

# Biodiversity Action Plan 2017 - 2022





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# 1. Introduction

**‘Biodiversity is all living things, from the tiny garden ant to the giant redwood tree. You will find biodiversity everywhere, in window boxes and wild woods, roadsides and rain forests, snow fields and sea shore’**

(Biodiversity: The UK Steering Group Report, 1995).

Biological diversity (biodiversity) is the variety of life. Not only is it the whole range of plant and animal species but also the local variations found within these species. The intricate network of ecosystems, habitats and species comprising biodiversity provides the support systems that sustain human existence. It provides many of the essentials of life – oxygen, water, food, clothing, health and relaxation. This value extends from the spiritual benefits to be gained from contact with nature, to the economic potential of wild species for new sources of food or medicines.

The natural world enriches the quality of our lives through tourism, leisure and daily contact with wildlife. The wild ancestors of many of our major crops such as wheat and barley provide genetic material, which can provide resistance to crop diseases and help reduce the need for pesticides. Wetland habitats act as natural pollution filters, buffer the effects of flood and drought, and reduce soil erosion.

However, human activities continue to deplete biodiversity at an ever-increasing rate. In the UK we have lost over 100 species during the 20th century, with many more in danger of disappearing, especially at the local level. This is ultimately against our own interests. Our future requirements are uncertain. If we continue to degrade what remains of our natural resources we will dangerously reduce the planet’s capacity to support not only wildlife but also people. The maintenance of biodiversity is a key test of our ability to maintain a healthy natural environment and long-term sustainability

The Rio de Janeiro ‘Earth Summit’ in 1992 was, in part, a response to the growing awareness of the importance of the global environment and a wide recognition of the continuing loss and damage. The United Kingdom was one of over 150 countries from around the world, which signed the Convention on Biological Diversity. With each country required to produce a plan of action, this now provides the basis for international co-operation to maintain the world’s biodiversity.

Article 6a of the Convention requires signatory countries to:

**‘develop national policies, plans or programmes for the conservation and sustainable use of biological diversity’.**

The UK Government published a UK Biodiversity Action Plan in January 1994. Its stated aim is:

**‘to conserve and enhance biological diversity within the UK’.**

At the launch of the Action Plan the Prime Minister announced that a Biodiversity Steering Group would be established. This group, with representatives drawn from key statutory and non-statutory organisations, would take the process forward. It published a detailed report, Biodiversity: The UK Steering Group Report, in December 1995. This report was subsequently endorsed by the

Government and now sets the scene for future action.

The report of the UK Biodiversity Steering Group sets out a detailed approach to conserving biodiversity in the United Kingdom. The report recognises that if biodiversity conservation is to be successfully implemented it requires a means of ensuring that actions are undertaken in an integrated manner. Key recommendations were as follows:

- a. The production of national habitat and species action plans
- b. The establishment of a network of local records centres
- c. The production of local biodiversity action plans
- d. The need to raise awareness of the importance of biodiversity conservation.

The Guidance for Local Biodiversity Action Plans – Guidance Note 1 sets out the functions of a Local Biodiversity Action Plan as:

- To ensure that national targets for species and habitats, as specified in the UK Action Plan, are translated into effective action at the local level.
- To identify targets for species and habitats appropriate to the local area, and reflecting the values of people locally.
- To develop effective local partnerships to ensure that programmes for biodiversity conservation are maintained in the long-term.
- To raise awareness of the need for biodiversity conservation in the local context.
- To ensure that opportunities for conservation and enhancement of the whole biodiversity resource are fully considered.
- To provide a basis for monitoring progress in biodiversity conservation, at both local and national level.

In 1998, as Hertfordshire's response to the national biodiversity planning process, a 50-year vision for the wildlife and natural habitats of Hertfordshire was prepared on behalf of the Hertfordshire Environmental Forum by Herts & Middlesex Wildlife Trust. This represented the first Biodiversity Action Plan for the county and was one of the earliest to be produced in England. It identifies those habitats and species that are a priority for conservation action and provides a valuable source of information on the county's natural assets.

In 2002, a Hertfordshire Biodiversity Officer was appointed and a review of the achievements against the targets identified within the action plans was undertaken. Progress was variable, with wetlands work considerably advanced, whilst other plans were less successful. During 2005/06, a review of the original habitat and species action plans, focussing solely on the objectives, targets and actions, was undertaken, led by the Biodiversity Officer and supported by the various leads of the species and habitat action plans.

To help focus the activities during the next five years, the Hertfordshire Biodiversity Partnership relaunched the Biodiversity Action Plan (BAP) in March 2006 to incorporate the revised habitat and species action plans.

Local authorities in England and Wales have a key role to play in the conservation of biodiversity and this is now recognised and formalised within Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, where:

**“Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”**

As such, Local Authorities have a duty to work to maintain and increase populations of species and to enhance and create BAP habitats.

A five year Biodiversity Action Plan for Stevenage Borough covering the period June 2010 – June 2015 inclusive was subsequently prepared in response to the updated Hertfordshire Biodiversity Plan. It updated an earlier Stevenage Biodiversity Action Plan that was drafted in 2004. The work achieved locally through the action plan contributed to targets set for the county through the Hertfordshire Biodiversity Action Plan. The results of the work in Stevenage were captured and reported through the national Biodiversity Action Reporting System, co-ordinated in Hertfordshire by the Biodiversity Officer.

The 2010 Convention on Biological Diversity (CBD) Biodiversity Summit in Nagoya resulted in the publication of a new strategy and set of targets for signatory governments. In light of this and the Government’s new focus for biodiversity conservation, the UK BAP was replaced in July 2012 with the UK Post-2010 Biodiversity Framework. Although the BAP was replaced the focus and targets it identified continue to be relevant today in identifying conservation priorities for the county. The Plan was developed alongside other strategic plans in Stevenage – the So Stevenage Strategy and the Green Space Strategy.

So Stevenage is a community strategy covering housing, security, health, sports, art, culture and the environment:

**“The community strategy is the main partnership document for the town. It shows how we are working together to improve Stevenage and contribute to the sustainable development of the town- that means meeting today’s needs without compromising the ability of future generations to meet their own needs.....Our community strategy sets out a long-term vision of how we want Stevenage to be in 2021.”**

For the Environment the strategy states:

**“Local people value open spaces in the town – somewhere to relax, to exercise and to enjoy nature.”**

The Open Space Strategy sets out the council's objectives in terms of protecting, managing and improving the green spaces within Stevenage covering parks and gardens, natural and semi-natural open spaces, amenity green space, provision for children and young people, outdoor sports facilities, allotments and community gardens, cemeteries and churchyards and green corridors. In terms of the natural and semi-natural open spaces, the vision is:

**“A pleasant, litter-free, safe and well-managed site utilising both natural and semi-natural features to encourage conservation, introduce and sustain biodiversity and promote education. Establish a town-wide hierarchy of sites to provide a balance between access and protection of a diverse range of habitats and species.”**

In particular, under the heading of Natural and Semi-natural Open Space, the strategy lists two objectives that are directly related to the Biodiversity Plan:

**“Objective 6  
Complete the Review of the Biodiversity Plan.**

**Objective 7  
“Establish a hierarchy of sites and needs and, in line with the Biodiversity Action Plan, establish management plans for all sites having particular regard to the requirements of national Indicator 197.”**

Therefore, the Biodiversity Action Plan contributes to particular threads of the So Stevenage and Green Space Strategies and should be considered in association with them.

