Making contracts work for wildlife: how to encourage biodiversity in urban parks

CABE SPACE

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CABE Space aims to bring excellence to the design, management and maintenance of parks and public space in our towns and cities.

CABE
1 Kemble Street
London WC2B 4AN
T 020 7070 6700
F 020 7070 6777
E enquiries@cabe.org.uk
www.cabe.org.uk

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John Sorrell, CBE
Chair, CABE

Sir Martin Doughty
Chair, Natural England

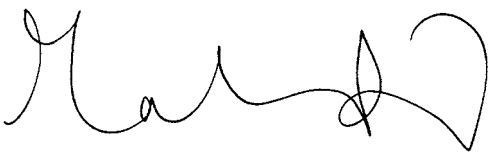
Most of us live and work in towns and cities. Though many people enjoy nature in the countryside as part of a day out, our most regular experience of wildlife and the natural environment comes from the gardens and public green spaces that we encounter as part of urban living. The wildlife of our town parks and other urban green spaces is as much a feature of urban living as the nature of field and hedgerow is for rural communities.

We may not always register the contribution that these wildlife encounters make to the quality of our lives, but few people would deny the pleasure of spring birdsong, summer butterflies, or autumn colour and the conker season. There is, however, increasing evidence for the measurable health benefits that contact with the natural environment brings. It can relieve stress, improve our mental health and speed our recovery from physical illness.

More than ever before we understand that the state of the environment cannot be left to chance. The quality of our parks and green spaces is the result of the investment and care they receive. Biodiversity as a key component of vibrant, rich and attractive open spaces needs to be reflected in the way that parks and green spaces are managed. From formal flower beds to more naturalistic areas for children's exploration and play, increasing the value of green space for biodiversity is about good-quality, well-planned management.

CABE Space has produced this guide to inspire and enable green space managers to make the most of the potential for biodiversity in urban parks. It draws on CABE Space's expertise and knowledge of good practice on the ground. The message is clear: people want nature in their public spaces and want to get involved in its management. Success will be the result of leadership and commitment to this approach, ensuring that it is reflected in the contracts and training of staff to deliver it.

John Sorrell, CBE, chair, CABE



Sir Martin Doughty, chair, Natural England

On the doorstep: Treloggan Doorstep Green, in the South West, includes a nature garden with banks of wild flowers

Introduction

This guide is for anyone interested in encouraging biodiversity in parks and green spaces. It focuses on the practical aspects of doing this. It acknowledges fully the conflicts and restrictions that green space managers may face when contemplating changes to management practices. And it includes case studies that relate the experiences of those who have achieved a degree of success, to show that these changes can benefit biodiversity and local people, as well as increase staff satisfaction.

Clients and heads of contract teams will be motivated to specify biodiversity in grounds maintenance contracts. Local authority parks officers, ecology officers and gardeners will learn from the hands-on experience in the case studies. Wildlife Trusts and other agencies, as well as planners and policy makers, will find an honest account of some of the barriers to this approach. Community groups will gain an understanding of contractual processes.

Green Flag Award scheme © Kevin Gibson

'Watching children play outdoors is inspiring: climbing trees; discovering insects, animals and birds; running and shouting; playing games; letting imaginations run wild; and story-telling. We can empathise with this as adults because we were all children once.'

Green Alliance and Demos, *A child's place: why environment matters to children*, 2004

Let it grow: park managers should rethink grass cutting arrangements to consider the plant species present and change mowing regimes to allow for different grass heights

Management and maintenance contracts play a pivotal role in shaping the feel, look and biodiversity value of urban green space. The person on the mower really does shape the world! When you encourage biodiversity, you begin a process that enriches people's lives. By developing contracts and practices that consider nature as well as user needs, and by taking responsibility to seek better value, we will create richer, more fulfilling public spaces.

This guide is about making the best of the natural riches we have and thinking creatively about the opportunities to do things better. It is also about integrating biodiversity into traditional forms of green space management, in a way that allows users to enjoy both the familiar and the less familiar. In making a case for biodiversity, we make a case for more varied and inspiring places. Victorian parks were originally founded on the principle of providing rich, stimulating places for rest and relaxation as an antidote to the grime of the industrial city. We need to update this vision to create green spaces that are healthy, beautiful, fascinating and fulfilling for people. That vision should include making contracts work for wildlife.

What is biodiversity?

Biodiversity is the variety of living things around us, from mammals and birds to plants and microbes, and the habitats they live in. It is a term used to mean wildlife, but more inclusive, as the latter is often thought to refer to animals only. The biodiversity of a site or locality is the range of species found there. An urban park includes the familiar biodiversity of the blackbird and the robin, ducks, butterflies and the trees and grass, as well as many hundreds of species of smaller, more elusive and less familiar species such as bats, hoverflies, molluscs and fungi.

'We will encourage people who are designing and managing parks and public spaces to protect and enhance biodiversity and to promote its enjoyment to local people.'

CABE Space, *Manifesto for better public spaces,* 2004

Woodland help: with the help of the Heritage Lottery Fund, the Trees of our Future project provides people with the knowledge and skills to care for their woodland heritage throughout Northern Ireland

The word biodiversity will be used in this publication as it is widely adopted by local authorities and government engaged in the biodiversity action plan (BAP) process.[1] This was inaugurated in 1995 at national level, in an effort to stem the decline in species and quality of habitats within the UK. Much of the plan is delivered locally and many local BAPs have specific objectives for parks and green spaces that encourage species and habitats, such as the song thrush, the stag beetle and veteran trees. Whereas nature conservation implies protecting nature or habitats in special areas, biodiversity can be encouraged everywhere.

Managing for biodiversity in parks and green spaces means working to improve the ecological qualities of our towns and cities and to maximise the opportunities for people to experience nature close to hand. Surveys show that gardens, parks and woodlands are used more than just about any other facility for recreation.[2] Biodiversity is at the heart of the government's aim for a more sustainable future, and we have a duty to ensure a diverse and thriving natural environment. The government regards this as essential to the economic, social and spiritual health and well-being of this and future generations.[3] To this end, CABE Space placed biodiversity at the heart of its 2004 *Manifesto for better public spaces.*

1 Department of the Environment, *Biodiversity: the UK action plan*, HMSO, 1994
2 Sport England, *The use of public parks in England*, 2004
3 Office of the Deputy Prime Minister (ODPM), *Sustainable communities: building for the future*, 2003

A study of the use of public parks in England in 2003 estimated that 24.3 million adults use parks, mainly during the spring and summer months.[5] Although over two thirds of adults said the park they visited most often was the one closest to where they lived, 11 per cent of them said they travelled further afield to see more flora and fauna. The study also explored other evidence bases, including a survey by the University of Sheffield in 2002, which found that 32 per cent of people would use their urban parks, play areas and green spaces more if they had more varied vegetation.[6] Furthermore, 10 per cent of young people polled in a survey conducted as part of the government's Urban Green Spaces Taskforce in 2002 cited flora and fauna as the best thing about parks, play areas and green spaces.[7]

The Green Alliance looked into children's attitudes towards their environment and how it affects them. *A child's place* found a large gap in equality of access to a high-quality natural environment between children from affluent rural backgrounds and children from urban backgrounds. None of the children interviewed in the study felt they could describe conservation, biodiversity or sustainability, though some were familiar with the words.[8]

Green Flag Award scheme © AstburyMere Trust

'The countryside – I've been there maybe about once.'[8]

Boy, Huddersfield

Awarding wild space: Green Flag Award winning Astbury Mere Country Park, in Congleton, is a real asset to the local community

5 Urban Parks Forum, *Public park assessment*, 2001
6 Dunnett, N., Swanwick, C. and Woolley, H., *Improving urban parks, play areas and green spaces*, Department for Transport, Local Government and the Regions (DTLR), 2003
7 DTLR, *Green spaces, better places - final report of the Urban Green Spaces Taskforce*, 2002
8 Thomas G. and Thompson, G., *A child's place: why environment matters to children*, Green Alliance and Demos, 2004

Approach 1: risk assessment

Site Richmond Park, London

Management responsibility The Royal Parks Agency

Contractual arrangement External term contracts

Contact Simon Richards, park manager, telephone: +44 (0) 20 8948 3209

Biodiversity interest Veteran trees, fungi and invertebrates supported by dead wood

Themes Risk assessment, wildlife management, public health and safety

Richmond Park National Nature Reserve is the largest public open space in London, covering nearly 1,000 hectares. It is designated as a site of special scientific interest and is of international importance, particularly for the large numbers of ancient or veteran trees contained within the park, and the unique diversity of fungi and invertebrates that the trees and associated dead wood support. A key issue in managing the park to encourage biodiversity has been to resolve conflicts between wildlife management and public health and safety. To promote and enhance the life of trees for the benefit of the ecology of the park and to increase the amount of available dead wood, first required a detailed assessment of the hazards that might result from retaining that dead wood. To produce a long-term management plan it was necessary to undertake a risk assessment of the trees in the park to identify those that posed the greatest danger of dropping dead limbs or being blown over. As resources were limited, it was decided to link priority tree work with those areas in greatest public use, making the safety of people the ultimate criterion for action. Although the park is heavily used with more than two million visits per year, risk of tree failure had previously been viewed generally, not in terms of individual trees, and had not been refined to take account of target zones and different levels of use. The ultimate aim of the programme of treatment is to achieve a reasonable balance between prolonging the life of very old trees, wildlife value, visual amenity and public safety.

The Royal Parks © Nigel Reeve

The values of biodiversity

CABE Space's report, *The value of public space,* explains the impact of high-quality, well-maintained public spaces on people's physical and mental health.[9] The opportunity for people to be close to nature has a particularly positive impact. Important environmental benefits that biodiversity brings to urban areas include the cooling of air and the absorption of atmospheric pollutants. But there are other benefits, too.

9 CABE Space, *The value of public space*, 2004

1 It's good for people.

Naturalistic landscapes offer an alternative experience to more formalised, urban green space, and can be used for both exercise and relaxation. Informal, nature-like landscapes facilitate adventurous, imaginative play and more complex experiences for young people than the standard playground.

© Nicole Collomb

2 It involves communities.

The Countryside Agency © Doorstep Greens

Encouraging biodiversity offers opportunities for people to get involved in creating and looking after parts of their local neighbourhood or park. Biodiversity schemes need not entail costly construction works, and results may be achieved quickly. It is as important that local people are involved in designing places to encourage biodiversity as it is to seek professional input.

3 It's cost-effective.

Because biodiversity schemes, such as pioneer-style planted woodland, require less intensive maintenance, resources, which are always limited, can be directed to traditional plantings or on-site staff.

© London Borough of Tower Hamlets

4

© Landlife

It creates a sense of place.

Biodiversity helps to make an area reflect the character of its own locality, rather than looking and feeling the same as everywhere else.

5

It's good for wildlife.

Biodiversity is good for wildlife, whether rare and protected species or common, familiar plants and animals.

© Elizabeth Hoehnke

6

The Countryside Agency © Doorstep Greens

It contributes to sustainability.

Less intensive techniques and the reduction of chemicals, water and fertilisers are all aspects of managing for biodiversity. The best ecological systems require low levels of intervention and are therefore readily sustainable.

7

It contributes to a green infrastructure.

The network of parks and green spaces in a town or city helps to ameliorate the effects of climatic extremes, heavy rainfall and pollutants. Naturalistic green spaces are generally more effective in this respect thanks to their more complex vegetational structure.

© Landlife

Where can we find biodiversity?

When people think of places to encourage wildlife, it is often the wilder, more out-of-the-way parts of a park, the neglected banks of a canal or river, or a specially named and managed nature reserve or nature garden that comes to mind. The common perception is that nature or wildlife landscapes must be untidy, abandoned-looking and possibly unsafe. Consequently, there has been a one-size-fits-all attitude that fosters an identical approach to conservation or wildlife management wherever it is applied.

CABE Space's central message is quite the contrary: that biodiversity can and should be encouraged everywhere in our towns and cities and that it is just as valid and applicable in a formal public garden as it is in a large area of ancient woodland on the edge of a city.

'Traditionally the design and management of British parks has favoured an ornamental and manicured appearance. This limits the potential of existing parks as ecologically functional green spaces. In order to enhance the opportunities for biodiversity, park management plans can be revised with the aim of encouraging more species-rich and structurally diverse vegetation. Common examples include reducing mowing to encourage wildflowers and the establishment of field and shrub layers under trees.'

