1. Site Management

Much wildlife habitat requires management to retain and enhance its value and to enable people to enjoy nature. London's biodiversity owes a lot to the high standard of stewardship undertaken in the past by many organisations across the Capital.

However, the lack of, or inappropriate management is now a significant factor in the declining nature conservation interest of many sites in London. There are several reasons why optimum nature conservation management may not be carried out. The most important of these are conflicting uses and differing perceptions of the role of the site. Where there is acceptance that nature conservation use is appropriate and desirable, lack of resources is often a major constraint to putting management into practice. Ignorance of suitable techniques may also be a contributory factor to a lack of effective management.

Site management falls into two broad categories - the physical management of the site and the management of people and accessibility. Both aspects of site management should be addressed in order to increase biodiversity and people's enjoyment of it.

The GLA, boroughs, English Nature and the London Wildlife Trust are continuing to provide site-specific management advice on strategic sites as requested. London's strategic Sites of Importance for Nature Conservation (SINCs) are divided into categories reflecting their importance, i.e. sites of metropolitan, borough or local importance (SMIs, SBIs, SLIs). The policy, criteria and procedures for identifying these sites in London have been adopted by the Mayor (see Appendix 1 of the Mayor's Biodiversity Strategy), who identifies SMIs, and encourages the boroughs to identify and protect borough and local sites.

Objectives, Actions and Targets

Objective: To ensure that biodiversity conservation objectives are incorporated into plans, briefs, statements and other documents relating to the management of public open spaces in London

Target 1: All Sites of Metropolitan Importance (SMI) for nature conservation in public ownership to have a management plan or brief by 2008

Action	Target Date	Lead	Other Partners
1.1 Provide site-specific management advice on strategic sites as requested.	Ongoing	GLA	LA, LWT, EN, EA
1.2 Set up and maintain a database of ownership and management details for all SMI in public ownership.	2005	GLA	LA, WT, EN, EA
1.3 Research and identify all SMI in public ownership requiring management plans/briefs	2006	GLA	LA, WT, EN, EA
1.4 Start to implement programme of producing SMI management plans/briefs for those sites lacking them	2006	GLA	LA, WT, EN, EA

Target 2: All Sites of Borough and Local Importance (SBI & SLI) for nature conservation in public ownership to have a management plan or brief by 2010

Action	Target Date	Lead	Other Partners
1.5 Research and identify all SBI & SLI in public ownership requiring management plans/briefs	2006	LBBF	LA, GLA, WT, EA
1.6 Start programme of producing SBI/SLI management plans/briefs	2006	LBBF	LA, GLA, WT, EA

2. Habitat Protection

Introduction

Habitat protection is fundamental to making progress on the conservation of priority habitats. It is also fundamental to progress on the priority species, most of which go together with one or more of the priority habitats. For these reasons, there is a requirement for habitat protection in every action plan.

Most habitat protection is undertaken through the statutory planning system. There has been much work in London already to ensure that this system takes account of the requirements of biodiversity conservation and this section brings together the best practice from that experience.

Site protection

London Boroughs' Unitary Development Plans (UDPs) each have strategic policies. It is important that these make specific reference to the need to protect wildlife habitat as one component of sustainability.

The detailed protection of wildlife habitat in London is achieved largely through the protection of Sites of Importance for Nature Conservation, Green Corridors and Countryside Conservation Areas, which have been identified through adopted procedures. The sites include all Local Nature Reserves and biological Sites of Special Scientific Interest, and hence National Nature Reserves, Special Protection Areas and Special Areas of Conservation. The criteria for the selection of the sites include species issues, and the most important habitat of many species (including most priority Biodiversity Action Plan species) is protected effectively in this way. This advice on wildlife sites must be kept current, so that new findings and improvements do not remain unprotected.

Government planning guidance encourages the boroughs to protect wildlife sites in their UDPs. However, planning authorities have to balance biodiversity conservation with other material considerations and sometimes this can lead to some important habitat not receiving sufficient protection. Now that the London Mayor has adopted the procedures for identifying this land for his Biodiversity Strategy, it is appropriate to seek more comprehensive protection.

Habitat outside sites

Some wildlife habitat lies outside the series of wildlife sites, predominantly in the private gardens of suburbia. Many London Boroughs have planning policies that

protect the better wildlife habitat in such blocks of residential properties. Such policies should be adopted across London and amended to refer to the gardens as a priority habitat for biodiversity.