Clearly, Stevenage Borough represents a relatively small area of the county and has limited resources available for the habitat management work required to increase biodiversity within the Borough. Therefore it is important that any actions listed within the Plan are both pragmatic and focussed ie **SMART**:

**Specific** – Objectives should specify what they want to achieve.

**Measurable** – You should be able to measure whether you are meeting the objectives or not.

**Achievable** - Are the objectives you set achievable and attainable?

**Realistic** – Can you realistically achieve the objectives with the resources you have?

**Time-limited** – By when do you want to achieve the set objectives?

These SMART objectives are presented in Habitat Action Plans subdivided into Grassland, Woodland, Ancient Hedgerows, Wetland and Neighbourhood Nature. In some cases the actions are associated with subsequent surveys of key indicator species to monitor the effectiveness of the management work.

The delivery of the Biodiversity Action Plan will be the responsibility of Stevenage Borough Council supported by their key partners, and progress will be monitored by a Steering Group.

In 2016 this review of the plan was conducted to ensure that the priorities were still relevant, to assess the effectiveness of management undertaken since its conception and to recommend further actions to continue the progress made under its direction. By identifying successes, continuing challenges and potential improvements, it is hoped that the areas under the control of Stevenage Borough Council will continue to improve their value for wildlife and the people who enjoy it.

# 2. Habitats within Stevenage Borough

## 2.1 General

A Habitat Survey of the Borough of Stevenage was performed as part of a three year Countywide 'Phase 1' surveying programme between 1994 -1997. This work, part of the Hertfordshire Habitat Survey Project produced a variety of useful data, identifying habitat types and their extent across the Borough. It was updated in 2013 with a full review of all Stevenage Wildlife Sites conducted by Herts and Middlesex Wildlife Trust. In addition to this, other biological information from the Borough, including data on Local Wildlife Sites is held at the Hertfordshire Environmental Records Centre hosted by Herts and Middlesex Wildlife Trust.

The following sections discuss the geology, habitats and species present in the Borough of Stevenage, leading on to an evaluation of the key targets for this updated Biodiversity Action Plan.

## 2.2 Geology

The geology of the district is the major factor determining its topography and soils. These in turn, together with the climate, determine the natural vegetation and influence farming practices in the wider countryside. The solid geology of Stevenage is relatively simple, comprising chalk of the Cretaceous period. The chalk not only determines the topography of the area, but is also important as an underground aquifer. The water levels within this aquifer are crucial in sustaining the levels of rivers, streams, springs and flushlines.

The superficial deposits comprise Argyllic Brown Earths on Decalcified Boulder Clay for the majority of the Borough. Chalky and Gravelly Solifluction Deposits just impinge to the east and west with Glacial and River Gravels being found in the southern tip of the Borough in association with the Stevenage and Aston End Brooks. More subtle variations still account for the variations in grassland type found within Stevenage, with grasslands to the far west, near Knebworth, displaying acidic characteristics and grasslands to the east exhibiting a calcareous influence in places.

Prior to the development of Stevenage New Town, the easily tilled soils of the area supported a mix of arable and livestock farming. The field patterns and hedgerows of these fields would have probably originated from the medieval period or earlier. Historically, substantial areas of woodland were not removed until the 12th and 13th centuries, leaving a scattering of woodlands within the field systems.

However, most of the features and habitats of the open countryside have been lost with the development of Stevenage New Town. Present day Stevenage is very much urban in character but benefitting from large expanses of public green open space. Nonetheless, remnants of older habitats and landscape features still survive as encapsulated countryside and it is these features that provide the majority of the Borough's wildlife interest. Old woodlands in particular are well represented with the majority retained within the new town development, although many have been structurally altered through replanting.

Stevenage lacks a major river system although the Stevenage Brook and Aston End Brook are sourced within the Borough and are important as the only examples of natural running water habitats. However, if the aquifer is depleted, flows will be reduced, making them extremely vulnerable to pollution and drying-out.

## 2.3 Habitat Overview

### 2.3.1 General

Stevenage was measured as 2,598 hectares (ha) during the Habitat Survey. The total area of all habitats excluding urban and arable farmland within the Borough is 612.6 ha (23.57%). This figure is somewhat less than the county total of 33.3%, reflecting the urban nature of the Borough.

The main habitat types found across the Borough are as follows:

- Woodland
- Grassland
- Ancient Hedgerows
- Wetland
- Neighbourhood Nature (Urban)

The characteristics of these habitats are described in the following sections.

### 2.3.2 Woodlands

The total area of woodland habitats (including parkland) is 131.5 ha, or 5.06% of the Borough area, somewhat less than the national average of 9% and the county average of 9.27%. A total of 58.3 ha (44.33) of all the woodland in Stevenage is semi-natural broad-leaved. Plantations amount to 65.8 ha (50.04%), of which 18.4 ha is broad-leaved, 11.0 ha coniferous and 36.4 ha is a mix of broadleaf and conifer species.

Within Stevenage, 53.99 ha of woodlands are identified as ancient (from Natural England's Provisional Ancient Woodland Inventory) that is 41% of all woodland within the Borough. In addition, another 23.76 ha (18.07%), are believed to be ancient although it does not appear on the Ancient Woodland Inventory. Parkland habitats account for 7.4 ha or 0.28% of the Borough. Included in this category are ancient deer parks through to the more modern parks laid out this century. Scrub communities cover an area of 6.0 ha representing 0.23% of the Borough.

Forming the majority of the wildlife resource in Stevenage, the woodlands represent both an ecologically and scenically important habitat, with nearly all the woodland identified as 'Local Wildlife Sites' being ancient in origin.

The woodland type characteristically found throughout Stevenage is the Oak and Hornbeam mix, with Bluebell dominant in the ground flora. **The EU Habitats Directive has identified this woodland type as being internationally important.** Representing the largest area of any long-standing semi-natural habitat within the Borough, Stevenage has a particular responsibility to maintain and enhance this wildlife resource. Monk's and Whomerley Woods, adjacent to Fairlands Valley Park, form a particularly extensive tract of woodland with a diversity of structure and associated species.

However, large scale replanting in much of the wood has replaced ecologically valuable native trees with introduced species of lower conservation value. The majority of the woods within the Borough were



found to have, to a greater or lesser degree, a non-native planted component. A number of smaller woodlands, although believed to be ancient in origin, were not selected as Local Wildlife Sites because their ecological interest had been substantially degraded by such plantings.

### 2.3.3 Grasslands

Grassland habitats of all types have an area of 446.9 ha, accounting for 17.20% of the Borough, somewhat less than the county figure of 21.3% for this habitat type. A total of 355.3 ha (80%) of all grassland has been substantially 'improved' for agriculture or amenity use, resulting in a decrease in plant diversity. This comprises 17.7 ha of improved grassland, 26.4 ha of species-poor semi-improved grassland and 311.2 ha of amenity grassland.



A further 72.5 ha (16%) is semi-improved but still retains some wildlife interest. This includes 62.5 ha of neutral grassland, 9.2 ha of acidic grassland and 0.8 ha of calcareous grassland. Only 19.1 ha (4%) remains unimproved and of high ecological value, a figure surprisingly close to the county average of 4.3% given the urban nature of the Borough. This comprises 10.2 ha of neutral, 6.6 ha of acidic and 2.3 ha of marshy grassland. All unimproved grasslands are selected as Local Wildlife Sites in recognition of their ecological importance.

Ecologically important grassland habitats are somewhat scarce within the Borough, with the best examples comprising long-standing grasslands, which have been encapsulated within the New Town. An exception is Martin's Way where the steep banks formed in the construction of the dual carriageway have revealed the underlying chalk on which a chalk grassland wildflower mix has been sown. Over subsequent years the resultant species-rich flora has been colonised by plant and insect species. It is now a habitat of high wildlife interest, albeit artificial in origin.

Of the long-standing grasslands within the Borough, those in the west are slightly more acidic in nature, with Six Hills Common grassland supporting species such as Harebell and Early Hair-grass in the short-mown sward. Towards the east of the Borough a more calcareous influence can be found, with Poplars Meadow supporting a particularly diverse flora including indicator species of calcareous, neutral and acidic conditions in its flora.