Town and Country Planning Association, *Biodiversity by design*, 2004

The following list of typologies outlines the range of urban public spaces that can be settings for biodiversity:

- **Parks and public gardens**
- **Natural and semi-natural spaces (including wastelands and derelict open land)**
- **Green corridors**
- **Outdoor sports facilities**
- **Amenity green spaces**
- **Provision for children and young people**
- **Allotments, community gardens and city farms**
- **Cemeteries, churchyards and other burial grounds**
- **Accessible countryside in urban fringe areas**
- **Civic spaces, including civic and market squares and other hard-surfaced areas designed for pedestrians.**

ODPM, *Planning policy guidance note 17: planning for open space, sport and recreation*, 2002

© Elizabeth Hoehnke

Approach 2: natural colonisation

Site Südgelände Natur-Park, Berlin

Management responsibility Berlin Department of Urban Development

Contractual arrangement Green Berlin Parks & Gardens Ltd

Contact Prof Dr. Ingo Kowarik, professor of ecosystem science and plant ecology, telephone: +49 303 1471350

Biodiversity interest Birch woodland, open dry grasslands and invertebrates

Themes Natural colonisation, urban-industrial nature

The Südgelände, a former rail freight yard, is one of the first of a new type of urban park that protects so-called urban-industrial nature and makes it accessible to the public. It lies on the southern border of the inner city. Train services to the yard were discontinued in 1952 and the site was then largely abandoned. Natural colonisation by birch woodland and grasslands followed.

The Natur-Park is now set aside as a conservation area and was opened to the public in 2000. In making the park, there was a need to provide public access in a way that made the site appear safe and welcoming but that also protected the open dry grassland areas (important for invertebrates) from trampling. Maintenance input is minimal and restricted to simple operations based upon zoning:

- Clearings are kept free of trees and shrubs over the long term. They are maintained through a single hay cut in September. The grass is cut back with brushcutters, raked into piles and left for several days to allow invertebrates to escape, before being removed from the site. Any invading trees and shrubs are cut to the ground at the same time
- Groves are light and open areas of woodland. Here the shrub layer is coppiced every winter to maintain clear, open lines of sight
- Wildwoods are left unmanaged – their spread is prevented by the other measures above.

The wild nature of the site is thrown into contrast by striking modern sculptures that are installed through the park and by the remains of the former railway sidings, including an old steam engine and turntable. The site is surrounded by busy streets and has the appearance of a green wilderness in the city.

The basics of biodiversity

Many management and maintenance techniques to encourage biodiversity are tailored to particular habitats, types of planting or types of animals. However, there are a number of general principles that underpin many specialised practices, and which apply regardless of the particular location.

1 You don't know what you've got until it's gone.

A fundamental principle of managing sites for biodiversity is to make the most of what is already there. Very often the value of this may not be recognised. For example, gang-mown amenity grassland may in places contain a good number of wildflowers but these never flower because of the frequent mowing. Always make sure you know what you already have before you try to change it.

Green Flag Award scheme © The Royal Parks

2 Challenge the myths.

©Landlife

It is important to seek expert advice to ensure that myths about wildlife do not infiltrate management decisions. For example, not all birds nest in trees; many nest on the ground. Many shrubs promoted as good for butterflies are suitable only for the adults, which drink nectar, and if the food plants of their larvae are not present as well, they will not serve their purpose. Providing for wildlife should not result in an increase in rats and pigeons, nor are exotic or introduced species always detrimental to native ones.

3 Keep it appropriate.

Most parks and green spaces have a local resonance: the species and their habitats generally relate to their locality and are derived from the underlying substrates and geology, climate, hydrology and ecological characteristics. A green space in the South West will have different biodiversity from one in the North East, even if the layout and structure are broadly similar. To ensure that biodiversity has a long-term future, management objectives must be appropriate to the local ecology, as must the species that are planted. These principles are usually set out in the local BAP.

Mike Waite

4 Keep it clean.

Wildness is often thought to mean leaving nature to look after itself. But it is important to make sure the site does not appear neglected. Litter picking is as important in a wildlife area as in a formal rose bed, but different ways of managing may entail adjustments to the regime, for example, litter needs to be picked before mowing, if cuttings will be composted.

The Countryside Agency © Doorstep Greens

5 Keep it dynamic.

© Nigel Reeve

Standard management practice aims to keep elements of the landscape in the same condition: shrubs are pruned to a regular shape, lawns are close mown to the same height, all self-sown plants are removed from flower beds. Change is therefore limited. Management for biodiversity, on the other hand, may actively encourage change so that more varied opportunities are present for wildlife. Some grasslands might be allowed to change gradually into woodland or shrubs may be pruned less frequently. Many species have no permanent place in a green space managed to suppress all change, yet continuity of habitat is absolutely vital to many species.

6 Size matters.

Although the quality of a park is not generally dependent on its size, in the context of increasing biodiversity it can often be crucial. Some species, mainly birds and mammals, have minimum area thresholds. So it is important to provide the largest area or mass of habitat wherever possible, as this enhances the chances for species that have large territories or that are vulnerable to disturbance. This provides the basic rationale to extending biodiversity beyond the bounds of the nature garden and integrating it into the wider management of parks and green spaces.

Green Flag Award scheme © Corporation of London

7

Safety in numbers.

A greater diversity of plants is likely to support a wider range of animals. For example, a wildflower meadow is usually thought to be better for wildlife than areas of unmown, tall grassland, because the greater variety of flowering plants supports more nectar-feeding insects than grasses alone. Similarly, a mixed planting of shrubs or a mixed hedge may help encourage more species of birds than a planting or hedge made up of a single species.

© Landlife

8

Mike Waite

The sum is bigger than the parts.

Combining different habitat types together creates a more complex and varied environment for wildlife, because of the larger number of opportunities for shelter and feeding. For example, the song thrush feeds both on invertebrates in open lawns and on berries from hedgerows or woodland edge. Thus, combining areas of short-mown grass with shrubs, hedges and woodland provides all sorts of foraging opportunities as well as nesting cover. Rich mosaics of different habitats can also be very attractive to people and are desirable if the size of the site and local circumstances permit.

9

More structure means more diversity.

The key to providing enhanced habitats for biodiversity is generally increasing the structural diversity of the habitats. For example, long grass meadows provide more opportunities than short swards. A woodland with ground flora, dead wood and a small tree layer provides significantly more habitat than one stripped of everything except its trees. A survey of Westminster parks and squares in London demonstrated a strong correlation between structural diversity and the number of breeding birds present.[4]

© The Royal Borough of Kensington and Chelsea *The Green Flag Award scheme*

4 Sibley, P., Hewlett, J., Vickers, D., Gannaway, C., Morgan, K. and Reeve, N., *London's small parks and squares – a place of nature?*, The London Parks and Greenspaces Forum, 2005

10 It's a matter of life and death.

We are used to thinking of nature as the living things we can see all around us, whether they are plants or animals. However, biodiversity – the totality of living things – includes also those myriad species that are scarcely visible. Many organisms are involved in death and decay and in feeding upon and recycling the dead remains of other life into soil nutrients. Therefore, one of the ways of encouraging greater biodiversity is to encourage this natural recycling by, for example, leaving dead wood on the ground in woodland areas.

© Mathew Frith

11 Life on the edge.

© Mathew Frith

Biodiversity hotspots often occur at the meeting point between two or more habitats. For example, where a shrubby woodland edge meets tall grass or meadow, plants and animals from both grassland and woodland habitats can thrive. Such boundaries and edges can be very useful where space is limited, particularly if allowed to merge rather than maintained as two or more separate areas. They can be especially valuable in warm and sunny aspects where the greatest diversity of wildlife can be expected.

12 Remember the bigger picture.

It is easy to focus on an individual site or a particular area or feature within that site, to the exclusion of the surrounding area. However, wildlife rarely takes notice of our site boundaries. We should not forget to look at how an individual site fits into a much wider network of spaces and how that connection can be strengthened. We should also consider the role of private gardens, which extend the habitat available for wildlife beyond the public open space.

The Countryside Agency © Doorstep Greens

13 Keep it sustainable.

Green Flag Award scheme © BTCV, London Borough of Croydon & Andrew Williams

Throughout the 20th century, managers of parks and green spaces (as well as the countryside) often used specific techniques to remove biodiversity, which was seen to be a problem. This later rebounded through the food chain, or caused damage well away from the parks themselves. Adopting more sustainable approaches, for example reducing chemical inputs, water extraction and fertilisers, and avoiding the use of peat, can greatly enhance biodiversity.

How can we achieve biodiverse green spaces?

To achieve more biodiverse green spaces, maintenance contractors and client officers need first and foremost to look anew at the vegetation they manage as habitats for biodiversity. This applies to all vegetation, irrespective of whether it consists of decorative planting such as annual bedding or ancient woodland. Traditional, designed plantings do have some biodiversity value, but the species chosen and the way the plantings are managed, without consideration for their wildlife value, do not generally maximise the opportunity. Taking a habitat perspective makes it easier to see the wildlife value of vegetation and to adopt more biodiversity-friendly maintenance specifications.

All this requires rethinking our approach to maintenance. In traditional maintenance specifications, for example, quality of grass cutting will be considered in terms of sward length, density and colour. Although these are all potentially important to users, some additional quality considerations might be:

- how many different plant species are present
- how many different animal species might live in or on closely mown grass
- whether there are opportunities for changing sward heights over time and space.

Sometimes these latter criteria will conflict with traditional measures and compromise may be required. In all cases, if we intend to manage an area for a specific purpose, such as increasing biodiversity, we must understand that purpose and be able to describe the operations needed to meet it. This is the basis of a specification for works, which in turn helps identify the resources needed to achieve our objectives.

The London Ecology Unit advises the following design considerations for nature areas:

- **retention of existing vegetation**
- **utilising available opportunities such as aspect and gradient**
- **provision of variety and interest by landscape design, vegetation structure and colour**
- **consideration of physical characteristics and underground services**
- **providing for a variety of uses**
- **separation of sanctuaries and sensitive wildlife areas from those with greatest activity**
- **promoting links to other open spaces**
- **providing for special needs in the community**
- **anticipating change in the vegetation as it develops**
- **siting of facilities, such as notice boards, fencing and a nature centre**
- **locating access points and paths on desired routes as far as possible**
- **management and financial implications on the design.**

London Ecology Unit, *Nature areas for city people,* 2000

Doing it differently: Landlife's good practice publication, *Wildflowers work*, and creative conservation training days provide the opportunity for others to see the possibilities that wildflower landscapes can offer

What do we do now and how could it change?

The most common maintenance operation in urban green space is gang-mowing of amenity grassland. This and similar operations are straightforward to specify, can be done with little selectivity and fit comfortably into a fixed programme and timetable. The timing of the works is largely determined by the operational limitations of machinery. Staff are very familiar with these techniques and it is generally easy to assess whether the job has been completed satisfactorily in accordance with the specification. This is because these operations are based on simple principles. If, for example, the job is weeding a shrub bed, then all weeds are removed, leaving only the planted material.

Now and then: rethinking our approach to maintenance includes more sensitive techniques than in the past

Managing green spaces to encourage biodiversity will include these types of operations, plus a range of less familiar techniques that are more normally associated with countryside management. For example, letting grassy areas grow tall and then cutting back at the end of the summer is similar to a traditional agricultural hay cut. Weeds can be important for ground-feeding, seed-eating birds. So it is desirable to work through a gradation from informal woodland management to more formal shrubbery, with all shades between. Also, hoeing of weeds is better for keeping weeds down than herbicides. Coppicing involves cutting back trees and shrubs to the ground both to rejuvenate the woody plants and to let light in at ground level to encourage bulbs and wildflowers to grow. In some cases, grazing of grassland may be introduced.

‘Farmers and foresters decide the exact dates for their harvests by a ‘feel’, which is a combination of knowledge and experience. Managers of naturalistic habitats need to develop the same feel for the habitats in their care, and should seek help where necessary to do so, both from local expertise such as Wildlife Trusts and from the small number of people with successful experience.’

English Nature, *Flowers in the grass,* 1992

A characteristic of this type of management is that it often requires a greater ability to react to the situation on the ground and choose how and when to do the work. For example, not all trees or shrubs in an area will be coppiced; a late season may require delaying hay cutting; and some areas may not be managed at all in any one year. Although urban green space contractors may be less familiar with these operations and approaches, it is no more difficult to produce a specification that describes the basic task. What that specification must also do, however, is to allow managers to exercise their judgement in the way that they dovetail tasks and according to particular circumstances. This can be built into outcome-based specifications, although in many cases initial on-site training and discussion between maintenance contractor and client officers are also required, particularly when dealing with diverse or complex vegetation. Management and maintenance will therefore become a much greyer process, necessitating a more informed approach.