Planning gain

When planning applications are considered, it is not only possible to refuse permission, but also to grant permission with conditions, or negotiated agreements. In this way it is possible to prevent losses to biodiversity and sometimes to obtain a net gain. Many London UDPs have policies indicating the intention to achieve such gains, sometimes specific gains to nature conservation.

These policies for planning gain should be updated to take account of measures beneficial to important species. Such species include those given statutory protection as well as Biodiversity Action Plan priority species. It is not appropriate, however, to list all such species as there is no agreed definitive list and a list may be interpreted as all-inclusive.

Policies for habitat enhancement

Planning guidance encourages policies for the enhancement of wildlife habitats, but not all UDPs have such policies. It is important that plans include such policies, and update existing policies to refer to the need to consider the actions of Biodiversity Action Plans.

Other planning policy issues

Planning policies for uses other than biodiversity conservation can have an impact on wildlife habitat. For example, housing policies may appear to over-ride biodiversity considerations, or policies for the restoration of minerals workings may not refer to opportunities for the development of wetland and other appropriate habitats. It is important that such policies make appropriate provision for wildlife habitat, or explicit cross-reference to the nature conservation policies of the plan.

Access to wildlife habitat is an important planning issue in London. Such access can assist with habitat protection through an enhanced appreciation of the habitat amongst local communities.

Three other planning policy areas can sometimes aid biodiversity conservation, although their prime purpose is not habitat protection. Tree Preservation Orders (TPOs) are a statutory mechanism for the protection of trees of amenity or landscape value. Some London UDPs have policies to protect or enhance specific features (commonly woodland, rivers or other water bodies). However, like TPOs, such policies usually focus on broader issues of amenity and landscape rather than on biodiversity conservation. ‘Brownfield’ habitats may be identified for use as temporary open space, but such use protects their wasteland habitats only where that temporary use is sympathetic. Similarly, much valuable habitat is within the Metropolitan Green Belt or Metropolitan Open Land. While such specific policies can assist with biodiversity conservation and should refer to it, they are not a realistic alternative to the protection of the site series.

Other protection

Although the focus of this section is on the statutory planning system, the policies of other organisations can assist greatly with biodiversity conservation. Local Authorities, utilities, businesses and commerce control much land and can adopt

their own habitat protection policies as a major contribution to biodiversity conservation.

Good design

Developers are increasingly responding to calls for more sustainable design and construction in developments, which involves creating new wildlife opportunities in addition to protecting existing habitat. The London Development Agency has published a guidance note for developers called 'Design for Biodiversity', with English Nature and the GLA, to encourage wildlife-friendly building in London. The Partnership has copies to supply the development/construction industry. Further information on this issue is given in the Built Structures Generic Action Plan.

Objectives, Actions and Targets

Objective: To ensure that planners, developers and others are fully aware of and responsive to their responsibilities to protect wildlife habitat

Target: All Unitary Development Plans to include appropriate habitat protection policies by the end of the current round of reviews

Action	Target Date	Lead	Other Partners
1.1 Advise on appropriate policy during UDP review process	Ongoing	EN	GLA, LA
1.2 Update London Ecology Unit guidance notes on planning policies for Unitary Development Plans	2004	GLA	EN, EA, LWT, LA
1.3 Produce and disseminate generic biodiversity guidance note for planners in London to follow-up the LDA/EN/GLA publication 'Design for Biodiversity', aimed at developers.	2005	LBBF	GLA, LA, EN, LWT

English Nature will continue to advise on appropriate policy during the UDP review process, with the involvement of the boroughs. The GLA now also has a statutory role in relation to UDPs.

Further Reading

DETR (1996). *Planning Policy Guidance, Nature Conservation (PPG9)*. [To be revised in 2004]

DETR (revised March 2000*). Tree preservation orders; a guide to the law and good practice*.

Government Office for London (1994). *Regional Planning Guidance for London (RPG3*). [To be replaced by the Mayor's Spatial Development Strategy]

Government Office for London (1997). *Strategic Planning Guidance for the River Thames. (RPG3B)*. [To be replaced by the Mayor's Spatial Development Strategy]

London Ecology Unit (2000). *Policy, criteria and procedures for identifying nature conservation sites in London*. [Adopted by the Mayor of London as a basis for the London Biodiversity Strategy]

Relevant legislation

Convention on wetlands of international importance especially as waterfowl habitat (1971), as amended by the Protocol of 1982 and amended in 1987 (Ramsar Convention).

Council Directive on the conservation of wild birds (1979) (79/409/EEC, The Birds Directive).

Council Directive on the conservation of natural habitats and of wild fauna and flora (1992) (92/43/EEC, The Habitats Directive).

