passes to the local authority. Sympathetic management for nature conservation and heritage purposes is carried out at a number of Council run sites.

The activities of professional institutions, and many Government initiatives, impact on the management of churchyards and cemeteries for nature conservation.

These include The House of Commons select committee cemeteries report (2001), recommending assessment and management for biodiversity. The Living Churchyard & Cemetery Project promotes the principles and practices of nature conservation in all types of burial grounds. English Heritage and English Nature have joined forces and published 'Paradise Preserved', a guidance document on the conservation and management of cemeteries. Non-governmental organisations such as the London Wildlife Trust has run awareness campaigns to promote these sites for biodiversity; and the Bat Conservation Trust highlighted the plight of bats through its 'Bats in Churches' project.

6. Flagship Species

Common Name	Latin	Brief Description
Wall ferns	*Aspleniaceae*	Old buildings and walls support these plants growing in crevices and joints between the stones.
Holly blue butterfly	*Celastrina argiolus*	It is easily recognised in spring as it is the first of the blue butterflies to emerge. It is associated with typical churchyard plants such as holly and ivy.
Green woodpecker	*Picus viridus*	The largest of our native woodpeckers, Greeny-grey upperparts with a bright green rump and red on the top of its head. Often seen on short cut turf where it feeds on invertebrates and has a penchant for ants.
Lichens	*for example Caloplaca decipiens*	Lichens are a combination of two organisms, a fungus and an alga, living together. Churches and Churchyards are important for lichen conservation, particularly where there are no natural exposed rock surfaces.

7. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Ensure LDF has relevant policies to protect, create and enhance churchyards & cemeteries for biodiversity.	Include policies in next revision of LDF. Implement policy where appropriate.	LBS	
	Monitor re-use, and development proposals, on existing burial sites on sites with nature conservation value.	Provide training course annually to raise awareness of the importance of biodiversity.	LBS	
	Protect trees.	Implement the tree removal policy and protect and enhance the tree stock.	LBS	
	Support the 'Churchyards and Cemeteries Biodiversity Working Group'.	Maintain representative on working groups.	LBS, GLA	
	Open Spaces Strategy.	Ensure the OSS takes account of wildlife value & potential within churchyards & cemeteries	LBS	
Management & Creation	Seek to declare 1 'closed' churchyard as a local nature reserve.	By 2010.	LBS	
	Write management plans with Parks Department for biodiversity.	All Council run sites to have management plans in place by 2010.	LBS	Working group
	Aim to enhance churchyards or cemeteries for nature	Enhance 2 churchyards or cemeteries by 2010.	LBS	Working group

Theme	Objective	Actions	Lead	Other Partners
	conservation.			
	Aim to create dead wood habitats within churchyards & cemeteries.	Create 2 deadwood habitats by 2010.	LBS	Working group
Advisory	Relevant Council staff & contractors to be appropriately trained to carry out works without detrimental effects to biodiversity.	Hold 1 training event annually for Council contractors.	LBS	
Awareness	Identify private & public churchyards & cemeteries with existing or potential for biodiversity.	By 2006.	LBS, Working group	
	Promote the value of cemeteries & churchyards for wildlife through talks, guided walks and events.	Hold at least 5 per year. Ensure at least 50% are targeted with those groups traditionally not involved in nature conservation e.g. disability, youth or black & ethnic minority groups.	LBS, Working group	
	Encourage and support local community groups, to become more involved in the management of their churchyard or cemetery for nature conservation.	Give support to existing groups in the management of their churchyard by 2008.	LBS, Working group	
	Promote the value of churchyards & cemeteries for	Publicise & promote advice by 2007 by providing links to national & regional	LBS, Working group	

Theme	Objective	Actions	Lead	Other Partners
	biodiversity.	initiatives.		
Research & Monitoring	Encourage participation in national and regional wildlife surveys.	Promote via events & website links (e.g. LWT stag beetle survey).	LBS, Working group	LWT
	Undertake Phase I/II habitat surveys of all churchyards & cemeteries managed for nature conservation.	By 2010.	GLA	LBS
	Input all available flora and fauna on to RECORDER database.	Update annually	LBS, GIGL	

Relevant Action Plans

Local Plans
Woodland and Scrub; Parks and Open Spaces; Chalk grassland; Bats

London Plans
Parks, Squares and Amenity Grasslands; Woodland.
Bats; Stag Beetle.

National Plans
Built Environment and Gardens.