Some of this complexity can be managed by ensuring that there is a logical connection between the areas to be maintained. It may be that some large areas are simpler to manage than small sites, if there is a commonality of approach that can be applied over the whole area. Smaller areas may need a more detailed specification if they are to serve a specialist function that does not apply generally. Managing for biodiversity does require contractors, contract managers and indeed clients to acquire new skills and expertise.

This specification by the Milton Keynes Parks Trust spells out its expectations for the maintenance of its tall grassland:

'Upon notification by the supervising officer and subsequent to removal of the hay crop by others (usually at the end of July), the grass shall be cut to meet the intermediate grass specification (the grass shall not be allowed to grow to longer than 200mm, the maximum length after cutting shall be 50mm) up until early March. The grass shall be cut to meet the intermediate grass specification until the end of the first week in April, then the grass will be left to grow, usually until the end of July or as otherwise stated in the contract documents. At the appropriate time, or upon direction by the supervising officer, the grass shall be cut and allowed to dry. After it has dried it shall be turned at least twice then baled or otherwise gathered up and the cut grass taken off site. The grass shall then be cut to meet the intermediate grass specification for the remainder of the season.'

Milton Keynes Parks Trust, *Specifications for landscape maintenance*, 2002

Approach 3: sustainable drainage

Site Sutcliffe Park, London

Management responsibility The Environment Agency and London Borough of Greenwich

Contractual arrangement External contract

Contact Bob Gillespie, operations manager, Alan Pett, park security and education manager, telephone: +44 (0) 20 8856 2232

Biodiversity interest Wetlands, wet and dry meadows

Themes Sustainable drainage systems, flood alleviation, natural floodplains

Sutcliffe Park is a district park of over 16 hectares in south-east London. It was reopened, after major redevelopment in 2004, as part of a wider flood alleviation scheme for Lewisham town centre. Since 1967 the River Quaggy had run under the park in a concrete culvert, leading to loss of natural habitats and reducing the number of plants and animals, including fish, in the river.

The redevelopment involved opening up the river, creating a sequence of meanders, which exactly match those it had in the 1960s. This has transformed the park from a flat open space, used mainly for football pitches, into a new landscape with an attractive river. At the same time, the surface of the park has been lowered and shaped to create an enhanced natural floodplain where floodwater will be retained during severe storms. Instead of a flat and uniform stretch of mown grassland, it now has a rolling landscape with a range of natural habitats to encourage as much wildlife as possible – the river itself, a lake, ponds (with dipping platform and boardwalks), wildflower meadows (wet meadows and, at higher levels, dry meadows), an outdoor classroom, reed beds and a variety of native trees. At the same time, access for the public and for people with disabilities has been increased. There is widespread support from local people largely because of the increased wildlife the scheme has brought to the area.

The context of biodiversity

To integrate greater wildlife value into green spaces not traditionally seen as suitable for wildlife, there must be greater emphasis on appropriate management and maintenance, both for wildlife and for public acceptability and enjoyment. In well-used places, in more formal areas and within town and city centres, it may be necessary to introduce clear signs of care and intentional maintenance such as crisp edges and clear sightlines. This is particularly so at entrances, along paths and routes and in main gathering areas. Making wildlife areas much more colourful and interesting is a sure way of increasing wider public acceptance, as is introducing attractive plants with known wildlife benefit into more formal settings. In town centre spaces or more intimate public or community gardens, appropriate non-native plants can be used to benefit wildlife, to extend and enhance the season of display and to provide nectar sources when many native plants have finished flowering. Context is very important in matching the most appropriate maintenance specifications to a particular site. The following descriptions of types of urban green space show how approaches might differ.

1

Green Flag Award scheme © Corporation of London

Encapsulated countryside.

Fragments of remnant or spontaneous semi-natural vegetation or the remains of old farmland or country estates may have somehow been incorporated into an urban park or other type of green space. These fragments (whether, for example, woodland, grassland or ponds) are usually very important for biodiversity because of their longevity, stability and habitats present. They may be rare in urban areas, but they will be important targets for local BAPs, because they are likely to support rarer plants and animals, as well as having important historical value. Frequently, people may not be aware that these remnants exist, particularly if they are grasslands that are mown regularly or where shrubs have been removed from woodlands. In many cases, management may involve a hands-off or light-touch approach to encourage those species that are already present and promote colonisation of new species and spread of the habitat, rather than dramatically changing it.

2

Traditional urban parks.

The majority of urban parks created in the 19th and early 20th centuries were developed on an existing natural habitat, but have subsequently been significantly changed through design and management. They no longer resemble the countryside from which they were developed. Their landscape usually includes plantings of ornamental shrubs and trees and other features that were originally designed to please people rather than wildlife. Despite this, many are of significant value to wildlife, especially when complex in form and involving a wide range of species. They can be made more attractive with additional variety and managing in wildlife-friendly ways.

Green Flag Award scheme © The Royal Borough of Kensington and Chelsea

3

Designed habitats and wildlife features.

This may take the form of deliberate habitat creation schemes whereby something resembling a semi-natural habitat is created or developed from scratch. Similar to this is creative conservation, which usually involves the use of native wildflowers, trees and shrubs to make attractive, low-maintenance plantings. These have high wildlife and educational value, but do not necessarily try to recreate something that might occur in the countryside. Such a creative approach can also include a proportion of non-native or exotic plants, particularly in more formal locations, if wildlife interest and value are to be combined with a more traditional park or green space setting.

© Deborah Fox

4

© David Knight

New natural habitats.

These are spontaneous, semi-natural habitats that grow up on sites that have not been created or planted. These sites are unmanaged, abandoned or demolished (often described as derelict sites or wasteland and now generally known as brownfields) and can support very high biodiversity value. They are unique in that they usually combine native plant species with a range of non-native plants, including those that that have escaped from gardens, such as Michaelmas daisies, without intentional intervention. By their very nature, brownfield sites usually receive no maintenance.

Case studies

The 10 case studies in this chapter give an overview of a wide range of different situations and approaches to encouraging biodiversity from small nature areas to green infrastructure. The people involved tell their own stories and give an insight into what makes the difference between piecemeal attempts at change and the real commitment shown by many local authorities, organisations and individuals. From these stories a number of factors and themes emerge that promote success in encouraging biodiversity in urban green spaces.

The case studies show that local authorities and organisations that are good at delivering biodiversity improvements also understand the importance of sound contracts and specifications. They have developed them with their own knowledge and experience, or have been able to make contacts and partnerships to enable them to do so.

More fundamental, however, is that they appreciate that simply having the right documentation is by itself insufficient to achieve successful change. In most cases they have succeeded because client officers spent time with contractors on site to interpret what was needed and how it was to be done.

© Dod Miller

Green Estate Ltd parks team in Sheffield (opposite) is now able to offer training to others in its technique of transforming bland urban green space using innovative herbaceous planting

In particular, contractors often needed training (both on and off site) and other help to enable them to make appropriate judgements about how much was needed to be done in a certain way, when the best time was to do the works and, crucially, how to be flexible in interpreting a specification to react to circumstances on the ground on any particular day.

In many cases, success is linked to managing change and managing risk. Public support is often a great help in implementing management for biodiversity. However, change often arouses significant opposition when its purpose is not well understood. So it is important to be active in explaining the reasons to the public for change at all levels, from the contractor on the ground to senior officers. Health and safety concerns may be additional constraints, for example when creating new water bodies or leaving veteran trees and standing dead wood in place. Zoning a site in terms of safety risk and targeting actions to the most high-risk or highly used areas appear to be good ways of calming public fears.

Monitoring of results is important in evaluating success. Most of the case study examples monitor informally, but may not include checklists or performance benchmarks in their contract documentation. Monitoring arrangements must be established in advance and be specified in the documentation.

Borough of Telford & Wrekin, West Midlands

Management responsibility Borough of Telford & Wrekin

Contractual arrangement Externalised direct labour organisation, partnered with a private environmental company

Contact Chris Jones, environmental maintenance officer, telephone: +44 (0) 1952 202100

Biodiversity interest Cornfield annuals, annual meadows

Themes Public relations and marketing, cost savings, non-native or exotic biodiversity

Since 2001 the Borough of Telford & Wrekin has converted the vegetation on 14 roundabouts and traffic islands from amenity and ornamental shrub plantings to direct-sown annual meadows.

When Telford became a unitary authority in the late 1990s it gained responsibility for the maintenance of the transport corridors in and around the town. This included many roundabouts, which supported mown amenity grass and over-mature shrub plantings. Chris Jones, environmental maintenance officer, explains the legacy:

> 'The plantings were quite dilapidated and choked with weeds. The removal of these old shrub plantings was the original main driving force for change, but rather than replace these with more shrubs, we decided to try meadows of annuals on the sites. We started using direct-sown annuals on a small scale in the borough's parks, mainly to assess the amount of maintenance required and to see whether they would be accepted by the public. The success of these plantings paved the way for the larger meadow plantings on the traffic islands.'

The main aim of the sowings was to create a long-lasting display with minimal maintenance. To achieve this, non-native annuals were also included, as well as natives in a series of different colour-themed mixes. The extensive floral meadows have generated a lot of interest from the public and the media, as Mr Jones explains:

> 'The public likes the innovative plantings and feels they are in keeping with the semi-natural character of Telford. The authority is also demonstrating a commitment to plantings to benefit wildlife.'

The roundabouts are being developed and promoted as part of the image of the town, and the borough's tourism section even sells postcards of the roundabouts. The council records every public comment on the corporate enquiry system. Over 200 compliments have so far been received and only three complaints.

The business community has also been very positive about the plantings. Mr Jones continues:

> 'We have had no major problems, simply because we started small and low-key; we sowed the seed and waited, and the success of the first scheme generated the interest that led to the wider programme we have now.'

> 'The general rules are that the plantings are managed by mechanical means as much as possible, to reduce costs to a minimum, and to deliver colour at a price similar to maintaining a shrub border. This ethos has not changed since the inception of the scheme.'

The contractors are supervised directly by the client, although this does require more supervision than would normally be required. Written specifications were produced for establishing and maintaining the annual areas, and these are modified each year where necessary as experience increases. These specifications vary according to how visible the sites are. For the most visible sites (for example those in a park), management is more intensive and concentrates on weed control as the following specifications explain:

‘A lot of the anticipated problems have not materialised. The gardeners have been involved from day one and have fully contributed to the maintenance regime we now have.’

Chris Jones, environmental maintenance officer

– apply glyphosate herbicide in late February
– flail mow in mid-March
– spot apply glyphosate to remove any residual weeds in mid-April
– power harrow to create seed-bed
– sow seed in early May at a rate of three grammes per square metre
– rake or harrow
– hand-weed rogue or problem weeds once or twice, if required.

The meadows are left to stand over the winter for the benefit of seed-eating birds. On less visible sites, no hand-weeding is done, and one application of herbicide is used. Mr Jones adds:

> ‘With this sort of work you can’t just sit in an office and expect it all to be done for you. If things are to be done correctly, you need to get involved. It is getting the fine details right that makes the difference between a standard scheme and a top-quality scheme, and those details usually require checking, for example, ensuring that meadow seed is well mixed before it is sown.’
>
> ‘I spent a long time convincing gardeners and introducing them to different forms of plant material that were not shrubs and bedding plants. Although there were initially training and concept problems, these have largely now been eradicated – the workforce are now very positive about the schemes and generally suggest sites. This has been largely because of the ease of establishment and maintenance, so a lot of the anticipated problems have not materialised.’

Mr Jones, identifies flexibility as the most important consideration in maintenance contracts for this type of work.

By taking this approach, Mr Jones has been able to save money by managing the landscape planting differently, and is now able to fund expansion of the plantings each year by recycling the saved finances within the department.

The council records every public comment on the corporate enquiry system. It has received over 200 compliments and had only three complaints

Southend-on-Sea Borough Council, South East

Management responsibility Southend-on-Sea Borough Council

Contractual arrangement In-house grounds maintenance division and external contract for tree work

Contact Ian Brown, parks management officer; Paul Terry, environmental officer, telephone: +44 (0) 1702 215000

Biodiversity interest Encapsulated countryside, semi-natural woodland and relic grassland

Themes Managing opposition, multidisciplinary contract management team, local biodiversity action plans

Belfairs Park is Southend's largest park. Around a quarter of the site contains ancient woodland. As well as recreational facilities such as tennis courts, café and amenity grass areas, the site also has a golf course with remnants of semi-natural and old agricultural grassland.