Wildlife & Countryside Act (1981), the provisions of which are extended and enlarged by the Countryside and Rights of Way Act 2000.

3. Species Protection

Introduction

Individual plant and animal species do not exist in isolation from the habitats in which they live and are often dependent on a specific habitat. The best way of protecting species is therefore through habitat protection, and management of that habitat with regard to species' requirements. These issues are considered above.

However, species require their own protection to strengthen their conservation within the legal framework. Rare species that are vulnerable to extinction and may have a history of exploitation require special legislation. Not all valued habitat is protected by any means and, furthermore, mobile species can spend a good proportion of their lives between protected sites and wider habitats.

Background to the legislation

Part I of the *Wildlife and Countryside Act,*1981 (as amended) is foremost among the various pieces of legislation protecting wild plants and animals in the UK. Certain species are also protected by European legislation, implemented in UK law through both the *Wildlife and Countryside Act* and the *Conservation (Natural Habitats &c.) Regulations*. Whilst wildlife law enforcement is conducted by the Police, English Nature is the advisory authority for statutorily protected species and the first point of contact for enquiries.

All of London's wild birds, with the exception of traditionally hunted and pest species, are protected from killing and catching, being held in captivity, and the wilful destruction of their nests. Some uncommon species are also protected from reckless disturbance at the nest whilst breeding. It is illegal to uproot any of London's wild plants without the landowner's permission and, in addition, a few nationally rare species may not be picked or sold.

Several of London's mammals, reptiles, amphibians and invertebrates are protected to various degrees. The fullest protection prevents killing and catching; possession and trade; reckless damage to their places of shelter and disturbance during occupation of such places. Partial protection might solely prevent killing, injuring and trade; or only damage to places of shelter and disturbance, or in some cases simply trade.

Although the *Protection of Badgers Act* is primarily intended as a welfare law, it effectively makes the badger a fully protected species. Moreover, all species of wild mammals are protected from cruel mistreatment by the *Wild Mammals (Protection) Act.*

London's specially protected species

Birds that are specially protected whilst breeding include kingfisher, hobby, peregrine, barn owl, little ringed plover and black redstart. London's more irregular breeders have included garganey, marsh warbler, Cetti's warbler, firecrest, bearded tit, avocet and common crossbill.

Fully protected animals other than birds include all bat species, common dormouse, great crested newt, badger, otter and a recent discovery, the tentacled lagoon worm. The water vole will become a fully protected species in 2004. Partially protected species include common lizard, slow-worm, grass snake and adder (intentional killing, injuring and trade only); common frog, common toad, smooth and palmate newts, chalkhill blue, small blue, purple emperor, white-letter hairstreak and stag beetle (trade only).

Specially protected plants include greater yellow-rattle, the recently discovered creeping marshwort (at the second of only two sites in the UK), pennyroyal and early gentian. The bluebell is protected from trade only.

Protected Species in Planning

Planning guidance specifically states that the presence of protected species and their habitat may be a material planning consideration in development control (PPG9 paragraph 47, DOE 1994). This includes a great many plants and animals, as we have seen that a wide variety of species are afforded some degree of legal protection through legislation. PPG9 also encourages London planning authorities to include specific policies for protected species in their Unitary Development Plans.

Species identified as a priority for the national, London, or individual borough action plans may not necessarily be afforded statutory protection (for example most invertebrates). It is appropriate therefore, to bring these priority species under the same protection in planning as those with legal protection. The revision of PPG9 should assist this.

English Nature has produced a series of guidance notes on protected species for planners and developers. These are available from English Nature london@english-nature.org.uk

Objectives, Actions, Targets

Objective: To ensure that planners, developers and others are fully aware of their responsibilities in respect of protected species

Target 1: All Unitary Development Plans to have an appropriate species protection policy. Such policies should go beyond the minimum requirements of the legislation to reflect good practice in the conservation of important species

Action	Target Date	Lead	Other Partners
1.1 Advise on appropriate policy during UDP review process	Ongoing	EN	GLA, LA.

Target 2: Review and update guidance notes on key species or species groups

Action	Target Date	Lead	Other Partners
1.2 Produce guidance notes tailored to key audiences	Ongoing	EN	LWT, GLA, LBG, LNHS, other specialist groups.

4. Ecological Monitoring

Introduction

It is important that progress in conserving London's biodiversity should be monitored. This is not only to inform the review and refinement of the individual action plans and actions, but also to measure whether or not the action plans are delivering improvements in our quality of life.