Key References

Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

Bromley Biodiversity Partnership, 2002; The Future of Darwin's Wildlife in Bromley The Bromley Biodiversity Action Plan 2nd Edition 2003-5

London Biodiversity Partnership 2005, Cemeteries and Churchyards Habitat Action Plan

Mayor of London 2002, Connecting with London's nature. The Mayor's Biodiversity Strategy. Published by Greater London Authority July 2002

Abbreviations

GIGL – Greenspace Information for Greater London

GLA – Greater London Authority

LBS – London Borough of Sutton

LWT – London Wildlife Trust

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Species Action Plan

Species Action Plan

Bats (All Species)

Pipistrelle bat © Hugh Clark

"On the bat's back I do fly
After summer merrily."
- William Shakespeare, The Tempest (Ariel at V, i)

1. Aim

- To maintain, enhance and extend suitable roosting, breeding and hibernation habitat for all species of bat
- To maintain, enhance, extend, and improve connectivity between, suitable commuting and foraging habitat for bats
- To increase the numbers of bats within Sutton
- To increase public awareness and appreciation of bats and their ecology

2. Introduction

Of the 50 species of native 'land' mammals found in the UK, 17 are bats. Bats regularly use the urban environment and two species of bat are often seen at dusk, albeit fleetingly. Many species of bat live in close proximity to humans, even roosting unobtrusively in our homes, and relying on them for their survival. Bats are the only mammals to have evolved powered flight. They are a member of the Order Chiroptera; meaning "hand-wing", which describes them perfectly, as it is the bones of the hand that have extended through evolution to produce a wing. They hunt by means of echolocation, a highly sophisticated sonar system. Their presence in an area is indicative of a healthy and diverse environment. Some species of bat assist us by consuming around 3000 midges in a night, helping to remove potential pests. These enigmatic and endearing mammals are worthy of our protection.

Surveying and monitoring of bats has developed since the availability of simple portable bat detectors that enable us to hear their calls; however, their

complex lifestyle and difficulty of detection means that much of their ecology is still unknown. We are only able to give a very rough estimate of distribution and population sizes of UK species of bats.

This Species Action Plan (SAP) was developed for all Sutton's bat species, as the ecological requirements, and conservation problems faced by all of London's bats, are believed to be generally similar. Any measures proposed are likely to be of benefit to a number of species. Their ecological requirements encompass a range of roosting, breeding, and feeding sites, that preclude their association with any one habitat type, thus necessitating a stand alone SAP.

3. Current Status

3.1 Area & Distribution

Of the eight species of bat recorded throughout London, five have been recorded in Sutton. Of these only one species of Pipistrelle is considered relatively common. The species of bat found in Sutton are shown below, although because of our current lack of knowledge about distribution of these animals, there could be more.

Serotine *Eptesicus serotinus*

This bat is recorded as vulnerable in the UK. Within London it is described as rare. It is found mainly in the outer London boroughs, where it favours over-mature parkland, and various wetlands, as foraging habitat. Serotines are found in Sutton roosting in houses, although it is thought they may be declining.

Noctule *Nyctalus noctula*

The noctule is the UK's largest bat with a wingspan of up to 40 cm. Described as vulnerable and declining within the UK, it is nevertheless thought to be widespread in the Greater London area. However their high mobility may have led to an overestimation of their numbers. Noctules have been recorded in Sutton at Beddington Park and Beddington Farmlands. They primarily use trees as roost sites.

Common pipistrelle *Pipistrellus pipistrellus* & Soprano pipistrelle *Pipistrellus pygmaeus*

Until recently these two distinct species were considered to be the same. They were eventually recognised as two separate species following research into population, genetics and habits. *P. pipistrellus* are commonly referred to as the 45kHz pipistrelle and *P. pygmaeus* as the 55kHz pipistrelle because of the nature of their ultrasonic calls. The 45kHz pipistrelle is thought to be the most common of the two species, although both species are widespread throughout the Greater London area, and are found in Sutton. They are frequently found in the urban environment, favouring roosts in houses under eaves and soffit boards.

Daubenton's *Myotis daubentonii*

Daubenton's bat is a medium-sized species. It is widespread throughout Britain, often associated with water bodies such as rivers and canals. In recent years low numbers have been recorded at the Beddington Farmlands site.

Other species

There may be other species of bat in Sutton. Unfortunately, due to the difficulty of detection the status is yet to be established. It is likely that the brown long-eared bat *Plecotus auritus* also resides within Sutton. Due to the nature of its hunting methods (mainly passive listening), detection with a bat detector is extremely rare. It occupies deciduous and coniferous woodland and parks and even gardens in villages and cities but is not dependent on human settlements. Summer (nursery) roosts are often in tree holes, although they will occupy bird and bat boxes and on occasion will roost in buildings.