To the south Stevenage Brook Marsh provides for the only significant area of marshy grassland within the Borough. This area comprises blocks of marshy grassland and tall herbs surrounded by drier semi-improved grassland. The marshy areas support plants such as Lesser Pond Sedge, Greater Bird's-foot-trefoil and Ragged Robin as well as a range of commoner species. Currently the wetter areas are becoming increasingly rank and with the effect of increasingly long dry spells, are in danger of degrading through lack of appropriate management. Invasive non-native plant species including Giant Hogweed and Himalayan Balsam are becoming established.

### 2.3.4 Ancient Hedgerows

Stevenage Borough consists of a number of local areas such as Chells, Poplars, Broadwater that are connected not only by roads but also by pedestrian routes and cycle ways. Many of these cycle ways are old country lanes with their original ancient hedgerows still lining the route. These hedgerows are a precious habitat in the middle of a new town and contribute significantly to biodiversity.

The hedgerows are a mixture of mature standards such as Oak, Ash, Hornbeam and Field Maple and the more traditional hedgerow species such as Hawthorn, Blackthorn and Elder. Many of the hedgerows show signs of coppicing in the past but most have not been managed for several years. Therefore a management strategy needs to be developed as a matter of urgency to rejuvenate these important hedgerow habitats and to ensure their future survival.

### 2.3.5 Wetlands

Wetland habitats of all types (fens, mires and swamps but excluding open water and marshy grassland) cover an area of only 0.4 ha accounting for 0.02% of the Borough. This figure is comprised solely of Ridlins Mire. Open still water bodies greater than 0.3 ha in area cover 9.87 ha accounting for 0.38% of the Borough, almost equal to the county average of 0.39. Ponds of 0.3 ha or less number 20 in the Borough and in many areas represent the only aquatic habitat. Streams and rivers have a total length of 4.6 km. Both these totals are substantially less than the average for the county, indicating the scarcity of all wetland habitats within Stevenage and highlighting the need to prioritise these for action and to conserve and enhance the remaining aquatic resource.

The Borough's wetland habitats are notable in including Ridlins Mire, a Herts and Middlesex Wildlife Trust (HMWT) Nature Reserve, one of the few examples of a valley mire peat bog within the county. The flora includes species that are uncommon or scarce within the county including Greater Tussock Sedge, Great Horsetail and Marsh Valerian. The mosaic of valley mire habitat, unimproved grassland and scrub provides an important combination of habitats of particular value to scarce and rare invertebrate species with the site listed on Natural England's Invertebrate Site Register.



The only large water bodies within Stevenage, Fairlands Valley Park Lakes provide an aquatic habitat of considerable wildlife value and potential. The current majority uniform bank profile and intensive mowing of surrounding grassland provides limited wildlife habitat, though opportunity exists for significant further improvement. Nearby remnants of ancient woodland and patches of more species-rich grassland within the amenity sward all offer the potential to develop an extensive area of wildlife value.

Elsewhere in the Borough, ponds provide a valuable habitat for various aquatic flora and fauna with a number of old ponds, pre-dating the new town development. With appropriate management these ponds and their surrounding habitats could sustain valuable amphibian communities including the internationally scarce Great Crested Newt, which has been recorded in one or two ponds in Stevenage.

### 2.3.6 Neighbourhood Nature

Urban habitats and the built environment were not included in the Habitat Survey, though the ecological value of this habitat type is now widely recognized, and can be argued to be of particular importance in an increasingly urbanized Borough such as Stevenage. Important species such as Song Thrush, House Sparrow and Great Crested Newt can be found in residential gardens, as can bats, which also make use of the built environment itself, roosting in attics, roof voids, under roofing tiles and within other structures.



Allotments can also provide a haven for wildlife, with their mix of cultivated ground, unused plots and untended margins and corners. These latter areas provide a diverse structure and may contain species of grasses and wild flowers that are attractive to small invertebrates, butterflies, grasshoppers and crickets.

Artificial habitats such as waste ground and bare ground were included in the Habitat Survey, and account for 4.4 ha or 0.17% of the Borough, although this figure will tend to alter owing to the re-development of urban waste sites. Whilst this represents a relatively small area, these neglected areas often provide valuable habitats for colonising plant and animal species, including some reptiles and amphibians. Such areas may form a valuable refuge for wildlife in the built and often heavily manicured urban environment.

## 2.4 Summary

The Borough of Stevenage contains a fair cross section of the wildlife habitats present within Hertfordshire. Although there is no heathland and little chalk or acid grassland, Stevenage does possess a fair amount of woodland and grassland habitats, with some lakes, streams and ponds, plus a considerable 'urban' resource, of amenity grassland, gardens, allotments and buildings.

A total of 37 Local Wildlife Sites\* have been identified, including valuable locations for key species such as bats, Great Crested Newts, Badgers and scarce flora. As a large percentage of the open space in Stevenage is controlled by SBC, there exists a real opportunity for the council to continue to improve the ecological assets of the Borough.

The following sections evaluate key habitats in the Borough of Stevenage and identify those that could be improved through the implementation of Habitat Action Plans.

\*A site not qualifying as of national importance for the wildlife it contains i.e. a Site of Special Scientific Interest (SSSI) but regarded to be of local importance for wildlife, its importance being merited in a parish, district, borough or county context. **Please note that the Stevenage Local Wildlife Sites are not numbered consecutively.**

# 3. Grasslands habitat action plan

## 3.1 General

Hay meadows and flower-rich pastures provide a breeding and feeding habitat for many species of bird, including finches, buntings and birds of prey, small mammals such as mice, voles and shrews and beetles, spiders and butterflies, amongst other invertebrates. They are also one of the most beloved aspects of the traditional English landscape. They have inspired many writers and painters and are one of the typical images of the rural idyll etched in the English psyche. They are therefore highly valued for their aesthetic appeal. In addition, these meadows and pastures contain a rich array of plants, including many scarce species.

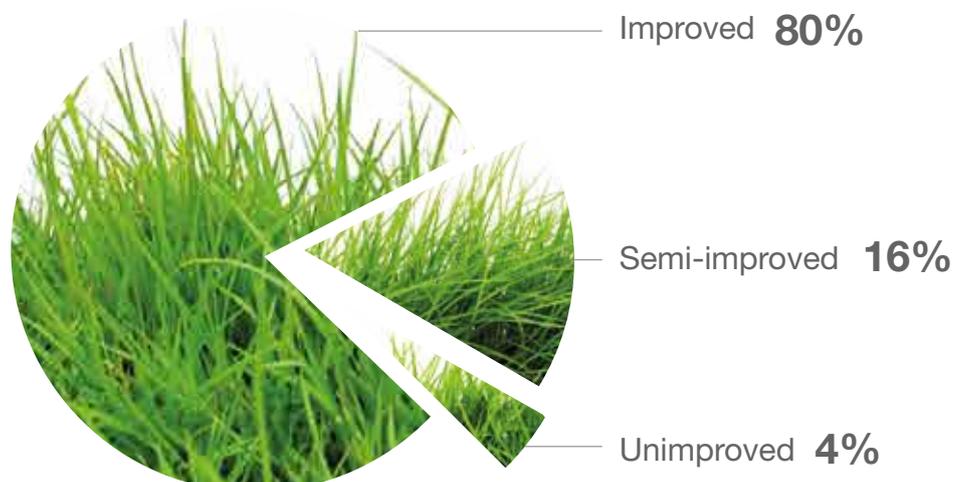
Lowland semi-natural grasslands have long been recognised as a resource of high nature conservation value. They contain a high proportion of plant species native to the UK and many of the grassland types occurring on neutral and base-rich soils, such as are found in Stevenage, support a particularly good diversity, including some rare plants and invertebrates. Some calcareous or 'chalk' grasslands may have 50 plant species per square metre.