There is national advice on biodiversity indicators for sustainable development and quality of life. Locally, the London Planning Advisory Committee collated indicators for the State of the Environment Report, and many Local Agenda 21 partnerships have suggested indicators. Much of this work was reviewed by the London Ecology Unit in 1996, and that report should be consulted for a fuller account of the subject.

The London Biodiversity Action Plan is designed to include all of the most important wildlife habitat, and most individual species are covered through these habitat plans, rather than through individual species plans. Wildlife habitat is, by definition, indicative of biodiversity in general. The first priority, therefore, is the monitoring of wildlife habitat.

Habitat survey

The best way to monitor most habitat is through comprehensive ground survey of the habitats, as was undertaken by the GLC in 1984/85 and in re-survey of many individual London Boroughs since then. When areas are re-surveyed, the results provide a detailed account of losses and gains. However, such work is expensive and time-consuming, and is likely to be undertaken on a rolling programme, in which each area is revisited at intervals of several years. Some habitats, such as gardens, cannot be surveyed in this way, but can be done by involving members of the public.

Wildlife sites Changes in the number and area of Sites of Importance for Nature Conservation form one of the indicators in the State of the Environment Report. Without systematic re-survey, however, this indicator is biased – losses are more readily detected than the gains. To help avoid difficulties, this indicator should be compiled by an expert group.

Priority and opportunity habitat If resources for habitat survey are limited, priority may be given to the irreplaceable habitats, described by English Nature as

‘critical natural capital’. In London, the priority would be to monitor Sites of Metropolitan Importance for nature conservation. Where habitats are already monitored by a statutory agency there is an opportunity to develop an indicator at little extra cost. The prime example of this is the river water quality monitoring undertaken by the Environment Agency.

Trees A special case is the monitoring of trees that is undertaken by some London Boroughs, and the possible repetition of the ‘Task Force Trees’ study of the early 90s. Unfortunately these data do not provide a complete, unbiased inventory of trees and so they cannot be recommended as an indicator of wildlife habitat.

Monitoring the direct effect of the actions

It is considerably easier to monitor the state of the habitat, or of particular target species, in the places where actions have been undertaken. This is useful for measuring whether or not the actions are locally effective, and so is a desirable detail of biodiversity action.

Monitoring species groups A group of species can be studied with an efficient census. Changes in numbers or abundance of particular species draw our attention to the need to check what is going on.

Such surveillance is best done through organising the efforts of interested individuals. There is a spectrum of methods ranging from widespread public participatory schemes, like the garden wildlife monitoring undertaken by London Wildlife Trust with postcards and on their website. Another such scheme might be based upon amphibia in London’s garden ponds. At the other end of the spectrum are schemes like the Breeding Birds Survey, butterfly transects, the National Bat Monitoring Programme, Wetland Bird Survey and the ‘Standard Walk’ being piloted in London; schemes designed for use by dedicated amateur naturalists. Surveillance schemes are a cost-effective way of monitoring.

Atlas work The repetition of work for distribution atlases documents large scale and long-term changes in species distribution. The method is unsuitable, however, for smaller changes in abundance and changes occurring between the repetitions of atlas studies.

Monitoring schemes for individual species Some individual species are suitable subjects for monitoring. The traditional methods for this again involve trained amateurs undertaking standardised methods. London examples include the long-running heronries survey and the pilot pipistrelle bat survey. Care is needed, however, that multiplication of such single species efforts does not dissipate the resources of London’s trained amateurs and detract from the priority for surveillance.

Individual and inadvertent monitoring Biological recording schemes collect data for reasons other than monitoring, indication or surveillance (see the section on biological records). Much of this information is difficult to employ for monitoring, because the essential requirement, that the effort can be repeated with confidence at some later date, is not met. There are exceptions to this, however, most of which are for species that are readily found if present and are popular with recorders (generally the rarer species in popular groups like birds, butterflies, amphibia, reptiles, bats and higher plants).

Participation Surveys can be used purely to educate and raise awareness. Participation in monitoring schemes is an excellent way of involving the public in the action plan process. This participation can be organised so that the results provide a repeatable measure, as in the advice above.