3.2 Trends

In the UK, several bat species are considered rare, and most are thought to be in decline. It is generally accepted that there are population declines in all of London's bats, although the picture is unclear, as little is known about the current status of most species. A national study between 1978 and 1993 estimated a 70% reduction in the population of the two common pipistrelle species. However, evidence from a national survey in 2003 suggests that for certain species, this trend may finally be in reverse. Further evidence suggests that both Horseshoe bats and Daubenton's bats are now increasing in numbers.

As part of a UK wide monitoring programme, the JNCC commissioned the Bat Conservation Trust to carry out monitoring of bat populations. Survey data for the UK's common pipistrelle population estimates that the species has increased significantly since 1998, at an annual rate of 14%. For the other three species surveyed, soprano pipistrelle, noctule and serotine, there was insufficient data to be able to establish any trend over the monitoring period.

Management of trees, often as a result of a misplaced sense of tidiness, or concerns over health and safety, has led to the removal of many suitable roost sites.

There is a general lack of awareness amongst planners, developers, and arboriculturalists about bat ecology, and their responsibilities under wildlife legislation, that is potentially furthering the decline of bats.

The impact of climate change could have significant consequences for bats. Any temperature rise is likely to benefit bats, as it is recognised that diversity and numbers increase in the south. Severe winter temperatures could cause a problem however.

4. Specific Factors Affecting Bats

- Loss of roost and maternity sites

- Habitat fragmentation and loss of commuting corridors
- Lack of natural roosts particularly removal of standing deadwood or diseased trees
- Loss of biologically rich, unimproved grassland as foraging sites
- Reduced insect abundance and diversity associated with simplified habitat structure and reduced diversity of plant species e.g. amenity grassland
- Chemical treatment, using pesticides to kill food species, direct cause of death & herbicides killing prey host plants
- Although declining, invertebrate rich areas such as sewage farms provide considerable feeding areas
- Increased awareness has potential for positive and negative impacts
- Lack of awareness of bats and their protected status
- Wildlife gardening
- Impact of light pollution
- Increased use of built structures
- Predation by cats

5. Current Action

5.1 Legal Status

All bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981. This legislation has been supplemented and amended by the Countryside and Rights of Way Act 2000.

All species of bat and their roosts are also given protection under Schedule 2 of the Conservation (Natural Habitats &c) Regulations 1994.

Together the Act and Regulations make it illegal to intentionally kill, injure, or take, possess, or trade in bats, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places, such as roosts. Case law suggests that roosts are protected whether or not the bats are present at the time.

5.2 Mechanisms targeting the species

The Bat Conservation Trust carries out research and monitoring to advance our understanding of the status, ecology, and habitat requirements of British bats.

An English Nature licence is required to undertake intrusive survey work of buildings and trees for all species of bat. A DEFRA licence is required to undertake mitigation work that will affect any bat species, or its roost. No licence is required to carry out field surveys.

Volunteers from the London Bat Group and members of the London Borough of Sutton's Biodiversity Team regularly take members of the public on Bat Walks. Through a series of educational talks the status and ecology of bats is highlighted to schools and special interest groups. Bat boxes have

been installed at the Lindbergh children's play centre. Members of the public regularly ask for advice on the location of bat boxes in gardens and allotments, and this trend is increasing.

In addition, all Sutton's HAPs will take account of bats and through their implementation seek to maintain and enhance roosting, breeding, and feeding sites throughout the Borough.

6. Objectives and Actions

Theme	Objective	Actions	Lead	Other Partners
Policy & Strategy	Support and help implement the actions of the UK and London Biodiversity Action Plan.	Establish representative on working groups by 2005. Explore possibility of setting up local Bat Action Group.	LBS	LBBF, LBG, LWT, BCT
	Ensure LDF has relevant policies to protect, create and enhance bat populations & their habitat.	Implement policy where appropriate. Strengthen nature conservation policy in line with national & regional guidance.	LBS	LBG, LWT, BCT
	Relevant Council contractors to be appropriately trained to carry out works without detrimental effects on bats or their habitats.	By 2008 only contractors with suitable awareness training to be awarded Council contracts.	LBS	LBG, LWT, BCT
Management & Creation	Manage Council-owned parks and open spaces with bats in mind.	Management plans to be in place by 2010. Reviewed every 5 years.	LBS	LBG, LWT, BCT
	Encourage land managers, property owners and developers to maximise roosting opportunities for bats where appropriate.	Disseminate best practice guidance developed by the London Bat Group by 2008.	LBS	LBG, GLA
Advisory	Promote	Encourage new	LBS	LBG,