Since 1998, Southend-on-Sea Borough Council has actively encouraged biodiversity in its parks and green spaces. These initiatives were mainly a result of policies and strategies developed by the council. Local biodiversity action plans were of particular importance, as Paul Terry explains:

'We are a highly urbanised borough. The parks and other green spaces within the town are the main opportunity to implement biodiversity action plans and other nature conservation strategies. There is a lot of support for this in the parks department. And our surveys show that park users have a high interest in wildlife, especially things like the skylark.'

In some places the action has been small and relatively minor in its scope, as Mr Terry describes:

> 'Sometimes you have to see what you do as being only the first stage in a longer-term process. We may have ideas for the second and third stages, but often you have to start by working with the habitats you have actually got, instead of trying to make a lot of new habitats at once. Because there is a lot of misunderstanding about what we are trying to achieve, we take a softly-softly approach, and gradually introduce people to change.'

As an example, a long-term strategy has been developed for enhancing and diversifying grassland in the very popular golf course in Belfairs Park. The plan is based on a full survey of the course and identification of patches of remnant semi-natural grassland that had been incorporated in the golf course, and which were mown regularly in the same way as the rest of the site. Where these patches were clearly separate from the fairways, they have been taken out of standard amenity grass management and require no mowing.

Some of these patches are now rich in insects and a range of common native plants. As a result, the council, in conjunction with the Essex Amphibian and Reptile Group, used the site to receive over 60 lizards that had been rescued from a development site in the borough.

Other areas of grassland were taken out of regular amenity mowing because there was no logical reason for them to be treated in that way, apart from tradition. A third type of longer grass comprised new designed rough areas, which receive a lower frequency of cuts. Further planned work includes creating new areas of wildflower meadow and enhancing existing grasslands by the plug planting of wildflowers.

An example of such specialist maintenance is the woodland conservation management in Belfairs Park, as Mr Terry explains:

> 'We revised the management plan for the woodland in 2004 to move away from timber production, towards biodiversity and education, involving coppice management, ring-barking trees to create standing dead wood and leaving lengths of timber and wood to decay on the ground. The work is overseen by the council woodland officer who visits the site at least once a day when work is going on to ensure that just

‘We’re lucky we’ve retained this expertise in the council and the department – it’s the key to our success.’

Paul Terry, environmental officer

Effective biodiversity management is fostered by the relationship between the local authority, wildlife agencies and volunteer groups

© Southend-on-Sea Borough Council

the work that is agreed is being done, and to decide personally which trees are removed or coppiced and which remain as standards. Subsequent monitoring has shown that coppice management has resulted in a dramatic increase in rare woodland butterflies and birds.’

Effective biodiversity management is fostered by the relationship between the local authority, wildlife agencies and volunteer groups. The parks department has an internal nature conservation team of four officers (all of whom have different roles in the department, but who come together to provide specialist management knowledge). This is supported by a biodiversity and environmental awareness working party – a council subcommittee that includes officers, councillors and representatives of 13 local and regional wildlife organisations (including English Nature, BTCV, Essex Wildlife Trust and specialist wildlife groups). This is a formal consultative body. In addition, the council works with volunteer and friends groups to manage parts of Belfairs woodland, in line with the site’s management plan.

Changing management approaches has resulted in some public opposition. In particular, people were concerned about coppice management and the cutting down of trees and organised a 2,000-signature petition. Mr Terry describes the council’s proactive response:

‘We could have taken a low-profile response to public concern, but instead we decided to be very active in challenging complaints. We contacted everyone who signed the petition and explained what we were doing. Anyone who makes a complaint is invited on a walk around the site with the woodland officer; a friends group was set up; and a series of public and schools walks was initiated. Now we receive very few complaints.’

Knowsley Metropolitan Borough Council, North West

Management responsibility Knowsley Metropolitan Borough Council

Contractual arrangement In-house

Contact Ian Smith, contract manager, telephone: +44 (0) 151 489 6000

Biodiversity interest Habitat creation, sown annual and perennial meadows

Themes Creative conservation, public engagement

Areas of close-mown grass in Kirkby have been transformed into annual and perennial wildflower landscapes on land between tower blocks and along prominent road corridors into Kirkby. This was first initiated at the request of local people following other successful projects elsewhere in the borough. The projects have evolved through a working partnership with the environmental charity Landlife. As a result the borough was christened the Wildflower Borough in 1992, and Landlife has since established the Millennium National Wildflower Centre at Court Hey Park in Knowsley, Merseyside, itself helping to set new standards of good practice for creative conservation.

© Landlife

The key to the success of this project has been building on the knowledge and skills base within the borough and raising the confidence and aspiration of Knowsley Borough Council contract staff

Ian Smith took part in a training programme for creative conservation, which Landlife had organised to train a local environmental task team in Northwood, Kirkby. The project initiated two hectares of creative conservation landscapes in the area, and developed creative conservation skills within the locality. The main sowing won huge local acclaim and attracted much attention in its first year of flowering in 2003. Impressed by the result, and having witnessed other wildflower landscaping work at the National Wildflower Centre, Mr Smith was happy to take on the management of these sites and to create another two hectares. Feedback to a locally distributed questionnaire was very rewarding, 97 per cent of respondents saying they wanted more wildflower landscapes and 64 per cent saying that they were more likely to venture outside when there were such landscapes. Staff at the local health practice also wrote to express their thanks and state their belief that the flowers had actually uplifted the community.

Encouraged by this response, Mr Smith decided to make a bigger commitment to new sowings in 2004. Instead of committing resources for traditional bedding schemes, he requested advice on how to extend the wildflower annual plantings along the very prominent Valley Road, the main dual-carriageway approach into Kirkby town centre. He knew that he could achieve only a small number of new bedding schemes with the same resources, and that to do this would be much more labour-intensive. With Landlife's advice, he identified new areas for sowing, and engaged the creative conservation-trained environmental task team to do the sowing.

As Mr Smith explains, in contrast to the standard bedding, there was more diversity and much better impact with the annual sowings:

> 'Seeing is believing. After five years as a contract manager, this was the first time that I have received praise from the public. There have been letters to the *Liverpool Echo* and taxi drivers getting excited by surprising people with these new landscapes. It's about having a certainty that the project will work, and we have made the right simple steps to make it happen again next year. Above all it was the scale that made such a huge difference. The landscapes had a real wow factor.'

‘We hoped for a good response, but it was overwhelming, and outstripped our expectations.’

Ian Smith, contract manager

© Landlife

The key to the success of this project has been building on the knowledge and skills base within the borough and raising the confidence and aspiration of Knowsley Borough Council contract staff.

The process of development on the Kirkby sites involves an open process of discussion and review, but has a precise and defined specification:

- areas are nominated, that were previously under a high-cut amenity grass regime for wildflower treatment
- seed mixtures and specification are recommended by Landlife
- sites are walked, areas agreed and on-site meetings between contract staff and Landlife take place
- short grass areas are sprayed with herbicide by the council and wildflower seed hand-sown into short dead turf. The sandy soils in Kirkby make this technique particularly amenable
- seed is hand-sown by the community landscape business, Community Environmental Task Force (CETT), who had already undergone creative conservation training with Landlife
- sites are checked and inspected by Landlife in early spring for good germination and assurance of success, and additional seed is held back for sowing bare areas
- sites are flailed after flowers are past their best and have partially set seed
- operation is reviewed for the following year, either allowing perennials to flower in second season or returning to an annual cycle
- all management actions are by contract staff.

Mr Smith’s main concern in these prominent locations has been making sure that the sites don’t look untidy or neglected. Therefore the annuals were cut back as soon as they started to become unsightly. In fact, many flowers, particularly annuals, had already dropped their seed by this time and many goldfinches and linnets were visiting the patches.

He has also witnessed the advantage of committing larger areas to these landscapes, not only because of genuine economies of scale but also because the management requirement becomes better defined and the benefits in terms of both colour and ecology are increased. In the past, Mr Smith says, areas that were too small tended to get nibbled away by the gang-mowers.

Committing more areas promotes variety, and sowings can be staggered to prolong the overall flowering time. Annual mixtures have been sown together with perennials to allow different colour combinations to develop. The key here has been to avoid excessive cultivation and stimulation of future weed problems, making sure things are right from the very start and that the sowing is done thoroughly. Annuals are great crowd-pleasers and form a good basis for more sophisticated plantings. Landlife has been able to advise the council with confidence, based on its experience with sites over 10 years old, where perennial wildflower landscapes have been established successfully.

Chester-le-Street District Council, North East

Management responsibility Chester-le-Street District Council

Contractual arrangement In-house

Contact Julie Lewcock, operations manager, telephone: +44 (0) 191 387 1919

Biodiversity interest Woodland, meadow, tall grassland and pond

Themes Personal motivation, retraining staff, regenerating a wildlife area

Riverside Park, which runs alongside the River Wear, was created in the 1930s and was substantially redeveloped during the 1980s and early 1990s. The 51-hectare park has been designed to cater for a wider range of visitors and is a diverse mix of formal gardens, a play area with paddling pool, a large events area and the Park Centre, which is home to the Chester-le-Street Bowling Club. There is good provision for formal sports features and numerous local clubs are based at the sports complex. The park also contains the Durham County Cricket Club ground.

Riverside Park contains a designated 13-hectare wildlife area and riverside walk. Julie Lewcock took over management of the site in 1998 with the primary aim of ensuring the economic sustainability of the site's operations. It soon became apparent that the maintenance of the site left much to be desired. The grounds maintenance for the park was done as part of the council's overall maintenance contract and Ms Lewcock became increasingly frustrated at her lack of control.

Grounds maintenance at Riverside Park was originally undertaken by another service team within the council. This arrangement created tensions between the site-specific needs and aspirations identified by the Riverside Park management team and the service provider's obligation to deliver a grounds maintenance service across the whole district.

After a two-year battle Ms Lewcock and her colleagues succeeded in persuading the council that a more effective service could be delivered by creating a dedicated on-site grounds maintenance team managed by the Riverside operations manager. In 2002 the budget, staff and limited equipment relating to these elements were handed over. However, having little experience of grounds maintenance, let alone managing a site for biodiversity, she rapidly set about gaining a grounding in the basics of conservation management and seeking out additional expertise. Developing an overall management plan for the park was an early step. The park is a Green Flag Award winner and the park's management plan links in closely with maintaining that status.

A particular concern was to reorganise the management of the wildlife area, which had been extensively planted with native trees to create a woodland with rides, glades and open meadow area with pond. Since planting, the site had received little management and development. It was looking neglected and had become underused. Ms Lewcock says:

> 'Just because it's a wildlife area didn't mean it could be just left. It hadn't been touched for years.'

To revitalise this area and improve habitat and visitor facilities, Ms Lewcock recognised she needed specialist help, which she obtained from the council's biodiversity officer, a post funded by the single regeneration budget and shared between the council and Durham Wildlife Trust. With their help, a five-year management plan was drawn up specifically for the wildlife area and this is now integrated into the overall park management plan, which in turn links in closely with the council's local biodiversity action plan and sets clear management objectives and specifications.

The first step was to survey the site to record the individual habitats and their ecological value and to identify the management required to improve them, together with necessary steps to improve visitor access and enjoyment of the area. Broad site objectives were drawn up, for example, to enhance the tree and shrub planting areas to develop as woodland with the appropriate structural diversity including ground flora.

‘Staff seem much more interested in their work now and carry out a wide range of tasks across the site.’

Julie Lewcock, operations manager

The on-site presence of permanent staff helps greatly with public relations. Regular visitors get to know the staff and can ask questions and get direct answers

© Chester-le-Street District Council

These objectives were translated into management specifications for the woodland and grassland and for access and interpretation and written into an annual schedule to deliver them over a five-year period. The schedule also includes annual monitoring of the grassland to record the relative success of the different management techniques. Ms Lewcock has found that the management requirements of the wildlife area fit well with the overall management of the park in that much of the labour-intensive work of woodland thinning occurs during the winter period, an otherwise quieter management time.

Some of the necessary techniques, particularly tree management, were new to the grounds maintenance staff. Accordingly, BTCV was engaged to provide specialist training in techniques such as coppicing and chainsaw use, thereby enabling the park team to do all site maintenance apart from the hay cutting. The specialist equipment required for this proved to be not cost-effective and instead a separate contract was given to a local farmer. As Ms Lewcock says:

> ‘The meadow areas hadn’t been managed for years, and we found a local farmer to do it for us. We have built a good relationship with him and he now provides a service across the whole borough.’