Objectives, Actions, Targets

Objective: To employ, encourage, develop and maintain long-term monitoring schemes for London's wildlife habitats and species, to indicate the status of London's biodiversity

Target: Begin implementing various monitoring schemes and methods by 2002

Action	Target Date	Lead	Other Partners
1.1 Maintain programme of habitat survey to update whole of London on 10 year rolling programme	Annual and ongoing	GLA	LA
1.2 Report on the status of London's habitats in Mayor's State of Environment Report	Next SoER: 2007	GLA	
1.3 Review information available from national monitoring schemes to develop London monitoring and recommend enhancements to the London coverage	Ongoing	GLA	GIGL, specialists
1.4 Develop and enhance schemes to produce baseline statistics through public participation and continue as a monitoring scheme, particularly aimed at private gardens	Annually	LWT	GLA, LA
1.5 Research potential for the use of biological recording in monitoring selected species and develop into monitoring schemes	2006	GIGL	LA, LNHS

References

Cannon, A. 1998. *Garden Birdwatch Handbook*. British Trust for Ornithology.

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

Dawson, DG (1999). *London bird survey – instructions for participants. Standard walk, pilot study 1999-2000*. London Ecology Unit & London Biodiversity Partnership.

English Nature (1994). *Planning for environmental sustainability.*

Institute of Terrestrial Ecology (1991). *Butterfly monitoring scheme. Instructions for independent recorders*.

London Bat Group (2000). *London pipistrelle bat survey. Standard walk pilot study (2000).*

London Ecology Unit (1996). *Indicators of biodiversity for London Boroughs*.

London Planning Advisory Committee (1995 and subsequent revisions). *State of the environment report for London.*

Noble, DG, Bashford, RI & Baillie, SR (2000). The breeding bird survey 1999. *BTO Research Report* 247.

5. Biological Records

Biological records (information on the location, distribution and extent of habitats and species populations) are essential data underpinning the decision-making process for biodiversity conservation. Accessible, up-to-date and credible biological records allow informed decisions to be made about the biodiversity conservation interest of a site or area and how this is best conserved or enhanced.

The collection, management and distribution of data are crucial to the delivery and monitoring of all habitat and species action plans. All action plans should consider these needs and the funding required to meet them.

A wealth of biological information currently exists, but much of it is difficult to obtain because the information is often held in various formats in disparate locations. Rapid advancements in data-handling technology provide opportunities for a more unified approach to the collation and dissemination of biological information. Enabling a wider audience to access information

The National Biodiversity Network is a national project that is currently developing procedures and protocols to enable the establishment of a network of linked biological records centres. This will facilitate access to and exchange of compatible data.

Following the guidance currently available, a biological records centre development plan has been produced and is available to download from the London Biodiversity Partnership website.

Objectives, Actions, Targets

Objective: To establish a biological records centre for London to collate and disseminate a wide-range of biological information, linked to the National Biodiversity Network

Target: To have a biological records centre set up and providing a service to key partners and external customers by 2006

Action	Target Date	Lead	Other Partners
1.1 Produce a biological records centre development plan	Achieved 2002	EN	LWT, LNHS, LA, GLA, EA
1.2 Establish records centre	2006	EN, LWT, LNHS, LA, GLA, EA	
1.3 Ensure funding of data management needs is considered for each action plan	2004	LWT	Action Plan Lead Partners

Further Reading

National Biodiversity Network website: www.nbn.org.uk

6. Communications

Greater London is home to some 7 million people and is one of the most diverse cities in the world. Effective communication with Londoners is essential to the success of the London Biodiversity Action Plan. Apart from raising awareness, we must secure an understanding of the issues involved and provide opportunities for all people to become actively involved in action.

There is currently a great deal of activity to educate and involve the public in nature conservation in London, carried out by Local Authorities, Government agencies and a wealth of voluntary bodies and local volunteer groups. These activities include guided walks, open days, themed events, practical workdays, and environmental education activities with the formal education sector. Some of these events, when well publicised, are extremely popular with the public. However, there is concern that the people attracted to environmental events do not fully represent all of London's society, and that some areas of London are better served than others.

There is a wealth of experience and expertise in London and across the UK in the field of communicating biodiversity issues to the public. The Partnership recognises the need to tap into this resource and develop new and innovative mechanisms to ensure that all Londoners have a real opportunity to experience, understand and participate in biodiversity conservation and the Biodiversity Action Plans.

The Communications Topic Group is the Partnership's sub group for issues of education, marketing, media and involvement. New partners are welcomed.