Semi-natural grasslands are defined as plant communities where a high proportion of the vegetation consists of a mixture of native grasses and herbs, where woody shrubs are largely absent and where vegetation height is usually less than one metre. Importantly, the species composition of these grasslands has not been substantially modified by intensive cultivation or the regular use of inorganic fertilisers.

Many of the sites, along with potentially important grassland areas in the Borough are owned or managed by Stevenage Borough Council, with others controlled by Hertfordshire County Council and Herts and Middlesex Wildlife Trust. This high percentage of habitat area managed by organisations with a commitment to biodiversity offers high potential for this local Biodiversity Action Plan to influence positively the majority of the grassland sites of conservation importance in the Borough.

In Stevenage Borough, grassland habitats of all types cover an area of 446.9 ha accounting for 17.2% of the Borough, somewhat less than the county figure of 21.3% for this habitat type.

### Grassland in Stevenage Borough



## 3.2 Overall Objectives

### **To conserve, link and diversify the composition and structure of Stevenage's grasslands to optimise their value to wildlife and people.**

Stevenage Borough contains a significant amount of both unimproved and semi-improved grassland. Unimproved grassland, where the habitat has only been "improved" to a minimal degree for instance by cattle manure, is particularly important as it supports a wide range of plants, some of which are scarce or rare.

The major threat to these sites is natural succession to scrub and eventually woodland, leading to a loss of the rarer grassland habitats through shading and drying. The management of these sites therefore requires the introduction of a management regime to prevent domination by scrub, thereby allowing the flowers and grasses to flourish.

Semi-improved grasslands have usually been treated with low doses of herbicide and inorganic fertiliser. They retain some of the species associated with unimproved grassland, though they are likely to have lost the more specialised and rarer species. Restoration to a more species-rich sward is possible in the medium term, though it will depend on the nutrient levels in the soil, the proximity of seed sources and probably most importantly the reinstatement of an appropriate management regime. Restoration of semi-improved grasslands to a more species-rich sward would have particular benefits where these are adjacent to existing unimproved sites, as a larger area of grassland would allow larger populations of insects, mammals and birds to use the habitat and may allow the spread of scarce species.

Existing public open spaces could provide a more scenic and natural environment with the development of a wildlife-friendly management regime. Fairlands Valley Park, forming the largest open space within Stevenage, has substantial wildlife potential, which could be realised with an appropriate regime. Currently the uniform profile of the lakes and gang mowing of much of the surrounding grassland up to the waterside provides little in the way of habitats to support the plant or animal life traditionally associated with large water bodies. Through the last BAP period some areas of grassland were reverted to a hay cutting regime. Less frequent cutting of the sward like this, to create diversity of structure would encourage a variety of invertebrate and plant species with the more botanically diverse areas ideally being managed in a traditional hay-cut style.

This regime could also be extended to the long and wide grassland roadside verges of Stevenage Borough, building on trials during the last BAP period. Most road verges are still mown regularly in the interests of tidiness and road safety. Clearly, road safety is of paramount importance and verges need to be kept short on a bend in the road or where tall grass could restrict visibility. However, on straight sections of road or on gentle bends, which probably accounts for the vast majority of cases, safety is not an issue. Subject to resources, there is a real opportunity to increase biodiversity by allowing selected verges to grow into hay meadows during the summer months, providing habitat for insects including grasshoppers, crickets and butterflies, small mammals and birds.

However, it must be recognised that the lack of mowing in public open spaces and along roadside verges may be viewed by the general public as dereliction of duty or lowering of standards by SBC. However, as a result of work done during the last BAP period where some areas were allowed to grow long, there is the opportunity to highlight the benefits that such a change provides. The highly successful 'Wild Stevenage' partnership project between SBC and HMWT was crucial in raising

awareness of the benefits of the altered mowing regimes. Therefore, any such initiatives must continue to be accompanied by a programme of education to explain the rationale behind the action and the expected benefits to wildlife. In the case of open spaces such as Fairlands Valley Park it would be possible to demonstrate the improvement to wildlife biodiversity to the public through guided walks and on site interpretation.

### 3.3 Local Wildlife Sites

Of the 37 Local Wildlife Sites in the Borough, 13 are grassland or incorporate some grassland (see Table 3.1). Of these 13 sites, one is acidic, eight are neutral, one is chalk and one is neutral /acid and for two the information is confidential.

**Table 3.1**  
**Grassland wildlife sites within Stevenage Borough**

Wildlife site ref.	Name of site	Site area (ha)	Description
21/022	Symonds Green	1.12	An old village green now closely surrounded by housing development, crossed by a small road and footpath. The green consists of an area of unimproved rough acidic grassland with a wet ditch. The wetter area in the centre has a range of rushes, flote grasses and other wetland plants. Further habitat diversity is provided by the pond. The green is surrounded by old hedges including Hawthorn, Holly, Oak and Ash.
21/025	St Nicholas Churchyard	1.92	Churchyard with varied botanical interest supporting species rich neutral grassland over chalk with hedgerows and trees. The grassland includes a population of Meadow Saxifrage, which has also been recorded along the road verge.
21/026	A1072, Martin's Way	1.07	Experimental area to establish chalk grassland flora along chalk cutting of road. Chalk grassland has successfully spread with some species colonising naturally. A range of invertebrates has also become established. In Stevenage this is the only large site with chalk grassland flora. A total of 15 grassland indicator species are present, the majority being calcareous.
29/020	Garston Meadow		Information confidential site privately owned
29/022	Norton Green		Information confidential site privately owned
29/041	Shackledell Grassland, Fairlands Valley Park	1.43	An ancient unimproved grassland site at the eastern edge of the Fairlands Valley Park adjacent to Shackleton Spring Wood. A number of grassland herb species have been recorded including Agrimony, Bird's-foot Trefoil, Mouse-ear Hawkweed, Field Scabious and Common Knapweed. A stream runs along the grassland edge and there is an old hedge around the margins. It is the only site in Hertfordshire where the rare Great Green Bush-cricket is found.

Wildlife site ref.	Name of site	Site area (ha)	Description
29/042	Six Hills Common	0.73	Burial grounds in the middle of Stevenage supporting neutral/acid grassland of considerable age. The plant species include indicators of unimproved grassland and some county scarce plants.
29/059	Triangular Grassland by Fairlands Valley Park	0.79	A triangular area of unimproved grassland becoming rank with scattered scrub. There is a good mix of neutral grass and herb species present.
29/065	Elder Way Flood Meadows	3.03	Meadows with semi-improved rank neutral grassland subject to occasional inundation. The flora includes common herbs of rough grassland and a number of indicator species of old long-standing grassland including Cowslips and Yellow Rattle developing tall herb wetland community.
29/079	Whomerley Wood Road Verge	0.80	A wide roadside strip of neutral grassland on the North side of Whomerley Wood along Six Hills Way, instigated in response to previous BAP. Grassland indicators found include Common Bent, Crested Dog's-tail, Lesser Hawkbit, Oxeye Daisy, Common Bird's-foot-trefoil, Meadow Buttercup, Common Sorrel, Lesser Stitchwort, Germander Speedwell. This is a new Local Wildlife Site recognised as a result of the hay-cutting mowing regime introduced through the last BAP.
30/005	Stevenage Brook Marsh	5.87	Grassland areas either side of the Stevenage Brook now surrounded by housing. The grassland communities are mainly semi-improved neutral grassland with relic areas of marshy grassland and swamp vegetation from the former wet meadows. The chalk brook and the marsh form a diverse habitat of value to invertebrate and avian species. This site forms the only large wet grassland in the Borough.
30/009	Poplars Meadow and Pond, Gresley Way Meadow	1.95	Remnant of an ancient hay meadow, with an old pond to the south. The meadow has become increasingly rank over the years and has lost much of its interest which was substantial and included a diverse ground flora with 16 grassland indicator species including Dropwort. The ecological diversity is enhanced by the broad enclosing hedgerows of Blackthorn scrub with mature Oak stands and the ancient spring-fed pond supporting a wide range of aquatic and wetland plants including the national rare Opposite-leaved Pondweed.
30/052	Elm Green Pastures	3.61	Pastures of semi-improved neutral grassland with substantial hedgerows. The grassland supports a good diversity of common grassland herbs and includes marshy depressions supporting rushes.