Ms Lewcock feels the wider range of operations now undertaken and the new skills learned have had a positive effect on staff, including greater retention. She meets the grounds maintenance team weekly to review work and walks the site at least once a month to keep abreast of management needs.

The next challenge Ms Lewcock sees is extending the management for biodiversity to the wider park. Working with the biodiversity officer, she will be identifying opportunities across the site. Public opinion can be a problem, as she explains:

> ‘We already leave the grass to grow along the river but we do get complaints from the public if the grass is left to grow long next to the seats. In general, though, the public is willing to accept changes to management practices as long as we provide a pleasant and attractive environment.’

The on-site presence of permanent staff helps greatly with public relations. Regular visitors get to know the staff and can ask questions and get direct answers.

Green Estate Ltd, Sheffield, Yorkshire and the Humber

Management responsibility Sheffield Homes and the Green Estate Ltd

Contractual arrangement Sheffield City Council Street Force (in-house) and Green Estate parks team

Contact Sue France, director, telephone: +44 (0) 114 276 2828

Biodiversity interest Perennial and annual herbaceous planting and meadow areas

Themes Managing innovative planting, responsive management

Fairleigh Gateway in the Manor Estate, Sheffield, demonstrates how innovative herbaceous planting can be used to transform a previously unused, characterless, bland urban green space into a colourful, vibrant, loved area full of wildlife. The site, restored by Green Estate Ltd but owned by Sheffield City Council, is a narrow linear urban green space about 200 metres long and 10 metres wide joining two roundabouts. It is situated in the centre of a small neighbourhood shopping centre in an area previously dominated by social housing, which is undergoing major regeneration. It is in an urban situation, surrounded by footpaths and roads, and very visible. The site was identified in the regeneration strategy for the area as a gateway to the estate from the adjacent dual carriageway and with potential, if appropriately developed, to help rejuvenate the shopping area.

A partnership was formed to develop the site, comprising Sheffield City Council; Green Estate Ltd (a social enterprise dedicated to the management of the green spaces of the Manor Estate); Sheffield Wildlife Trust, The University of Sheffield; the local development agency, the Manor and Castle Development Trust; and the Fairleigh Development Company (a local group driving the regeneration of the local area). Their aims for the site were to create a gateway that had strong visual appeal, that changed the feel and image of the place, that was more people friendly, with somewhere to sit and enjoy the surroundings, and that would deliver greater biodiversity benefits.

One of the first tasks was to consult widely with shop owners and local people. Sue France, director of Green Estate Ltd, describes the consultation:

> 'The response from people, what they wanted to see, was fairly basic – to make the site safer, have somewhere to sit – but once we showed them some

The simple but effective design of the site is strongly conducive to a variety of colourful herbaceous plantings, which give long seasonal interest

‘The response from local people was fantastic. They absolutely loved it, although it took a while to reassure them that it was OK to pick the flowers.’

Sue France, director

images of how the perennial and annual planting could look they got very excited.’

In developing the scheme there were two underlying design principles, Ms France says:

‘The design needed to be robust – earlier shrub planting elsewhere on the estate had been vandalised, even sold off, and the overall management costs had to be no higher than the existing gang-mowing regime. This was part of the reason we decided to try the new planting approach – it seemed virtually vandal-proof and cost-effective to maintain.’

The simple but effective design of the site is strongly conducive to a variety of colourful herbaceous plantings, which give long seasonal interest. A mixture of annual seeding and herbaceous planting was used to ensure a good display in the first year and this was over-seeded with different mixes of perennials for longer-term effect. Both native and exotic species were used to ensure a long flowering period.

The management of the site was split between Street Force, the council’s in-house maintenance team and Green Estate Ltd. As part of their standard maintenance contract, Street Force continued its regular, albeit reduced, mowing of the amenity grass that contains the planted areas. Green Estate Ltd took on the establishment and management of the planting as well as general site maintenance.

A fairly basic frequency specification was written, which allowed for weeding during the establishment phase and a yearly cut of the planting and removal of arisings in September. However, it quickly became apparent that, to maintain the good appearance of the site, the matrix of planting mixes required cutting at different times and various weeding techniques were needed. Ms France explains:

‘As the planting was experimental we had no standard specifications to cover exactly what we might need to do. It’s been a learning experience and we have had to adapt and change the specifications and try out new management techniques. For instance, we strimmed the area at first, but this took forever. We now have a mower that can tackle the length of the plant material and after a bit of trial and error have worked out the best setting and can just mow over the area once it has finished flowering. It’s easy and cost-effective.’

The Green Estate Ltd’s parks and contracts team has done the work on the site and has had to develop new skills and management techniques, learning from an increasingly diverse suite of their improved parks and open spaces.

The approach to writing maintenance specifications has changed with greater practical experience of managing high-profile and highly used sites as Ms France explains:

‘We started out with frequency specs, but found this restrictive – it was difficult to get the timings right. We are now moving away from these and writing new performance specs, which are based around maintaining the visual appearance of the planted areas.’

Despite having a team of trained, skilled and experienced operatives, Ms France explains they have recognised the need for a more arms-length quality control overseer and they will soon be employing a landscape officer to undertake this role. They will regularly visit sites, review and comment on site management and feed this back to the site teams, who will take action on any issues.

‘What we’ve learned is that on a very visible site like this you can’t let the management slip; it must look good and you must be ready to move in and make changes in management or to the scheme itself to keep it looking good. Establishment is the critical time for this type of planting and management must allow for weeding, at least until the sward closes over; 12 months’ establishment isn’t enough. You can’t just do the scheme and walk away. Having a strong design has been crucial, as well as things to help people to enjoy the site, like good paths and seating. People just love walking through the waist-high flowers full of wildlife.’

London Borough of Wandsworth

Management responsibility London Borough of Wandsworth

Contractual arrangement External

Contact Valerie Selby, principal parks officer; Emma Sexton, parks officer, telephone +44 (0) 20 8871 6000

Biodiversity interest Grasslands, ponds and water bodies, woodlands

Themes Integrated contract management team

Wandsworth Council has a long history of delivering management for biodiversity as part of the council's grounds maintenance contract. During the compulsory competitive tendering process in 1985, the parks departments took the opportunity to include conservation management within the new contract specifications. This management was for specific ecological areas identified as having particular biodiversity value and a largely natural character, such as woodlands and semi-natural grasslands. It also included newly developed wildlife areas created in parks.

The council's principal parks officer for biodiversity, Valerie Selby (pictured opposite left), was chiefly responsible for developing and refining management for biodiversity. She was keen to ensure that decisions were made on an informed and scientific basis and was able to bring to the process her ecological expertise and an understanding of ways of delivering biodiversity enhancements on the ground. As a result, the contract includes more detailed and relevant performance specifications, which the contractor is required to undertake alongside the general horticultural maintenance works. A separate section for the ecological areas within the overall contract includes specifications for habitat management, such as woodland and scrub, lakes, river banks and wetland maintenance, as well as for planting and seeding and maintenance of footpaths and fencing.

© Emma Sexton

The contract makes it clear that the aims for the ecological areas are both for biodiversity and for people. The specifications for individual operations are detailed and where appropriate give background information about the habitat type and management operations.

The London Biodiversity Partnership helped the council to achieve a more informed approach to formulating management specifications as Ms Selby explains:

> 'The partnership is very strong. Before we were working in isolation; now we chat about how we do things, exchange snippets of good practice and ideas, and have good links with the London Wildlife Trust and the local biodiversity record centres and so have access to the information we need to base decisions on, such as flora or invertebrate records.'

An important factor in translating the contract specifications into success on the ground has been the recent creation of a new post with specific responsibility for and expertise in managing for biodiversity. The post bridges the gap between the ecological expertise provided by Ms Selby and the day-to-day duties of the primarily horticulturally trained grounds maintenance contractors.

The parks officer for biodiversity, Emma Sexton (pictured opposite right), is based three days a week with the parks maintenance team, which manage the contractors, and two days with the ecology section.

This combination in one team of ecologists, landscapers, sports groundsman and horticulturists is working well and the distinctions between conservation and horticultural management are starting to break down. More of this teamwork will happen as management plans are developed for the individual parks. These will promote a holistic approach to site management and will be related to overall site management aims and objectives. As well as comprehensive site audits, the process will involve wide consultation with the public, interest groups and council departments, which in turn will help tackle issues such as conflicts of interest between nature conservation and recreation and will pool and record the invaluable knowledge from within

‘The partnership is very strong. Before we were working in isolation; now we chat about how we do things, exchange snippets of good practice and ideas.’

Valerie Selby, principal parks officer

the parks service and related departments such as play services. Ms Selby describes how the work will come together:

> ‘The management plans will bring all the strands together. We are a bit behind with some issues, such as providing for youth, and through this process we can look at ways of addressing these without compromising biodiversity, and also look for opportunities for increasing biodiversity in amenity areas. We need to see how it fits in with wider strategies and to involve and inform local people, colleagues and wider London what is needed and what we are doing.’

Clauses in the grounds maintenance contract clearly encourage volunteers to play a greater role in helping to manage parks and green spaces and allow for variations to be made to the work of the contractor throughout the contract period if instead it is to be done by volunteers. The contract also requires the contractor to work in close liaison with the voluntary group and supporting council officer.

The main challenge that the contract management team faces is the skills shortage in contract staff, for example the lack of supervisory staff with expertise in conservation management, as Ms Selby explains:

> ‘Staff may not recognise what Japanese knotweed looks like, or understand the constraints of working around breeding bird seasons, or, for example, appreciate the fact that if certain work is not done in the next two months it will have to be left until next year, which may complicate a maintenance regime for future years.’

The five-year grounds maintenance contract is let to external contractors and the contract states they must satisfy the authorising officer of ‘their understanding of the particular requirements in respect of the maintenance of ecological areas as part of the method statement for horticultural works’. The contractors must also ‘employ sufficient staff who are suitably trained to both manage and supervise works and to operationally effect the works in the detailed manner specified’. These clauses do not, however, guarantee that those staff will stay with the contractor. Ideally, Ms Selby would like to see more site-specific staff to help to develop a sense of ownership and site-based knowledge alongside the enhancement of skills.

© Dod Miller

The parks officer for biodiversity, Emma Sexton, is based three days a week with the parks maintenance team, which manage the contractors, and two days with the ecology section

Municipality of Enköping, Sweden

Management responsibility Municipality of Enköping

Contractual arrangement In-house

Contact Stefan Mattson, park director, telephone: +46 0171 253 77

Biodiversity interest Ornamental perennial plantings, wildflower meadow, woodland plantations

Themes Cost-effective, high-quality maintenance

Enköping is a small city near Stockholm in Sweden, which has developed an international reputation for its green spaces. Various different sites, from city centre parks, pocket parks and community gardens, often linked with linear green spaces, have been transformed over the past 20 years into colourful and vibrant places that attract visitors from all over the country and beyond.

© Stefan Mattson

Stefan Mattson was appointed as the city's head gardener in 1981, after many years' experience in public and private garden design. His first task was to review the need for, and the value of, planting 30,000 bedding plants each year. He recalls:

> 'I felt that a great amount of money was being spent on plantings in parks that the public did not necessarily like, and meanwhile the rest of the parks, which were not planted with bedding, were filled with large areas of mown grass. I thought I could use the money spent on the bedding and on cutting the grass to create larger colourful areas for the public to enjoy, using a different approach.'

To test his ideas he made a small trial in a corner of a city park and replaced mown grass and bedding with naturalistic perennial planting. This was very popular and the idea was extended. His goal is for every neighbourhood to have a small pocket park where the lawns are replaced with generous wildlife-friendly colourful planting of native and non-native perennials. The city authority wants to encourage wildlife in all its green spaces, but in different ways, depending on their location. In the city centre, this is mainly done by using flowering perennials and maintaining them in a less intensive way that encourages a greater diversity of wildlife. These city-centre parks are balanced by larger parks on the edge of the city, which are mainly native meadows and woodlands. For example, the Munksundet wildflower woodland and meadow park has been developed in conjunction with new housing both to create areas for wildlife and to make informal play and recreational areas. The sites are managed by in-house staff who are dedicated to individual sites or groups of sites. In addition, some of the woodland and meadow areas around housing are managed by small groups of volunteers or residents to a plan agreed with the council, which pays them a small amount to do so. Mr Mattson says:

> 'We have a lot of meetings and discussions with our maintenance staff about how to look after each site, and they become really involved in making decisions. When people start with us they really don't know how to maintain our parks – they have no practical training or experience, but they are usually very keen to learn. People here feel like part of a team. I give them a lot of responsibility, and they respond to that.'