Objectives, Actions, Targets

Objective 1 Provide strategic communications support for the partnership

Target 1: To maintain the LBP website as a key information resource for partners and other users

Action	Target Date	Lead	Other Partners
1.1 Maintain, update and develop website	Ongoing	LBP Project Officer	Communications Working Group

Target 2: Report on progress, achievements and activities across partnership

Action	Target Date	Lead	Other Partners
1.2 Produce an annual report	Ongoing	LBP Project Officer	Communications Working Group
1.3 Produce and distribute information bulletin for the Partnership	Every 3 months	LBP Project Officer	Communications Working Group
1.4 Hold an annual event	Annual	LBP Project Officer	Communications Working Group

Objective 2 Effectively support the communications work of the individual HAPs/SAPs

Target: Ensure action plan partners have support and guidance when undertaking press and publicity

Action	Target Date	Lead	Other Partners
2.1 Review Communications Guidance Notes	Annually	Comm. Working Group	
2.2 Provide reactive advice and support for partners in producing press releases, leaflets, organising events	Ongoing	Comm. Working Group	
2.3 Collate and maintain all information materials produced by the Action Plans and, if possible, make them available through the website	Ongoing	Comm. Working Group	
2.4 Identify opportunities for displays to be loaned to events and venues around London	2004	Comm. Working Group	

Objective 3 To produce a communications strategy to set out how the Partnership can encourage a greater understanding of biodiversity conservation and involve a wider audience in the delivery of the action plans

Target: Communications Strategy produced and agreed by early 2001

Action	Target Date	Lead	Other Partners
3.1 Produce guidance to ensure effective promotion of action as part of the London Biodiversity Action Plan	Achieved 2001	Comm. Working Group	

3.2 Identify additional communication actions for each habitat and species action plan that can be implemented under the umbrella of the London Biodiversity Partnership	2005	Comm. Working Group	
3.3 Produce Communications Strategy	2005	Comm. Working Group	

7. Funding

The London Biodiversity Action Plan process, whilst ambitious and aspirational, should also be based on the achievable. Although much can be done to implement biodiversity action by working within existing and shared resources, there is no doubt that many individual actions will require additional, external funding.

Funding sources may include programmes for environmental improvement that are already established in London. For example, government funded agri-environment schemes can deliver biodiversity benefits, but there may be the need for some of these programmes to give greater weight to urban habitats in order to be applicable to a wider range of action. Urban regeneration funding has the potential to provide environmental improvements but is currently seldom linked to biodiversity conservation. Lottery grants have already funded projects within individual action plans, and they continue to be a potential source for further funding.

A large number of infrastructure and regeneration initiatives will take place in London over the next few years, and many of these will have potential to contribute to biodiversity conservation and sustainable development. The London Biodiversity Action Plan needs to be taken into account in these initiatives and resources should be devoted to the programme of action identified by the Partnership.

A funding strategy for the Partnership's habitat and species action plans was published in 2003, which outlines the anticipated costs of the various actions. The strategy is intended to be a springboard to external funding streams, and will require regular review as new sources of funding become available and new actions are produced.

The Partnership expects that this strategic approach will help to enable projects in many parts of London, thereby also increasing the resources available to local biodiversity partnerships.

Objectives, Actions and Targets

Objective: To maintain a funding strategy which identifies actions that require external funding and makes proposals for increasing funding availability.

Target 1: Funding Strategy annually reviewed

Action	Target Date	Lead	Other Partners
1.1 Assess the costs of individual actions within the action plans where appropriate to securing additional funding	Achieved	GLA	EN, EA, LWT, LA, BTCV
1.2 Update funding strategy	Annual	Management Working Group	HSD group and action plan leads

Target 2: To seek new funding opportunities to implement the action plans

Action	Target Date	Lead	Other Partners
1.3 Pilot a 'biodiversity champions' scheme with potential business partners	2004	Management working group	London's business community
1.4 Promote the funding strategy to appropriate funding bodies, whilst collating funding criteria and grant timetables	Review Annually	GLA	Management working group, all partners
1.5 Produce a business plan for the Partnership through participation and consultation with partners	2004	Management working group	All partners

8. Built Structures

Introduction

London's wildlife depends not only on green spaces, but also on the artificial fabric of the city: houses and offices, factories and warehouses, bridges and car parks, wharfs and jetties, masts and chimneys. Indeed, some species are almost wholly confined to built structures, or spend a significant amount of their lives in, on or around them. Examples include bats, swift, house martin, jumping zebra-spider, London rocket, and maidenhair spleenwort. It is important that the management of existing buildings in London takes account of wildlife, and that new development is built with biodiversity in mind.

Although new development should avoid building on or damaging important sites or populations of species as a first principle, biodiversity can be incorporated into developments through wildlife-friendly landscaping, installation of sustainable

drainage schemes, and features such as green walls, balconies and roofs, and nesting and roosting spaces. This is ‘designing for biodiversity’.