It is recommended that SBC include appropriate policies within the Local Development Framework (LDF), Local Plan and other strategic documents to protect all grassland Local Wildlife Sites from damage through development and where possible seek funds to improve their ecological status as compensation for ecological impacts. The adoption of the Biodiversity Impact Calculator (Environment Bank 2015) to quantify ecological impact and therefore direct required compensation or mitigation funding to the improvement of these areas should be explored.

## HABITAT ACTION G1

Eleven sites were visited during the update of this Plan. The sites not visited were Garston Meadow and Norton Green due to their confidential nature, Fishers Green Meadow which has been deselected as a Local Wildlife Site and Elder Way Flood Meadows, which is in private ownership and not under the influence of SBC.

The object of this review was to update the habitat actions required on each of the sites. To document any notable changes, both positive and negative, and to provide management advice targeted at how best to improve the ecological condition of the areas.

The action recommended for the sites is as follows:

### **Martins Way**

Martins Way is a well-established but artificially created chalk grassland site which now appears indistinguishable from good quality chalk grassland. The ideal prescription for grassland of this type is to graze in the winter – which is unfortunately impossible on this site. The next best option is to cut and clear regularly to retain and develop its interest. Although nutrient deposition and scrub succession is slow due to the slope and the thin soil, it will continue to decline in floral diversity and scrub over if it is not managed. The steepness of the slope means that this will be difficult but it is such a floristic asset that its management should be prioritised. If cutting and clearing is adopted, care will need to be taken to avoid damage to the numerous anthills that are present. A number of options are recommended:

- Cut and clear grassland annually in September, ideally remove arisings offsite or alternatively cut them finely and leave them to fall down the slope into a sacrificial area at its base. The arisings are unlikely to be substantial due to the low nutrient content of the soil and the species present.
- Cut and treat with herbicide encroaching scrub to retain grassland habitat. This was done once during the last BAP period.
- Cut and treat with herbicide scrub line that is developing at the base of the slope. This will aid future management by enabling easier access to the area.

Comparison with historical pictures indicate that scrub encroachment is a developing problem on this site which if not addressed will lead to the decline and loss of the site.

As advised in the previous plan it is recommended that the agreed mowing regime for the site should be included in a Stevenage Borough Grassland Mowing Plan.

## HABITAT ACTION G2



### Shackledell Grassland

Great progress has been made in conserving and increasing the size of Shackledell Grassland. The area of grassland has been increased in the lifetime of the previous BAP and the ground flora has responded well. Shackledell Grassland is extremely important in the context of the region because it supports a population of the Great Green Bush-cricket, together with six out of the 10 species of cricket found in Hertfordshire as a whole.



The original area of grassland has been expanded by cutting back the scrub and implementing cutting and clearing to the existing and newly reclaimed areas. In addition to this, complementary strips of habitat linking grassland have been created alongside the original area. This has increased the area of beneficial habitat available to the crickets together with other invertebrates. A new species-rich hedgeline has been planted to delineate the edge of the new area and to provide more productive habitat. These are all significant improvements.

In order to build on these improvements the following actions are recommended. The Great Green Bush Cricket requires bare earth or short turf for egg laying and the interface between scrub and rank grassland for foraging. The site should be managed to provide all of these habitats in a simple and easily understandable way. Work should continue to gradually push back the encroaching scrub until it forms a sinuous fringe around the edge of the original meadow area of 3-5m in width. This will increase the length of this scrub/rank grassland fringe and warm pockets in the bays created for basking invertebrates. This should then be augmented with a regular and formalised cutting and clearing regime for the grassland element of the site.

### HABITAT ACTION G3

The aim of the grassland management of the original site should be to create a central flower-rich area by cutting and clearing twice a year, in July and September, together with a thick rough grassland fringe to the border scrub. The rough grassland fringe around the outside of the grassland should be 10m in width and cut and cleared once every 3 years on rotation (a third of the area cut every year). This will provide optimal conditions for the crickets and prevent scrub encroachment.

This mowing regime should be agreed and incorporated into the Stevenage Borough Grassland Mowing Plan.

### HABITAT ACTION G4

The additional grassland that has been created should be managed in a similar manner to the reclaimed grassland to enable population expansion. The principles should be a long grass/hedgerow interface strip of 5m managed by cutting and clearing rotationally on a three year rotation (cutting in September), together with cutting and clearing the rest of the grassland twice a year in July and September. This will lead to an increase in floral diversity in this area, particularly if supplemented



by the introduction of Yellow Rattle (*Rhinanthus minor*). This plant suppresses grass growth giving flowers a competitive advantage. The floristic enhancement can be further increased by cutting and removing turfs of 1m<sup>2</sup> in the sward and spreading appropriate wildflower seed on the bare soil. Seed should be selected from the component parts of National Vegetation Classification MG5 communities, e.g. Lesser Knapweed (*Centaurea nigra*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's-foot-trefoil (*Lotus corniculatus*), Lady's Bedstraw (*Galium verum*), Field Scabious (*Knautia arvensis*), Cowslip (*Primula veris*) and sown in the autumn.

### HABITAT ACTION G5

In order to ensure that the management is achieving its intended results and to quantify population changes, a Great Green Bush Cricket monitoring regime should be introduced to the site. Training and advice on how to implement this can be obtained by contacting Herts Environmental Records Centre <http://www.hercinfo.org.uk/> Monitoring is likely to consist of counting and plotting singing males in the summer months and could be conducted by suitably trained volunteers. Not only would this benefit the site management for the species, but it would also help to draw local people into learning about and understanding its conservation status.

### HABITAT ACTION G6

#### Triangular grassland by Fairlands Valley Park

This area of heavily scrubbed over grassland was not included in the previous BAP. Little of the original grassland remains but where it does occur it is species-rich, with a high potential to regenerate, as has occurred on the adjoining site. Its position next to Shackledell Grassland means that it could provide additional complimentary habitat for the invertebrate priorities of the site, which would regenerate from the seed bank rather than having to be reintroduced.

Management should focus on clearing back the scrub from the surviving glades. Care must be taken to treat the stumps with herbicide, to prevent vigorous regrowth. As pockets are enlarged and more glades created they should be managed by rotational cutting and clearing on a 3 year basis – as advocated for the fringes of Shackledell. If the pockets can be enlarged enough to accommodate a 10m fringe and grassland within then the same regime as Shackledell should be implemented.

### HABITAT ACTION G7

#### Six Hills Common

These six burial mounds are neutral/acid grassland of considerable age and support a number of plants scarce in Hertfordshire, including Harebell (*Campanula rotundifolia*) and Crested Hair-grass (*Koeleria macrantha*). Changes have been made to the cutting regime over the previous plan period which have led to both beneficial and



negative consequences. These can be addressed by implementing the management below. The main issue with the grassland is that it is not being cut frequently enough on the areas between the mounds leading to nutrient enrichment and the increase of aggressive rank grasses such as False Oat-grass (*Arrhenatherum elatius*). High nutrient levels in these areas are the result of the previous regular cutting of the area without clearing the cuttings. The mounds are low in nutrient due to their slope and soil composition and so have not experienced the same issues. This situation can be addressed by cutting and clearing the flat areas between the mounds in July, and then cutting and clearing both the mounds and the flat areas again in September. This simulates traditional hay-cropping and will lead to an increase in floral diversity. This management regime should be incorporated into the Stevenage Borough Grassland Mowing Plan.