© Stefan Mattson

‘The biggest benefit to us is that the parks have put Enköping on the map and the inhabitants have become proud of their town because of it.’

Stefan Mattson, park director

The perennial plantings in the pocket parks are maintained to a standardised specification, and are regarded as low-maintenance compared with more traditional planting approaches. The dead stems and seed heads of the perennials are left standing over the winter and are visited by flocks of seed-eating birds over the autumn and winter. The stems are cut back in early spring and the dead material is shredded on site and then spread back on the soil surface as a mulch to a depth of 10-20 millimetres. There is no cultivation or disturbance of the soil surface. The mulch suppresses weeds and amends the soil. One hand-weeding is undertaken if necessary in April. Sturdy self-supporting perennials are used, and there is no staking, dead-heading or irrigation.

The naturalistic plantings in the parks generate their own income. Public tours are given throughout the summer, as well as pre-arranged group bookings: 200 paying groups were taken round in 2004.

There is great demand from other towns and cities in Sweden to learn from the experience of Enköping, and the city runs regular training courses for other parks officers from around the country. The income generated from these training courses supports the on-site training of the Enköping parks staff.

Mr Mattson believes in taking chances, and in starting small:

> ‘Start small and go in steps. Don’t forget maintenance, but try to find cheaper ways of doing things than the traditional methods, so that you can do more with your money. Don’t worry about making mistakes but learn from them. And do marketing when you have interesting things to show.’

© Stefan Mattson

The naturalistic plantings in the parks generate their own income. Public tours are given throughout the summer, as well as pre-arranged group bookings: 200 paying groups were taken round in 2004

How can we make contracts work for wildlife?

If contracts are going to make provision for the work needed to enhance biodiversity, then it is essential to give the contractor an accurate idea of all the work that is to be done, at the time of pricing. Otherwise, extra costs may arise, for which no provision has been made in budgets.

A specification that includes actions and outcomes for biodiversity will enable better matching of resources and inputs to the desired result and provide the best means of assessing value for money.

Against this, we must recognise that biodiversity is a dynamic concept and traditional specifications may not provide the best solutions. Our vision will not materialise all at once but will be achieved step by step. If we want to increase the number of wildflowers in a woodland area, we know that this won't happen straight away, even if we do the right things to encourage it. We need to be able to predict these steps along the way and find a way of measuring our success in achieving them over time.

The different types of contract can be summarised as:

- input-based, where the operations are specified with frequencies and standards. This is the traditional type of specification, not often used today and probably not suitable for contracts aimed at encouraging biodiversity
- output-based, where specific results are determined, for example grass will be kept to 100 millimetres high. Like an input-based contract, it still requires adherence to strict standards
- outcome-based, where the general results are described, leaving the contractors to establish their own method of achieving them. This type of specification is usually supported by method statements written by the contractor, agreed by the client and forming the practical instructions for those undertaking the work.

Of the above, CABE Space believes that an outcome-based specification is the most appropriate to achieving the goal of increasing biodiversity, while still being a useful way of specifying traditional grounds maintenance work. This type of specification has the further advantage that it is not restricted to an annual cycle of work, allowing progression towards outcomes through more than one season. Self-monitoring

'When a pollard tree is to be re-pollarded all growth above a certain height shall be removed, the pollard point shall generally be just above the previous pollard point, the final pruning cuts shall be made paying due attention to the branch collar.'

Milton Keynes Parks Trust, *Specifications for landscape maintenance*, 2002

'The contractor shall ensure that the green waste being recycled does not contain weeds identified in the Weeds Act 1959 and the Wildlife and Countryside Act 1981 or other materials that may hinder the production of a quality material.'

London Borough of Lambeth, *Grounds maintenance contract specifications*, 2004

can be done if methods of measurement are clear. This can include progressive targets.

The case studies show how biodiversity has been delivered through grounds maintenance. For example, Southend-on-Sea Borough Council has taken a wider approach to managing a complete habitat. The work has spanned a number of years and required a degree of flexibility. At Riverside Park in Chester-le-Street, it was apparent that the achievement of biodiversity outside the main grounds maintenance contract was impossible. Integration was the only way forward and it is a good example of a local authority overcoming a traditional and restrictive approach. If biodiversity becomes the remit of a few specialists, convinced that no one else appreciates the complexity involved, then it effectively relegates biodiversity to the sidelines. Only by recognising that contracts can and must be designed to deliver biodiversity as part of mainstream maintenance operations can we expect to achieve the outcomes that we want.

Learning new skills: natural fracture pruning techniques give a more natural aesthetic to reduced trees in a wild context

Green Flag Award scheme © Corporation of London

Advice and guidance on the technical content of specifications can be found from a variety of sources, including the specifications that other green space managers have used and discussion with nature conservation bodies. For these specifications to achieve appropriate results, however, it is essential to modify them, taking account of your aspirations, whether for a specific area of green space, or for a category or classification of sites. For example, a technical specification for tree coppicing might specify cutting at 200 millimetres in winter, but it should also state what percentage (if any) of a woodland should be treated thus, and how often. Furthermore since not all tree species respond well to this technique, it may be prudent to try coppicing with small areas first, building in monitoring of results and amending course if needed.

Ideally each site should be considered individually, but this is impossible for all but the most significant areas. Current maintenance may be satisfactory or changes may be required. These changes should be incorporated into the outcome specification and method statements should be devised with the contractor to achieve them.

Develop a management plan for each site to identify appropriate management and maintenance. Depending on the nature of the resource, the plan may encompass anything from one year to 10 years or more.[10] It might consider simply what is there now or identify how incremental or developmental maintenance can improve biodiversity further. Where it is not possible to take a site-based approach, alternative maintenance regimes can still be applied to specific areas in the contract, by classification and coding.

10 CABE Space, *A guide to producing park and green space management plans*, 2004

The building blocks of biodiversity

The following pages set out seven landscape types and the typologies found within them. Each section offers advice on how to enhance biodiversity, with the key (right) indicating what biodiversity you can expect to see as a result of making changes.

Key


bats


mammals (other than bats; mainly rodents and mustelids such as stoat and badger)


woodland and scrub birds


grassland birds (and those of open habitats)


wetland birds (ducks, geese, waders)


fish and aquatic invertebrates (ie sub-surface)


reptiles


amphibians


adult butterflies, moths, hoverflies, bees – relying on nectar


woodland and scrub invertebrates


grassland and open habitat invertebrates


wetland invertebrates (for example dragonfly and mayfly adults)


beetles, bugs - often with specialist requirements


dead wood invertebrates


woodland and scrub plants


grassland and open habitat plants


wetland plants (emergent and submergent)

nectar-rich plants


ferns, mosses and lichens


woodland fungi


grassland fungi

1 Trees and woodlands

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Woodland	Ancient or old woodlands, or woodlands that have not been planted. Often contains a broad range of ages of tree.	Visually attractive, but can also be seen as unsafe where there is a dense shrub layer alongside paths. Important for informal recreation and visual amenity.	– well-defined entrances. – siting paths away from dense shrubs and cover, and maintaining sightlines along major paths. – encouraging colourful woodland wildflowers.		– promote and maintain glades and rides and a range of tree ages, and incorporate standing and lying dead wood. – Maintain shrub understory and encourage trees to regenerate naturally. – re-establish coppicing to encourage wildflowers where this has ceased. – retain sanctuary areas of minimum disturbance. – traditional management regimes are not always relevant and advice may be required.
Plantations	Planted woodlands. Usually all trees of a similar age. Younger plantations may be dense, with limited development of woodland ground flora.	Young plantations often dense, dark and uniniting but can be used for play where accessible. Older plantations can be attractive and well-used for informal recreation.	– well-defined entrances. – graduating edges to reduce sense of threat along pathways. – encouraging or planting trees and shrubs at edges with attractive form, flowers, fruits or leaves. – encouraging colourful woodland wildflowers.		– develop glades and wide rides with graduated edges and appropriate planting to diversify canopy and promote a greater variety of tree ages. – leave logs and prunings to decompose. – reduce extent of bramble field-layer to encourage wildflowers. Introduce woodland wildflowers and ground flora.
Woodland edges, including edges of woodland glades, woodland paths, rides and shelterbelts	Mixture of shrubs and small trees, usually in relatively narrow, structurally graded strips. Valuable as linkages to other habitats. Can be a major opportunity for increasing wildlife value around the edges of small sites.	Often background rather than visited landscape. Attractive, particularly if flowering and fruiting trees and shrubs are present.	– maintaining mown edges where woodland edge abuts mown grassland or surfaced paths. – incorporating flowering and fruiting trees and shrubs and prominent woodland-edge flowers such as foxglove.		– allow rough grass or meadow transition zone to develop. – promote a complex mosaic of shrub, trees and grassland. – include flowering and fruiting shrubs and trees and climbers.
Tree groups in mown grass or hard surfaces. Avenue and parkland trees	Groups, clumps or individual trees. Often oaks and non-native ornamentals.	Attractive, particularly if flowering trees are used. Seasonal interest. However, ground may be bare and unattractive round the base of trees. Autumn leaf fall can be seen as a safety hazard on wet hard surfaces.	– planting bulbs beneath trees to provide spring colour. – pruning canopy as appropriate to maintain local support for long-term retention.		– leave grass uncut underneath (by more than 50cm radius), where appropriate. – encourage or introduce wildflowers to maintain display after bulb flowering. – break out hard standing from around tree trunk by more than 50cm radius. – do not remove dead wood unless a significant safety risk. – consider initiating pollard regime on selected trees.
Veteran trees	Very old trees, often in historic landscapes. Can be found in most of the above situations. May be partly dead, and may drop limbs.	Can be very attractive because of gnarled appearance and structure. May be associated with perceived and actual safety risk.	– careful pruning to eliminate danger.		– retain, where possible, standing dead wood, and leave fallen branches to decay on site where possible. – consider initiating pollard regime on selected trees.

2 Scrub, shrubs and hedgerows

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Scrub	A variable mix of scattered clumps of shrubs and isolated small trees. Large bramble thickets frequently found.	Often important informal recreational landscapes with a common land character. Can be attractive, but may indicate nature taking over, and can attract anti-social uses such as tipping and motorbike scrambling.	– encouraging legitimate use and preventing anti-social behaviour. – litter removal. – regular grass cutting along edges of paths to indicate intentional maintenance and care.		– relatively little management required if succession towards woodland is desired. – shrubs may be periodically coppiced or thinned to maintain open scrubby character and to create sheltered sunny glades. – remove invasive ornamentals if present. – remove some shrubs to create sheltered sunny glades if space permits.
Hedges	Linear belts of trees, shrubs and herbaceous species to divide space and define boundaries. Can be important as a means of increasing biodiversity in restricted spaces.	Long-standing acceptance as a boundary. Sometimes seen as a nuisance because of the requirement for periodic trimming. Unmaintained hedges may appear untidy and indicate neglect but have similar values to woodland edge.	– using mixed hedges with flowering and fruiting plants to compensate for less intensive maintenance. – prioritising regular hedge cutting for prominent or more formal locations.		– reduce frequency of cutting where appropriate to promote a more varied structure. – introduce climbers and increase diversity of single-species hedges. – incorporate flowering and fruiting species. – introduce locally native wildflowers at the base.
Shrub plantings	Often dense plantings of usually ornamental shrubs bounded on several or all edges by mown grass. A very common landscape type that may be composed of a small number of different species. Soil beneath usually mulched or cultivated.	Widely accepted as a traditional component of designed landscapes and seen as attrac-tive, particularly when containing flowering or colourful shrubs. Shrub mass that is regularly cut to a uniform height may be regarded as neat and tidy.	– keeping dense shrubs back from path edges. – introducing wider range of shrubs to extend visual interest through the year. – where possible, replacing mulched or cultivated soils with a herbaceous layer of woodland plants, or a herbaceous groundcover.		– reduce intensive trimming. – replace mulched and cultivated soils with locally native woodland wildflowers and herbaceous groundcover. – coppice periodically to both regenerate shrubs and also provide light for herbaceous groundcover. – use flowering and fruiting shrubs that provide food sources for animals.