Theme	Objective	Actions	Lead	Other Partners
	provision of bat roosts as part of building design (including bridges).	developments where appropriate to include roosting opportunities through the planning process by 2008.		GLA
	Raise awareness of legal responsibility and best practice to developers, planners, other Council departments, arboriculturalists, roofing contractors, and pest control companies.	Produce and disseminate advice note and web-based guidance by 2008.	GLA	LBS, LBG, LWT, BCT
Awareness	Raise awareness of ecological requirements of bats.	Publicise & promote advice by 2006 by providing links to national & regional initiatives and update annually	LBG, LBS	
	Maintain & expand co-ordinated programme of guided walks.	Hold at least 5 annually. Ensure at least 50% are targeted with those groups traditionally not involved in nature conservation, e.g. disability, youth or black & ethnic minority groups.	LBS, LBG	BCT
	Aim to increase the number of leaders of bat walks & licensed bat workers in the Borough.	Offer training to volunteers annually.	LBG	LBS, LWT
Research & Monitoring	Ensure at least 2 sites are surveyed using the NSP* and Daubenton's Bat Waterway survey	By 2006.	LBG	

Theme	Objective	Actions	Lead	Other Partners
	methodology.			
	Identify key sites in the Borough and ensure sympathetic management.	Update annually.	LBS, LBG	
	Input all available data on bats on to RECORDER database & share with GIGL.	Update annually.	LBS, GIGL	LBG, BCT, LWT

***** Survey for noctule, serotine and pipistrelle bats

Relevant Action Plans

Local Plans
Woodland and Scrub; Parks and Open Spaces; Chalk grassland; Rivers and Wetlands; Gardens and Allotments

London Plans
Bats Species Action Plan; Woodland; Tidal Thames; Canals; Private Gardens; Wasteland; Reedbed; Churchyards and Cemeteries; Parks; Amenity Grasslands and City Squares; Open Landscapes with Ancient/Old trees Audit.

National Plans
Built Environment and Gardens; Pipistrelle bat.

Key References
Barnes R., Britton B., Yarham I.,1993; Nature Conservation in Sutton, Ecology Handbook 22, London Ecology Unit

London Biodiversity Partnership 2005, Bats Species Action Plan

RPS Ecology; Beddington Annual Ecology Report 2004

Altringham J.D., 2003; British Bats, Collins

Schober, W & Grimmberger, E., 1993; Bats of Britain and Europe, Hamlyn.

Websites: Bat Conservation Trust; London Bat Group; Warwickshire Bat Group

Abbreviations

BCT – Bat Conservation Trust

GLA – Greater London Authority

GIGL – Greenspace Information for Greater London

LBS – London Borough of Sutton

LBBF - London Boroughs Biodiversity Forum

LWT - London Wildlife Trust

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Glossary

Abundance
The degree and frequency of a species population, often indicative of the success it is experiencing in the wild.

Amenity grassland
Grassland that improves the quality of an area by contributing to the physical or material comfort of users (as places to picnic, walk, engage in leisure pursuits etc), and which increases the attractiveness or value of its geographic location.

Arboricultural
Arboriculture is the planting and care of woody plants, especially trees.

Baseline
A measurement, calculation, or location used as a basis for comparison in science.

Biodiversity
Biodiversity or biological diversity is the variety of life in all its different forms, which includes the myriad of plant and animal species and the range of habitats in which they live.

Biodiversity Action Plan
A plan that sets objectives and actions for the conservation of biodiversity, with measurable targets, following the UK Biodiversity Action Plan

Calcicolous
A plant that thrives in soil rich in lime.

Colonisation
Successful invasion of a new habitat by a species; the occupation of bare ground by soil by seedlings or sporelings

Conservation
Protection, management and promotion for the benefit of wild species and habitats, as well as the human communities that use and enjoy them.

Distribution
The geographical range of a taxon or group; the pattern or arrangement of the members of a population or group

Ecosystem
A community of organisms and their physical environment interacting as an ecological unit

Eutrophication
Over enrichment of a water body with nutrients, resulting in excessive growth of organisms and a reduction in oxygen.

Fauna
All the animal life in a particular region.

Flagship species
A species perceived favourably by the public for reasons of aesthetics or other value, used to promote and publicise habitat conservation.

Flora
All the plant life in a particular region.

Greater London
The geographical area encompassed by the 32 London boroughs and the City of London

Habitats
The area or environment where an organism or ecological community normally lives or occurs: *a fresh water habitat.*

Indicator species
A species indicative of an ecosystem or habitat. Their decline may indicate a disturbance that alters the ecosystem

Invertebrate
An animal, such as an insect or mollusc that lacks an osseous or cartilaginous spinal column.