## HABITAT ACTION G8

There is an increasing issue with Ragwort (*Senecio vulgaris*) colonising the site due to the actions of rabbits. They open up the ground with their scratching which allows ragwort to seed into the spaces. This problem has been exacerbated by a late cut and collect and will continue to develop unless addressed. There are several options available. Introducing a hay cut in July will help to prevent the existing ragwort from seeding but will not reduce the number of plants. The rosettes

could be sprayed with a selective herbicide in the spring on an annual basis until the problem is under control. Alternatively the ragwort could be pulled in early July before the hay cut. This may be a suitable task for volunteers which would encourage them to experience and appreciate this fascinating and little known piece of relic grassland in the centre of Stevenage.

## HABITAT ACTION G9

### Whomerley Wood Road Verge

This road verge was designated as a Local Wildlife Site in 2012 in response to changes in management introduced, as a result of recommendations in the previous BAP. It is testament to what can be achieved with targeted conservation action. Seventy two species of plant were discovered during its survey including 12 unimproved grassland indicators such as Common Spotted Orchid (*Dactylorhiza fuchsii*).

The ideal management for this grassland is to simulate traditional hay meadow management. Cut and clear in mid-July and September to create the conditions to maximise floral diversity. This will lead to an increase in floral diversity, particularly if supplemented by the introduction of Yellow Rattle (*Rhinanthus minor*). This plant suppresses grass growth giving flowers a competitive advantage. The floristic enhancement can be further increased by cutting and removing turfs of 1m<sup>2</sup> in the sward and spreading appropriate wildflower seed. Seed should be selected from the component parts of National Vegetation Classification MG5 communities, e.g. Lesser Knapweed (*Centaurea nigra*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's-foot-trefoil (*Lotus corniculatus*), Lady's Bedstraw (*Galium verum*), Field Scabious (*Knautia arvensis*), Cowslip (*Primula veris*) and sown in the autumn.



Injurious weeds such as dock and ragwort should be spot sprayed with a selective herbicide in the spring, at the basal rosette stage, to curtail their spread. Cut 1m<sup>2</sup> turfs within the site and seed with wildflowers.

## HABITAT ACTION G10

### **Stevenage Brook Marsh**

Stevenage Brook Marsh is relatively large area of tall, rank wet grassland interspersed with developing swamp and tall herb fen communities. It is managed by cutting paths through the vegetated areas and offers an attractive and extensive area of early successional vegetation which serves as a buffer and complimentary habitat to the brook. The site is interspersed with trees which add to the diversity of the habitat. Stevenage Brook is a chalk stream, an internationally rare and important habitat. The marsh is particularly important as it

forms part of a wildlife corridor from Knebworth Park to Stevenage Golf Centre. The brook is in good condition and has a thriving community of small fish.



In order to retain the open nature of the brook, regular scrub clearance along its banks is advised.

## HABITAT ACTION G11

Giant Hogweed (*Heracleum mantegazzianum*), Himalayan Balsam (*Impatiens glandulifera*) and Canadian Goldenrod (*Solidago canadensis*) were all noted along the brook and surrounding areas. Treatment with herbicide was seen to be underway and this should be continued. Giant Hogweed seed is known to remain viable for over 20 years therefore a control programme acknowledging this long-term commitment should be developed.

## HABITAT ACTION G12

To increase habitat diversity and prevent inevitable succession to woodland, rotational cutting of the tall herb areas should be introduced. Periodically, areas should be cut and cleared to create a more diverse vegetation structure for the benefit of biodiversity. This is not a complex florally diverse habitat and it would be improved for a greater range of species by initiating some dynamism into the management regime. Aim to cut and clear (remove to a discrete sacrificial area onsite) 20% of the grassland/tall herb areas onsite annually on a rotational basis. If this is not achievable then smaller areas could be selected for this form of rotational clearance.

Ultimately the best option for this site would be to introduce low level grazing. This would achieve similar structural results as the cutting and clearing suggested above but also provide more benefits due to the presence and actions of the cattle. This should be investigated.

## HABITAT ACTION G13

There is an arboretum of relatively recent origin at the west end of the site. This should be thinned to create a more diverse habitat structure and encourage the ground flora to develop.

## HABITAT ACTION G14

Creating more complexity by digging ponds and scrapes within the grassland areas would add more complexity and diversity of habitat for the benefit of biodiversity. Rather than direct resources to the management of these features in a stable state, they should be left to naturally colonise with specialist swamp and riparian vegetation. Instead of regular management, more pools ponds and scrapes should be regularly created to replace them as they succumb to succession. Subject to Environment Agency consent, spoil should be spread thinly around the pond area, not heaped.

Funding may be available from the Environment Agency as part of their Water Framework Directive initiatives.

## HABITAT ACTION G15

At present the brook appears artificially straight. This results in a homogenous riparian habitat which fails to maximise its potential for biodiversity. Consideration should be given to creating meanders or backwaters in the stream to simulate more natural conditions and complexity. Backwaters can be particularly useful as sanctuaries for fish fry. The Environment Agency should be approached as a potential partner to implement these habitat creation suggestions through their Water Framework Directive delivery programme.

## HABITAT ACTION G16

### Poplars Meadow

Unfortunately the meadow has not survived very well in the preceding plan period. Previous records show that it was an extremely diverse grassland but due to a lack of cutting and clearing it is now declining into a species-poor rank grassland site with little evidence of its previous diversity. The site urgently requires the reinstatement of traditional hay meadow management i.e. cutting and clearing in July and September, if it is to reverse the successional process. If this is introduced it may be possible for the site to regain its previous condition over time.



## HABITAT ACTION G17

### St Nicholas Churchyard

This is a churchyard and road verge with varied botanical interest, supporting species-rich neutral grassland over chalk, with hedgerows and trees. The grassland includes a population of Meadow Saxifrage (*Saxifraga granulata*), which has also been recorded along the adjacent road verge. Additional species recorded include Lesser Knapweed (*Centaurea nigra*), Bird's-foot Trefoil (*Lotus corniculatus*), Lady's Smock (*Cardamine pratensis*), Field Wood-rush (*Luzula campestris*), Meadow Buttercup (*Ranunculus acris*) and Bulbous Buttercup (*R. bulbosus*).

It is currently managed by the church but there is potential for this to change in the future. Management has been introduced to increase the floral diversity of the site but unfortunately is not as effective as it could be. Churchyards usually require more complex management to achieve optimum results. Due to many years of cutting and leaving the cuttings they can be unusually rich in nutrients. When cutting is relaxed it can result in an explosion of competitive grasses and herbs

which swamp the vegetation which was being frozen by the continual cutting. The best approach to liberate and encourage the hidden floral diversity is to target the areas with the greatest promise. When these have been located, continue to cut them as before with regular cutting. Relax the cutting for four weeks to correspond with the flowering period of the target species e.g. Knapweed - July, Oxeye Daisy, Birds-foot Trefoil, Lady's Bedstraw - June, Meadow Saxifrage, Lady's Smock - May. When the flowering period has finished, cut and remove the arisings, then return to the regular cutting regime. This will reduce the competition of the dominant grasses, develop the floral interest over time and lead to a more attractive and beneficial result.

## HABITAT ACTION G18

### **Symonds Green Common and Pond**

Symonds Green Common is an old village green now enclosed by housing development and crossed by a small road and footpath. The green consists of an area of semi-improved, rough and somewhat tussocky, neutral to acidic grassland with a wet ditch and small pond. The wet ditch area supports Soft Rush (*Juncus effusus*), Hard Rush (*Juncus inflexus*), and Marsh Foxtail (*Alopecurus geniculatus*). The pond supports a variety of marginal and aquatic plants such as Yellow Flag Iris (*Iris pseudocorouus*) and Reed Sweet-grass (*Glyceria maxima*). The green is surrounded by old hedges including Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Pedunculate Oak (*Quercus robur*) and Ash (*Fraxinus excelsior*).