Designing for biodiversity can, if undertaken in a planned manner, bring about benefits to wildlife. It can also offer developers the chance to secure planning approval more easily, engage the support of local communities, demonstrate corporate social and environmental responsibility, and achieve a unique selling point for the development. In many cases, there may be financial savings compared with a traditional landscaping approach. Users and occupiers of buildings can be provided with animated or diverse landscapes, and may benefit from the environmental benefits provided by SuDs, insulation, etc. Wildlife benefits from having features and habitats that are intentional rather than incidental.

Strategic frameworks

At a strategic level, there is now recognition, albeit limited, of the relevance of built structures to biodiversity conservation, and the potential they have for supporting biodiversity. The biodiversity strategy for England makes specific reference to the need to ‘*[incorporate more] biodiversity elements into green buildings*’, and uses the 'green roofs for black redstarts' work in the capital as a case study. The Mayor’s Biodiversity and Energy Strategies both encourage the installation of green roofs, walls etc. as part of good, sustainable design practice. The Energy Strategy (Proposal 15) ‘…requires planning applications referable to [the Mayor] to incorporate passive solar design, natural ventilation, bore hole cooling and vegetation on buildings where feasible. Boroughs should expect the same.'. This is backed up by London Plan Policy 4A.7.

Design for Biodiversity

Design for biodiversity should consider the ecological function of a built structure in its local context. This requires not only the consideration of how a built structure can minimise any adverse impact upon the local ecology, but also a consideration of whether the built structure or its landscaped environment can deliver any wider ecological benefits or enhancements.

Planning policies (through PPG9) provide for the minimisation of damage to biodiversity by new development, through identifying important wildlife sites (such as the Sites of Importance for Nature Conservation) adopted in local Unitary Development Plans. Legislation (e.g. the Wildlife & Countryside Act 1981 (as amended)) provides the means to protect a range of species during the development and construction process (see the Generic Action Plan).

However, there is evidence that more work is required to assist developers, planners and construction workers to ensure development minimises its adverse impacts and maximises the benefits to biodiversity. Appropriate good practice processes, guidance and tailored advice have emerged within the past 10 years, with a particular focus on the development and construction sector, but more is required.

Supplementary Planning Guidance (SPG) is currently being prepared in a number of boroughs on sustainable and/or ‘green’ buildings. However, specific features to benefit biodiversity are often simply referred to, without further details. Comprehensive SPG is being prepared by the GLA to complement the Mayor’s *London Plan* on sustainable design and construction, which is due for consultation in 2004.

The Partnership (through English Nature and the Greater London Authority) has worked with the London Development Agency to produce the *Design for Biodiversity* brochure, launched by the Mayor in February 2004. Accompanying this brochure is an internal toolkit for the LDA, which aims to help their land and property team take full account of biodiversity in their work. The Partnership is also maintaining contact with the *Building for Nature* project, an initiative being run by the South East of England Development Agency. This is working with house builders in preparing guidance and good practice case studies.

The Construction Industry Research & Information Association (CIRIA) has published *Biodiversity Indicators for Construction Projects*, as part of a suite of environmental indicators. CIRIA are now developing a similar project around buildings for biodiversity, with a number of partners on the steering group. This project will deliver the technical specification and guidance necessary to install vegetation on buildings for biodiversity, sustainable urban drainage and energy efficiency benefits. The Chartered Institute for Water and Environmental Management (CIWEM) are to publish a book *Habitats* in 2004 which features a specific chapter on buildings.

Boxes and other external features

At a simple level, nest and roosting boxes can be easily incorporated in or onto existing and new buildings. A wide range of boxes to benefit birds, bats and some invertebrates are now available, and for some species (e.g. peregrine falcon) a programme of installation is being undertaken by partners. There are also opportunities for incorporating artificial void structures (burrows) in walls and embankments of civil engineering structures to benefit species such as sand martin and kingfisher. The viability and performance of bird and bat boxes is not known, although the latter is subject to current research by the Bat Conservation Trust. Guidance as to how best to use these to maximise biodiversity, however, is not readily available, and the opportunity exists to bring this together to benefit developers and planners in London.

London green roofs

London has a number of green roofs which have attracted particular attention. In certain conservation hotspots such as Deptford Creek (in respect of black redstart), local people have been working hard to establish innovative green roofs for biodiversity. The Laban Dance Centre, winner of the Stirling Prize for Architecture 2003, has an aggregate-based roof created for black redstarts from the building rubble on site. The Creekside Education Trust building has a similar roof and many other environmental features.