3 Grassland

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Short grass	Regularly mown short grass, usually improved through seeding and fertiliser treatment. The most common landscape type in urban green space.	Appropriate for most park recreational activities, traditionally regarded as neat and tidy.	– if replacing areas of close-mown grass in visible or well-used locations with less regularly mown grass, ensure that colourful wildflowers and bulbs are used.		– reduce the total area of closely mown grass. – change cutting regimes, converting to flowering lawns for periods of the year. – convert areas not required for recreation or access into rough grass or wildflower meadow. – remove turf or topsoil through stripping, and lay meadow seed-mix and plugs on reduced reduced nutrient sub-soil.
Tall grass	Area of grassland subject to occasional cutting. Usually dominated by tall, vigorous grasses, with docks and thistles. May be once improved or remnants of old grassland that have not been damaged significantly by ploughing, fertilising or re-sown. Potential may not be realised because part of a standard mowing regime which prevents flowering of plants.	Often seen as highly un-attractive, especially when dying after flowering. Also seen as a fire risk. Associated litter problem. Dog toilet. Very popular when in full flower. Attractive to children.	– interpretation, and sensitive location away from high use areas. – maintaining areas of close- mown grass along edges and as wide paths through. – introducing vigorous bulbs and wildflowers along edges. – maintaining mown edges alongside paths. – encouraging natural colonisation by wildflowers. – it appears that familiarity with colourful flowering meadows increases the more familiar they become with them.		– increase species and structural diversity through management and planting; alternatively, encourage succession to scrub to increase habitat diversity. – cut in rotation so there is always long grass available. – not mowing for one season to discover which flowering plants may be present. – mow with reduced frequency (or hay cut regime) removing cuttings to allow the flowers to show. – encourage colonisation by wildflowers by moving the arisings, assisted with locally harvested seeds or with green hay.
Old unimproved grasslands (eg acid, magnesium, chalk)	Remnants of old grassland that have not been significantly damaged by ploughing, fertilising or re-sowing. Potential may not be realised because they are part of a standard mowing regime which prevents flowering of plants.	Dependent on management but very popular when in full flower. Attractive to children. May generally be seen as unattractive before and after flowering.	– maintaining areas of close-mown grass along edges and as wide paths through. – interpretation of the habitat's biodiversity interest.		– cut in rotation so there is always long grass available, removing cuttings. – seek specialist advice to retain special interest.

4 Flower beds

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Annual bedding	Often highly maintained planted mixtures of tender plants to produce colourful seasonal displays Direct-sown mixtures, commonly containing old weeds of cornfields, such as common and prickly poppies, that provide rapid colour.	Generally seen as highly attractive, although increasing evidence of views that traditional very formal bedding displays are over-used. Very popular because of intense colours. Can be used to show quick and visible effects in green space regeneration programmes.	– increasing the range and combinations of plants that are used. – producing less formal schemes. – extending the season of flowering interest by including late-flowering species, or by staggered sowings.		– increase the diversity of plants that are used, avoiding double-flowered varieties. – replace annual plantings with perennial plantings or perennial/annual combinations. – replace bedding schemes with cornfield annuals. – extend the flowering season with late-flowering plants or by sowing some areas later. – retain dead seed heads and skeletons of dead plants, leaving to stand over winter for seed-eating birds and winter invertebrate shelter. – consider replacing beds with a different habitat.
Perennial planting	Plantings of herbaceous perennials, sometimes mixed with ornamental shrubs.	Generally seen as highly attractive when colourful, and with good architectural forms.	– maximising the duration and drama of the flowering season. – including plants with attractive winter seed heads and skeletons.		– maximise winter habitat and food value by not cutting down until spring. – increase species and structural diversity. – select plants with known wildlife benefit. – avoid species that need protection from slugs to survive.
Rose beds	A traditional feature of more formal landscapes. The ground beneath the roses is usually kept clear of weeds or mulched.	Traditionally regarded as highly attractive with a multi-sensory appeal.	– replacing mulched or cultivated soils under roses with a flowering herbaceous layer or ground cover.		– create ground cover using flowering herbaceous plants. – use roses with abundant fruits. – encourage use of species roses and single-flowered roses. – grow modern disease-resistant cultivars to reduce need to spray. – use hoeing rather than herbicide to keep weeds in check.

5 Buildings and structures

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Buildings, walls, railings, lamp-posts, hard surfaces and stone paving	Old buildings may support bat roosts, bird nests (eg house martin) and climbing plants. However, most built structures in any park offer opportunities for biodiversity. These include the installation of green (vegetated) roofs, installation of bird, bat and insect boxes, and the use of climbers (both self-clinging and on trellises or supports) to provide vegetation cover on otherwise bare walls. Old walls, if constructed from local stone and loosely mortared, often become colonised with locally-characteristic plant communities. Buildings, railings and lamp-posts can provide locations for window boxes, hanging baskets and planters, while planters can be installed on hard surfaces. In addition, stone and log piles in discrete areas of hard standing can provide habitat for a range of invertebrates, reptiles and amphibians.	Most traditional ways to brighten up buildings and structures with plants are popular, although green roofs are still new and public perception is unknown. Old walls can be very attractive to the public if well vegetated, but those over-run with ivy and vegetatation may be interpretated as a sign of neglect. Vegetation in gaps between paving stones can be viewed as untidy and a trip hazard.	– ivy and other climbers, if regularly monitored, rarely cause problems and can protect walls. – installing green roofs, nest boxes and other features offer opportunities for raising awareness and education.		– give priority to management of buildings so that it does not adversely impact on roosting bats and nesting birds; specialist advice may need to be sought. – install off-the-peg bat, bird and insect boxes, although their viability will depend on local circumstances. – install hanging baskets, planters and boxes with appropriate plants of benefit to insects, for example, developing a wider range of types, including perennials, in addition to the tried and tested annual bedding. – increase diversity of climbers, for example mixing evergreen and deciduous species and those with flowers and fruit. – install green roof systems by using locally appropriate substrates and encourage natural colonisation of vegetation (specialist advice will be required). – construct new walls to leave gaps for plants and encourage natural colonisation. – do not seal joints in new paving and lay paths on a sand bed if they do not take heavy traffic; sow annual seed mixtures to fill gaps (note implications for cleansing). – consider lifting all unnecessary hard surfaces and replace with more flexible substrates, for example, self-binding gravels, which can provide temporary habitat for burrowing wasps and bees.

6 Water and wetlands

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Running water	Rivers and streams in urban green space have often been highly engineered or culverted. However, rivers may also be rich green corridors through otherwise built-up areas.	Usually well-loved and treasured. Neglected stretches of rivers and streams may have negative associations with tipping and danger. However, river restoration can totally transform a landscape and naturalness is highly valued by the public.	– increasing safe access to (and egress from) water and visibility of water's edge. – education and interpretation. – regular clearance of rubbish and debris.		– reprofile where engineering has removed the natural course and banks of a stream, preferably with a two-stage channel to encourage the development of floodplain vegetation. – develop marginal vegetation. – plant or encourage riparian trees.
Open water	Open water bodies of still or very slow-moving water. The edges of water bodies, and the wet ground surrounding water bodies. Well-developed vegetation around the edges is often absent owing to cutting or grazing by waterfowl.	Existing water bodies are often well-loved and well-used recreational landscapes. There are often significant problems relating to perceived danger to children in creating new urban ponds. Colourful marginal vegetation is positively appreciated. Large areas of tall vegetation that obscure views to open water are less valued. There may be conflict between angling interests and the development of marginal vegetation and disturbance of birds.	– creating very shallow, gently sloping margins to reduce drowning risk. – education and interpretation. – providing safe access at edges. – placing ponds in visible, open locations. – providing easy access through marginal vegetation via boardwalks and decking. – encouraging attractive flowering plants such as marsh marigold and purple loosestrife. – providing fishing platforms and pegs. – providing opportunities for pond dipping.		– ensure margins grade gradually into the water to provide a range of different edge habitats. – where appropriate, reduce areas overshaded by trees to encourage sunlit water. – dredge periodically to improve water quality and maintain sufficient depth of water to prevent take-over by aggressive vegetation. – introduce native water-lilies and other aquatics. – restrict access to areas of margin to provide cover and shelter for wildlife. – plant some trees or shrubs for nesting cover, but avoid too much shade or leaf litter. – seasonal management to restrict dominance of the most aggressive species and to introduce additional local native species. – concentrate areas where people feed ducks to small stretches to reduce build-up of bread etc.
Marshes	Areas of wet or saturated ground, with some open water, dominated by reeds and other grasses. Wet meadows, marshes and bogs.	Can be seen as unpleasant and scruffy in some urban contexts if not well maintained, and possibly also as no-go areas because of wet ground. Makes substantial contribution to perceived natural value.	– interpretation. – providing easy access via board walks etc. – encouraging attractive flowering species such as marsh marigold, spearworts and purple loosestrife.		– seasonal management to restrict the dominance of the most aggressive species. – open up areas of shallow mud, or patches that dry out in summer for invertebrates and bird feeding. – introduce locally native wetland plants.

7 Brownfield land

Typology	Description	What people think and how it is used	User perceptions improved by	What you can expect	How to enhance biodiversity
Brownfield land (aka wasteland, urban common, or derelict land)	A variable and dynamic vegetation found on previously built land, that is often more valuable to biodiversity than it appears, especially if the substrates are poor. Bare substrate and sparse weedy vegetation can be highly important for invertebrates, such as solitary bees and wasps. Weedier vegetation and grasses, often with a mix of native grassland plants and non-natives such as evening primrose, will host small mammals, birds and insects. Older sites may support buddleja scrub and/or young woodland (with silver birch, willow and poplars), which is often of less interest for many invertebrates. Abandoned allotments and gardens with deep fertile soils will support a vigorous mixture of native species such as rosebay willowherb, and non-native garden escapes such as lupins, Canadian goldenrod and Michaelmas daisy.	Highly associated with neglect and anti-social behaviour, especially the more obvious derelict areas. However, these are often the most wild and formally inaccessible parts, and can be valued as such – the unofficial countryside.	– clearing rubbish and discouraging fly-tipping. – maintaining clear lines of sight along paths, and cutting back encroaching dense scrub. – well-defined, smart and safe boundaries and entrances. – interpretation and explanation of the positive value of such places to discourage anti-social behaviour. – community involvement to promote acceptance. – celebration of past industrial and cultural history.		– two basic options: minimal intervention to allow site to develop into tall herb, scrub and then woodland; or intervention to maintain one or a suite of habitat types within the site. – minimal intervention may still require some management to maintain safe access and public relations (cutting back scrub or thickets). – intervention periodically may include removing invading woody plants such as birch by cutting or mowing to maintain tall weed and open grassland character. Buddleja scrub can be coppiced or removed by bull-dozing, to allow re-colonisation of grasses and annuals. Resist temptation to tidy up, plant trees and shrubs or sow grasses. – control Japanese knotweed and giant hogweed if present (see schedule 9 of Wildlife & Countryside Act).

Conclusion

Successful management and maintenance for biodiversity is based on initial vision and passion, a willingness to take action to retain something worth keeping and making the effort to guarantee its future existence. Success requires gaining or reinforcing the relevant skills and having the confidence to go ahead. It means being willing to consider the opportunities that may exist, even in what might seem unlikely spots, looking for good ideas and advice and asking for help. It entails seeing the results elsewhere, and believing that they can happen for you. It involves things that are within the grasp of everybody: knowing your area and its natural assets, including the people and the communities, and knowing who the local champions are.

A slow but sure approach, starting with small and phased changes, appears to be an effective strategy for delivering longer-term and bigger change, in terms both of gaining public acceptance for change and also of trying out new and different ways of management and building skills and experience for both client and contractor. It is very important to start from a base of knowing what you have.

Promoting biodiversity in a wide range of types of urban green space involves taking chances and making the most of opportunities. It involves recognising the importance of the appearance of these areas to people and thinking outside of traditional ways of promoting wildlife that includes not only vegetation but also the potential of buildings and walls.

Above all, success appears to be related to effective teamwork. This may be in local authority contract management teams, where conservation and biodiversity knowledge are brought together with traditional park management responsibilities; in the development of partnerships between local authorities and biodiversity and conservation organisations; and in developing good working relationships between authorities, contractors and users. Appointing dedicated on-site personnel appears to be a very effective means of encouraging biodiversity in the long-term.