The grassland is wet and relatively species poor. It is being cut and cleared annually at present. The ideal management for this habitat type is to simulate traditional hay meadow management. This involves cutting and clearing twice a year, in July and September. The lack of diversity of flower species and their abundance in the meadow could be addressed by importing green hay from a nearby Local Wildlife Site with similar underlying conditions. Contact could be made with suitable donor sites via the Local Wildlife Sites partnership at HMWT to explore the possibility. Hay cutting will then need to be coordinated so that green hay can be spread over the receptor site immediately after being taken from the donor site to preserve seed viability.

## HABITAT ACTION G19

### 3.4 Non-designated sites with Improvement Potential

#### 3.4.1 General

As stated in Section 3.1 the Local Grassland Wildlife Sites are unimproved grasslands that have been selected in recognition of their ecological importance. However, there are also some substantial areas of improved or semi-improved grassland in the Borough, which if managed effectively, could increase biodiversity. These fall into two groups:

- i. Green Spaces
- ii. Road-side verges

## 3.4.2 Green Spaces

**“Green open space is a vital component in creating and maintaining a balanced urban environment and is increasingly recognised as an essential “quality of life” resource.**

**“Green space provides a number of functions and benefits within the urban fabric of our towns and cities and offers significant opportunities to develop and enhance the social, recreational, physical and mental health, educational and economic well-being of our community.”**

Green Space Strategy July 2008

Green open space in Stevenage Borough includes both sporting facilities such as football pitches and parkland. Clearly football pitches have been designed to meet specific requirements and therefore there is little or no scope to modify the management regime of these facilities to increase biodiversity. This is also the case with some of the smaller areas of parkland that are just large enough to allow leisure activities to take place. However, large areas of parkland can provide more than enough space for leisure activities such as walking, sport and kite-flying whilst also providing an opportunity to improve the site for wildlife.

The potential for ecological enhancement of Fairlands Park were highlighted in the previous Stevenage BAP. Significant progress has been made in changing the management of areas within the park to create substantial interconnected grassland habitat. This has led to an expansion of this habitat and added interest to the park. The interpretation and Grasshopper Discovery Trail are also significant achievements in the plan period.

The changes in management are enthusiastically welcomed but by fine tuning this and augmenting it with targeted, proactive action, even better results are possible. The principle of creating areas of long grass has now been established, it is a small step to build on these gains to maximise the ecological potential of these areas.

Most of the areas of long grass that were surveyed in the production of this report were species-poor. The previous BAP advised that a review after three years should be undertaken to assess the condition of the grassland creation areas. Observations made during the production of this plan found that the management could be significantly improved to enable the grassland to achieve the desired floristically diverse state.

This can be addressed by altering the management regime to simulate hay meadow management i.e. cutting and clearing twice a year in mid-July and September. This should be augmented by cutting and removing turfs within the sward and seeding with the component parts of National Vegetation Classification MG5 communities, Lesser Knapweed (*Centaurea nigra*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's-foot-trefoil (*Lotus corniculatus*), Lady's Bedstraw (*Galium verum*), Field Scabious (*Knautia*



*arvensis*), Cowslip (*Primula veris*). Yellow Rattle (*Rhinanthus minor*) seed can also be sown into the grasslands in autumn to create better conditions for wildflower establishment. Once Yellow Rattle has been established in one area it can then be harvested and transferred to other sites. These actions above are eminently suitable and rewarding volunteer tasks.

## HABITAT ACTION G20

Road verge management should be similarly reviewed. Opportunities to expand and link further areas of road verge should be explored. Management of these areas should be altered to maximise ecological gains and floral diversity in the manner prescribed above. Include the agreed mowing regime changes in the Stevenage Borough Mowing Plan.

## HABITAT ACTION G21

### 3.4.3 Golf Course

Stevenage Golf Course and its surroundings provide a significant area of grassland. Clearly, the vast majority of the area is the golf course itself, with well-managed fairways and greens. At the moment the mowing regime is extended right up to the boundary hedges, leaving little or no long grass and a corresponding lack of opportunity for plants to flower.



A diverse mixture of grass and flower species combined with a variety of vegetative structure provides an attractive habitat a variety of invertebrates, including butterflies, grasshoppers and crickets, all of which are part of the wider food chain. It is considered that it may be possible to widen the areas of long grass around the margins by up to 2 metres without any detrimental effect to the golf course itself. Also, at the corners of the boundaries, by mowing across the corner instead of into the corner, would provide pockets of tall grassland.

There is also scope for extending the amount of long grass along the tree lines between the fairways.

## HABITAT ACTION G22

It is recommended that an annual Mowing Plan be agreed between the Site Managers and Herts and Middlesex Wildlife Trust (HMWT) to increase the areas of tall grassland. The plan will need to take account of the golfers' desire for a course of appropriate difficulty.

## HABITAT ACTION G23

Implement the mowing plan. Markers may be needed at the start of the season to identify those areas that should not be mown.

## 3.5 Local Nature Reserves

Local Nature Reserves (LNRs) are for both people and wildlife. They are places with wildlife or geological features that are of special interest locally and offer people special opportunities to study or learn about nature or simply enjoy it.

Natural England recommends that LNRs should be:

- a. greater than 2ha in size
- b. capable of being managed with the conservation of nature and/or the maintenance of special opportunities for study, research or enjoyment of nature as the priority concern

and also be either:

- c. of high natural interest in the local context or
- d. of some reasonable interest and of high value in the local context for formal education or research or
- e. of some reasonable natural interest and of high value in the local context for the informal enjoyment of nature by the public

It is recommended that that all the grassland sites listed above are assessed to determine if any are eligible for designation as a Local Nature Reserve.

### HABITAT ACTION G24

## 3.6 Grasslands Habitat Action Plan

The Grasslands Habitat Action Plan is shown in Table 3.2

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
G1	All Grassland Wildlife Sites	Include policies to protect Wildlife Sites and biodiversity within strategic plans. Include the Biodiversity Impact Calculator to protect biodiversity and secure funds to improve LWS through the planning process.	SBC	Publication of Local Plan	Appropriate policies published
G2	Martins Way	Implement changes to mowing regime to maximise ecological potential and floral diversity.	SBC	2017	Grassland Mowing Plan altered to reflect changes
G3	Shackledell Grassland	Cut back scrub to create a 3-5m sinuous fringe of scrub.	SBC	5 year plan to be completed by 2022	Before and after photos
G4	Shackledell Grassland	Alter grass cutting regime to maximise ecological potential and floral diversity.	SBC	Annually	Grassland Mowing Plan altered to reflect changes

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
G5	Shackledell Grassland	Alter grassland management regime for additional grassland areas and increase floral diversity	SBC	Changes to mowing plan 2017. Floral enhancement plan to be completed by 2022	Grassland Mowing Plan issued. Floral enhancement programme implemented
G6	Shackledell Grassland	Introduce regular monitoring programme for Great Green Bush Cricket	SBC	2018	Contact HERC and establish training programme and volunteer group.
G7	Triangular grassland by Fairlands Valley Park	Clear scrub from the site to create a 5m scrub margin and central grassland area.	SBC	5 year clearance plan to be completed by 2022	Before and after pictures demonstrating gains.
G8	Six Hills Common	Change cutting regime to simulate hay meadow management.	SBC	2019	Grassland Mowing Plan changed.
G9	Six Hills Common	Implement Ragwort control programme	SBC	2018	Before and after photos showing decline in Ragwort population.
G10	Whomerley Wood road verge	Change cutting regime to simulate hay meadow management.	SBC	2019	Grassland Mowing Plan changed.
G11	Stevenage Brook Marsh	Annual programme of scrub clearance along the brook to be introduced	Environment Agency	2018	Site management plan altered to reflect changes
G12	Stevenage Brook Marsh	Continue treatment of invasive species	Environment Agency	Annual treatment	Eradication of target species
G13	Stevenage Brook Marsh	Rotational cutting and clearing or grazing introduced to site.	Environment Agency	2018	Site management plan altered to reflect changes
G14	Stevenage Brook Marsh	Thin arboretum – remove 50% trees	Environment Agency	Winter 2018	Before and After Photos