The substrate-based roof approach, developed in parallel to similar models in Switzerland (where strong research links have subsequently been made), has given impetus to looking at the biodiversity potential of green roofs across London and the UK. The Partnership has been influential in raising biodiversity as a crucial consideration for green roofs, and advocating the need for different approaches and systems that are currently available on the market. Most of these latter accord, at least in principle, to the German FLL guidelines, which do not specifically take biodiversity into account for either their design or on-going maintenance.

The value and potential of green roofs for biodiversity has only recently been recognised through recent research. Further work is currently being undertaken, as well as efforts to prepare specifications to ensure that green roofs maximise their

potential for wildlife. Representatives of the Partnership have advocated these issues at a number of conferences, and have made links to manufacturers, developers, and researchers in the UK, Europe and North America, and other BAP partnerships in the UK.

Links with London Biodiversity Action Plans

London's priority habitats and species are influenced by built structures, and some depend on them for their existence. All plans should identify how, if possible, to incorporate a built structure element into the delivery of actions.

Some Habitat and Species Action Plans are particularly relevant: Tidal Thames, Wasteland, Chalk Grassland, Bats, Black Redstart, Sand Martin, House Sparrow, Grey Heron, Peregrine Falcon. For others, such as Woodland and Heathland, the opportunities and threats that may arise need to be acknowledged.

Objectives, Actions and Targets

Objective 1 To encourage developers, architects, designers, planners and others to design for biodiversity

Target: To hold a London green roof conference in 2004 and to produce technical specifications for designing buildings for biodiversity by 2005

Action	Target Date	Lead	Other Partners
1.1 Ensure that biodiversity conservation is central to the work of the GLA Architecture and Urbanism Unit's Living Roofs campaign	2004	Built Structures Working Group	AUU, GLA
1.2 Ensure that 'designing for biodiversity' is incorporated into the London Plan's Supplementary Planning Guidance on Sustainable Design and Construction	2004	Built Structures Working Group	GLA
1.3 Set up Green Roof Task Force for London to prepare and disseminate policy, and work with Government to make necessary changes to legislation	2004	Built Structures Working Group	AUU, GLA
1.4 Disseminate Design for Biodiversity (DfB) guide and tool-kit	2004	LDA	EN, GLA, Built Structures Working Group
1.5 Develop a suite of training events for developers, architects, designers and planners to follow up DfB launch	2004	BSWG	GLA, LDA Creekside Centre
1.6 Ensure that the Partnership's built structures issues are represented in a new green roof website for the UK	2004	Livingroofs .org	Built Structures Working Group
1.7 Organise green roof conference	2004	BSWG	Livingroofs.org GLA, LWT

1.8 Produce tool-kits for particular relevant audiences (planners, architects, landscape architects, and structural engineers) to provide technical specifications for green walls and roofs	2005	Built Structures Working Group	To be identified

Objective 2 Collate evidence on the biodiversity benefit of green roofs, walls and other approaches to designing for biodiversity

Target: To publish well-evidenced research report about the biodiversity benefits of green roofs by 2006

Action	Target Date	Lead	Other Partners
2.1 Work with CIRIA and other partners to collate and publish quantitative evidence for costs and benefits of green roofs and walls, with technical specifications, for a range of audiences including development control officers	2005	GLA	EN, LDA, Built Structures Working Group
2.2 Complete and disseminate PhD research on biodiversity performance of various roof substrates	2006	Black Redstart Lead	Royal Holloway College Built Structures Working Group

Objective 3 Promote the existing and potential biodiversity conservation value of built structures

Target: Ensure two 'biodiversity on buildings' events become part of annual programme of education and awareness raising campaigns

Action	Target Date	Lead	Other Partners
3.1 Organise annual "Birds on Buildings" event to generate records of breeding peregrine, sand martin, black redstart, house sparrow, swift, etc., and raise awareness of birds breeding on built structures	2004	EN	EN, BSWG, RSPB
3.2 Organise a 'Bugs on Buildings' event to raise awareness to green roof manufacturers and contractors, developers and architects, of the potential for habitat creation	2005	LWT	BSWG, Livingroofs.org, Creekside Centre, Buglife, LNHS
3.3 Organise a 'Plants on Buildings" event to raise awareness of contemporary research of roof plant performance and potential conservation opportunities	2006	LWT	BSWG, LNHS

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Abbreviations

AUU - Architecture & Urbanism Unit, GLA
EN - English Nature
GLA - Greater London Authority
LBBF - London Borough Biodiversity Forum
LDA - London Development Agency
LNHS - London Natural History Society
LWT - London Wildlife Trust
RSPB - Royal Society for the Protection of Birds

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