Larvae
The newly hatched, wingless, often wormlike form of many insects before metamorphosis.

Local Nature Reserve
An area of land that is of special conservation interest and is of importance to both people and wildlife on a local level. LNR's are declared and managed by the owner of the site under the National Parks and Access to the Countryside Act 1949.

Mitigation
Any process or activity designed to avoid, reduce or remedy adverse environmental impacts likely to be caused by a development project. Mitigating factors are taken into account as a benefit on balance to offset against any perceived or demonstrable harmful impact

Monitoring
To keep track of systematically, with a view to collecting information i.e. to monitor the bear population of a national park. To test or sample, especially

on a regular or ongoing basis.

Native
Originating, growing, or produced in a certain place or region; indigenous.

Non-native species
A species that does not occur or belong naturally to an area, but has become established and generates successfully in a new environment e.g. Japanese knotweed.

Pesticide
A chemical used to kill pests, especially insects.

Plant communities
A group of plants living and interacting with one another in a specific region under relatively similar environmental conditions.

Priority habitat
Sutton's priority habitats, identified by the Sutton Core Partners, cover both areas defined particularly by their vegetation - as in Chalk grassland - and areas defined by their land use, such as gardens and allotments. Currently, there are 6 Priority Habitats within this plan.

Priority species
These are species that are chosen for priority action in biodiversity action planning, because they are under particular threat or they are characteristic of a particular region.

Protected species: Certain plant and animal species are protected to various degrees in law, particularly the Wildlife and Countryside Act 1981 (as amended).

Range
The geographic region in which a plant or animal normally lives or grows.

Reintroduction
To artificially insert a species which has become extinct within its former range, often through captive breeding and release.

Relict
An organism, species or habitat type of an earlier time and climatic variety, surviving in an environment that has undergone considerable change, often by movement to more ‘inhospitable’ areas. For instance, some communities and species that existed during the last glacial period now exist at high altitude, the climates of which are analogous to the harsh conditions in which they thrived.

Red Data Book Species
These are species that are endangered, rare or vulnerable to extinction globally, nationally or locally, and are contained within catalogues that are published by the International Union for the Conservation of Nature (IUCN).

Riparian habitat
Habitat located on the banks of a river or stream.

Scrub
A growth or tract of stunted vegetation.

Semi-natural habitat
Habitat that has been modified or created by human activities, still holding species that occur naturally in the area, in which natural processes are the most significant force in their development.

Site of Borough Importance of Nature Conservation
Sites which are important in a Borough perspective; damage to these sites would mean a significant loss to the Borough.

Sites of Local Importance to Nature Conservation
Sites that are or may be of particular value to nearby residents or schools. Local sites are particularly important in areas otherwise deficient in nearby wildlife sites.

Sites of Metropolitan Importance for Nature Conservation
Those sites which contain the best examples of London's habitats, sites with rare species, rare assemblages of species, or which are of particular significance within large areas of otherwise built-up London, which are afforded the highest priority for protection.

Species
The group of animals, plants, fungi or micro-organisms that have the greatest mutual resemblance forming a reproductively isolated 'unit'. Commonly used as the smallest unit of taxonomic classification.

Species Action Plan
A targeted programme of measures and actions aimed at maintaining and enhancing a specific species. A Species Action Plan aims to identify a number of conservation objectives and specify actions for targeting the species to stabilise and improve its status, as well as detail the responsibilities for achieving those objectives, based upon knowledge of its ecological requirements.

Succession
The sequential development of plant or animal communities through time.

Survey
To undertake an inventory, look at and examine the attributes and condition of a site, area or region, usually in terms of the presence / absence and/or quality of the habitats and species.

Sustainable Development
Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is often summed up by the phrases 'think globally act locally' and 'don't cheat your children'.

Sward
The grassy surface of an area of land.

Unitary Development Plan
Statutory plans produced by each borough, which integrate strategic and local planning responsibilities through policies and proposals for development and use of land in their area. Now superseded by Local Development Plans.

Wetland
Lowland areas, such as marshes and swamps that are saturated with moisture.

References
Connecting with London's Nature, The Mayor's Biodiversity Strategy 2002

Lincoln, R. J et. Al (1982). A dictionary of ecology, evolution and systematics. Cambridge University Press

Guest P., Frith M., Leigh-Hunt S., 1998; Biodiversity Action Plans getting involved at a local level, London Wildlife Trust

Richmond Biodiversity Group, 2005; The Local Biodiversity Action Plan for Richmond