Natural knowledge: vegetation brings many environmental benefits, including the cooling of air and absorption of atmospheric pollutants created by a significant increase in hard surfacing and reduction of green spaces

‘Many existing green spaces are traditional parklands, which need high levels of resources in terms of labour and artificial inputs. The gradual degradation of many open spaces is a result of less money being available for these high-input landscapes. So, over the past twenty years, management has often been dictated by cheap solutions and the widespread ‘lawns and lollipop trees’ approach. However, if the care of parks was better informed by ecological principles the result would be more self-sustaining, cost-effective landscapes that provide better wildlife habitat and more locally distinctive surroundings.’

English Nature and London Wildlife Trust, *London’s natural values,* 2005

Relevant legislation and policy documents

Statute or policy legislation	Objective(s)	Relevance
National Parks and Access to the Countryside Act 1949	Creation of national parks and statutory sites (sites of special scientific interest (SSSIs), national nature reserves (NNRs) and local nature reserves (LNRs))	– Section 21 gives local authorities powers to declare LNRs; many parks and urban green spaces are LNRs – Most of the statute relating to other statutory sites has been amended by the acts below
Weeds Act 1954	Prevention of the spread of noxious weed species	– Includes ragwort
Wildlife and Countryside Act 1981	Protection of sites of special scientific interest (SSSIs). Protection of a range of species, for example all bats, water vole, and most wild birds	– Some parks and urban green spaces may be notified as SSSIs; there will be constraints on damaging operations – Most parks and urban green spaces that support legally protected species will have constraints on the types and time of operations (for example disturbance of breeding birds) – Prevents introduction and spread of damaging species listed in schedule 9, including giant hogweed and Japanese knotweed (this list will probably be extended)
Protection of Badgers Act 1992	Protection to badgers and badger setts	– Imposes constraints on any operations that may affect a badger sett or foraging area (in addition to that within the Wildlife and Countryside Act)
Conservation (Natural Habitats, & c.) Regulations 1994 (also known as the Habitats Directive)	Protection of habitats and species of European importance	– Potential constraints on operations that affect listed species (for example bats in old buildings) – Encourages management of features supporting species of European importance
Wild Mammals (Protection) Act 1996	Protection of wild mammals from cruelty	– Potential welfare issues on control of mammalian pests
Countryside and Rights of Way Act 2000	Provision of access to certain types of land Increased protection to statutory sites and some protected species	– Section 28 imposes a duty on local authorities with SSSIs under their ownership to manage them to an appropriate standard – Increased constraints on operations damaging to some protected species (including breeding birds in schedule 1)

Planning legislation and policy

Town and Country Planning Act 1990	To include policies in development plans to conserve the natural beauty and amenity of land, including its wildlife	– Development plan policies to protect and manage land for biodiversity – Section 106 agreements provide opportunities to create areas for wildlife or resource appropriate to management regimes
	Identification of conservation areas	– Trees in parks within conservation areas afforded level of protection from damage or loss
	Implementation of tree preservation orders	– Protection of particular trees from removal or damage
Planning policy guidance note 17: open space, sport and recreation 2002	Guidance on the provision of a network of open spaces for amenity and formal sport	– Recognition of the role of parks and green spaces in conserving biodiversity and features of wildlife interest.
Planning policy statement 12: local development frameworks (LDFs) 2004	Guidance on the format and process of creating LDFs	– Identification of a local network of sites to conserve biodiversity
Planning policy statement 9: biodiversity and geological conservation 2005	Guidance on the conservation of biodiversity and geological assets within the planning process	– Protection of parks and green spaces with nature conservation value from inappropriate development – Opportunities to implement conservation objectives through section 106 agreements and planning conditions – Identification, protection and management of a local network of sites to conserve biodiversity – Protection of species of principal importance for the conservation of biodiversity in England

Biodiversity action plans

UK Biodiversity Action Plan 1994	Conservation of key national biodiversity assets	– Identifies habitats and species of primary conservation importance – Sets out process for the delivery of objectives through local biodiversity action plans (LBAPs)
DETR Circular 04/2001	Implementation of the Countryside and Rights of Way Act 2000	– Identifies LBAPs as a constituent of a community strategy
DEFRA, Working with the grain of nature: a biodiversity strategy for England, 2002	Strategic direction of BAPs within England and closer cross-sectoral action to deliver objectives	– Places greater emphasis on the role of urban parks and green spaces in conserving biodiversity – Promotes Green Flag Award and other sectoral benchmarks as means of delivering biodiversity conservation

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Contacts and further information

Association of Local Government Ecologists (ALGE)
The Association of Local Government Ecologists represents professional ecologists working in local government in the UK. In partnership with others, ALGE supports and develops the nature conservation work of local authorities.
www.alge.org.uk

British Waterways
British Waterways is a public corporation that manages and cares for more than 2,000 miles of canals and rivers in England, Scotland and Wales on behalf of the British people.
www.britishwaterways.co.uk

BTCV
BTCV is a unique international volunteering organisation providing the bridge between global environmental ideals and local reality in the UK and overseas.
www2.btcv.org.uk

The Countryside Agency
The Countryside Agency is the statutory champion and watchdog that brings together all the different countryside dimensions – economic, environmental, community and enjoyment – into a single national body: to achieve sustainable development in the countryside.
www.countryside.gov.uk

Department for Environment Food and Rural Affairs (DEFRA)
DEFRA is a central government department. It has a series of national initiatives that will help to deliver sustainable development by conserving and enhancing ecology and landscapes, promoting the efficient use of natural resources and managing flood risk.
www.defra.gov.uk

England's Community Forests
England's Community Forests is the country's biggest environmental regeneration initiative.
www.communityforest.org.uk

Environment Agency
The Environment Agency is the leading public body for protecting and improving the environment in England and Wales, ensuring that air, land and water are managed sustainably. It works in areas as diverse as flood defence, pollution control, town planning, farming and waste. It also funds improvements to green spaces.
www.environment-agency.gov.uk

Forestry Commission
The Forestry Commission is the government department responsible for forestry policy throughout Britain. It aims to protect and expand Britain's forests and woodlands, and increase their value to society and the environment.
www.forestry.gov.uk

Landlife
Landlife works for a better environment by creating new opportunities for wildflowers and wildlife and encouraging people to enjoy them.
www.landlife.org.uk

Natural England
Natural England is due to come into being on 1 October 2006, bringing together and building on the strengths of the Rural Development Service, English Nature and The Landscape, Access and Recreation Division of the Countryside Agency. The new organisation will have responsibility for enhancing biodiversity, landscapes and wildlife, promoting access, recreation and public well-being and contributing to the way natural resources are managed so sites can be enjoyed now and in the future.
www.english-nature.org.uk/about/naturalengland.htm

Office of the Deputy Prime Minister (ODPM)
ODPM is the government department with responsibility for developing thriving, inclusive and sustainable communities in all regions. It has a major impact on the planning, design, funding and policy framework for urban green spaces.
www.odpm.gov.uk

Royal Society for the Protection of Birds (RSPB)
The RSPB is the UK charity working to secure a healthy environment for birds and wildlife, helping to create a better world for us all.
www.rspb.org.uk

The Wildlife Trusts
The Wildlife Trusts partnership is the UK's leading conservation charity dedicated to all wildlife.
www.wildlifetrusts.org

Glossary

Acid grassland
Grassland on acidic soils, for example sands, often characterised by presence of red fescue, sheep's sorrel and heath bedstraw.

Amenity grassland
Grassland primarily for recreation rather than nature conservation, grazing or hay production. Generally consisting of few species, on highly fertilised soils compounded by management that discourages either structural or species diversity.

Arisings
Vegetation cut by grass cutting; arisings should be removed to keep soil fertility down for species-rich grassland.

Biodiversity
The variety of living things around us, from mammals and birds to plants and microbes, and the habitat they live in.

Brownfields
Previously built or developed land (also known as derelict land, vacant land, wasteland), which, because of neglect, exhibits natural colonisation by wild animals and plants. Brownfields can be highly biodiverse and, depending on their structure, age and species diversity, can be ecologically important, especially for invertebrates, reptiles and some birds (of which some are afforded legal protection).

Conservation
The active measures required to maintain and secure for the future the ecological interest of a habitat or status of a population of wild animals or plants, with respect to the surrounding context. Often confused with the more static and defensive term preservation. See also Nature conservation.

Coppicing
The periodic cutting of deciduous trees and shrubs close to ground level to produce a multi-stemmed regrowth (crop) of wood. Some species of tree respond to coppicing better than others. Many – but not all – woodlands were actively coppiced (usually on a rotational basis) until the turn of the 20th century.

Dead-heading
Removing flowers as they fade to prevent a plant from forming seeds. Dead-heading can extend the life of flowering annuals and the flowering of perennials, for example roses.

Dead wood
Wood that may remain on an otherwise alive tree or shrub (hanging), consisting of a complete dead tree or shrub (standing), or take the form of collapsed trees, stumps, logs, boughs and lifted root-plates, lying on the ground.

Ecology
The study of organisms and their relationships with each other and their environment (the inter-connectedness of life systems).

Flood alleviation
Retention and management of land to allow it to accommodate floodwaters (and therefore prevent damage) and act as a soak-away from which water is slowly released back into the river system.

Gang-mowing
Managing large areas of grassland with ride-on machine mowers (a job that in the past required gangs of men with scythes).

Generic management
Management practices that are applied across a site, no matter the function or structure of any particular element of it, for example litter-picking.

Habitat
The places in which wild animals and plants live. Shaped by their underlying soils, hydrology, topography and climate, habitats have a characteristic fauna and flora, and most species are confined to a particular habitat.

Herb
Ecological term for flowering plants that are neither grasses nor woody (climbers, shrubs, trees); as in herbaceous.

Hydrology
The distribution and flow characteristics of water on any site, both above and below surface.

Improved grassland
Grasslands in which soils have had their fertility enhanced (by the addition of nutrients and fertilisers) and the sward changed by re-seeding. Improvement is measured in terms of agricultural production (grazing) and results in a loss of biodiversity. Unimproved grasslands are a rarity.

Mulch
Part-rotted plant material (often bark) spread around new planting to suppress weeds, retain moisture and reduce frost damage.

Nature conservation
The mechanisms to protect and conserve the natural environment, which includes geological features, landforms, hydrology, soils and wildlife. Biodiversity conservation focuses on wildlife and its support systems (soils, water, air).

Non-native species
Animal, plant or fungus from outside its original natural range, present as a result of deliberate introduction, escape or inadvertent import by people. Some non-native (also known as alien, exotic, introduced) species have an adverse impact on native biodiversity.

Pioneer-style woodland
Woodland consisting of tree and shrub species that would normally be the earliest colonisers of new ground, many poplars, willows and birches (species with tiny wind-blown seeds). There would be little ground flora.

Pollard
Periodic cutting of a tree at least 2.5 metres above ground level to produce a multi-stemmed regrowth (crop) of wood. In the past this was undertaken in woodlands to prevent animals browsing the new shoots; today it is continued for many street trees. Many veteran trees have had a history of pollarding.

Semi-natural vegetation/habitats
There are virtually no purely natural habitats (those that haven't been influenced by people's activities) in England. To reflect this, ecologists often term the present-day woodlands, wetlands, heaths and downs as semi-natural.

Sightlines
Long-distance vistas (usually 50-200 metres) alongside paths, cut and maintained in woodlands and scrub to give visitors a sense of security.

Substrate
Underlying bedrock that influences the chemical character of the soils on it and, in turn, the plant species they support.

Sustainable
In ecological terms, a process or activity that can be maintained into the future without adverse environmental impacts (for example on water resources or species populations).

Sward
The vegetation community (that is, the constituent plants) of any particular grassland.

Transport corridors
The area of land associated with railways, main roads (such as dual carriageways) and canals, which can be of biodiversity value and act as a conduit for some species.

Underplanting
The planting of wildflowers and shrubs in a – usually recently – planted woodland, to enhance diversity. Undertaken when the underlying seed bank is exhausted or absent or if natural colonisation of appropriate species is unlikely to take place.

Zoning
Discrete and often different areas of a particular site identified for their particular interest and function, and the management required to maintain them.

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Today, more than ever before, we understand that promoting biodiversity in our parks is not something that we can just leave to chance. Rather than letting nature take its course, parks need careful day-to-day management to deliver environments where nature can flourish. *Making contracts work for wildlife* advises green space professionals on how to make the most of the potential for biodiversity in our urban parks. And it shows how the commitment of individuals and employers can make the difference between failure and inspiring success.

1 Kemble Street
London WC2B 4AN
T 020 7070 6700
F 020 7070 6777
E enquiries@cabe.org.uk
www.cabe.org.uk

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