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
G15	Stevenage Brook Marsh	Create a pondscape within the site	Environment Agency	5 year habitat plan to be completed by 2022	20 ponds/scrapes created
G16	Stevenage Brook Marsh	Introduce meanders and backwaters to the Stevenage Brook	Environment Agency	2022	Backwaters and meanders created
G17	Poplars Meadow	Re-establish hay meadow management	SBC	2018	Grassland mowing plan altered and management introduced.
G18	St Nicholas Churchyard	Amend grassland management regime	SBC	2019	Management changed to reflect advice
G19	Symonds Green Common	Cut and clear twice a year and spread green hay from suitable sites	SBC	2018	Change management regime, spread green hay
G20	Fairlands Valley Park	Amend management regime of grassland areas to increase ecological gain. Expand grassland management for wildlife into more parks.	SBC	2017	Change and implement management regimes
G21	Roadside Grass Verges	Change management of wildflower grassland. Expand into more sites.	SBC	2019	Change and implement management regimes and introduce to more sites
G22	Stevenage golf course	Approach golf course managers and ask if they could increase the amount of long grass on the golf course.	SBC	2018	More rough grass areas due to changes in management
G23	Stevenage golf course	Encourage golf course managers to approach HMWT to help them produce an annual mowing plan.	SBC	2018	Annual mowing plan for wildlife produced and implemented.
G24	Local Nature Reserves	Assess if grassland sites are eligible for Local Nature Reserve status	SBC	2018	Designate grassland as LNR if desirable.

## Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Grassland Habitat Plan

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria	Achieved
G1	All Grassland Wildlife Sites	Include policies to protect Wildlife Sites within the Local Development Framework and other strategic plans	SBC	Publication of Local Development Framework	Appropriate policies published	Yes
G2	Fishers Green Meadow	Cut back bramble to an agreed line.	SBC	Annually	Before and after photos	No
G3	Martins Way	Include the agreed mowing regime for the site in the Stevenage Borough Grassland Mowing Plan.	SBC	December 2010	Grassland Mowing Plan issued	Scrub removed from site in 2013 and 2015
G4	Shackledell Grassland	Cut back perimeter scrub to an agreed line.	SBC	Annually	Before and after photos	Ongoing reduction in scrub
G5	Shackledell Grassland	Include the agreed mowing regime for the site in the Stevenage Borough Grassland Mowing Plan.	SBC	December 2010	Grassland Mowing Plan issued	Scrub removal and cutting regime initiated.
G6	Shackledell Grassland	Cut a corridor through the scrub on the western boundary to link to a new area of grassland on Fairlands Valley Park (see Section 3.4.2 and Habitat Action G12)	SBC	December 2011	Before and after photos	Yes
G7	Shackledell Grassland	Designate Shackledell Grassland as a Grasshopper Sanctuary and create a Grasshopper Discovery Trail.	SBC	May 2013	Sanctuary Opened	Yes
G8	Six Hills Common	Include the agreed mowing regime for the site in the Stevenage Borough Grassland Mowing Plan	SBC	December 2010	Grassland Mowing Plan issued	Yes

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria	Achieved
G9	Elder Way Flood Meadows	Clear litter from the site	Site Owner	Annually	Before and after photos	No
G10	Stevenage Brook Marsh	Remove scrub from grassland	SBC	Annually	Before and after photos	No
G11	Stevenage Brook Marsh	Clear rubbish from brook	SBC	Annually	Before and after photos	No
G12	Fairlands Valley Park	Set aside a broad band of grassland for conversion into hay meadow, stretching from north to south.	SBC	December 2011	Site Plan Prepared	Yes
G13	Fairlands Valley Park Southern Sector	Plant a hedge of Hawthorn, Blackthorn and Buckthorn along the western boundary of the hay meadow to provide shelter to the site from the prevailing westerly wind.	SBC	December 2011	Before and After Photos	Yes
G14	Fairlands Valley Park Southern Sector	Include the agreed mowing regime for the new hay meadow in the Stevenage Borough Grassland Mowing Plan.	SBC	December 2011	Grassland Mowing Plan issued	Yes
G15	Fairlands Valley Park Southern Sector	Monitor the new hay meadow area in the first year and then biannually for the key indicator species.	SBC	Biannually	Results Issued	Survey led to area being included as an extension to Shackledell LWS
G16	Fairlands Valley Park	Set up a Grasshopper Trail from the car park to Shackledell Grassland.	SBC	May 2013	Trail Opened	Yes

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria	Achieved
G17	Fairlands Valley Park Southern Sector	Assess new hay meadow in year three and if too dense, inoculate with Yellow Rattle.	SBC	2014	Photos	Survey led to area being included as an extension to Shackledell LWS. Yellow rattle not introduced.
G18	Fairlands Valley Park Southern Sector	Extend the hay meadow band along the entire eastern boundary, past the lakes, and right up to the northern end of Fairlands.	SBC	December 2012	Site Plan Prepared	Yes
G19	Fairlands Valley Park Southern Sector	Include the agreed mowing regime for the extended hay meadow in the Stevenage Borough Grassland Mowing Plan.	SBC	December 2012	Grassland Mowing Plan issued	Yes
G20	Fairlands Valley Park Southern Sector	Assess extended hay meadow in year three and if too dense, inoculate with Yellow Rattle.	SBC	2015	Photos	No
G21	Roadside Grass Verges	Consider opportunities for some grass verges in the Borough for conversion into hay meadow habitat	SBC	December 2010	Selection Published	Yes
G22	Roadside Grass Verges	Agree a mowing regime for each verge and include in the Stevenage Borough Grassland Mowing Plan.	SBC	December 2011	Grassland Mowing Plan Issued	Yes
G23	Roadside Grass Verges	Monitor each of the verges in the first year and then biannually for the key indicator species.	SBC	Biannually	Results Issued	Butterfly surveys of some verges achieved.
G24	Roadside Grass Verges	Carry out a flora survey on each of the grass verges.	SBC	Biannually	Results Issued	Yes surveys undertaken in 2011, 2012 and 2013

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria	Achieved
G25	Roadside Grass Verges	Assess success in year three and identify further areas for verge meadows	SBC	2014	Grassland Mowing Plan Updated	No
G26	Stevenage Golf Course	Site Managers and HMWT to consider a Mowing Plan to increase the area of natural grassland without detracting from the requirements of the golf course.	Site Managers HMWT	December 2010	Mowing Plan Issued	No
G27	Stevenage Golf Course	Implement Mowing Plan	Site Managers	Annually	Before and After Photos	No
G28	All	Assess all grassland sites to determine if any are eligible for designation as a Local Nature Reserve	SBC	December 2010	Issue recommendations	No

# 4. WOODLANDS HABITAT ACTION PLAN

## 4.1 General

Woodlands, as the natural vegetation cover of most of the UK, are our richest wildlife habitats. They often contain the greatest numbers, as well as many of our rarest and most threatened species. Woodlands are important for most forms of wildlife, from trees and shrubs to mosses, lichens and fungi, and from mammals and birds to beetles, slugs and moths.

Woodlands are an important element in the natural environment of the Borough of Stevenage. They provide opportunities for recreation, are a valued component of the landscape, an essential habitat for wildlife, provide employment and are an effective means of absorbing carbon dioxide from the atmosphere. Many woodland blocks in Stevenage are identified as being 'ancient woodland' (that which has been in existence since at least 1600) and are described as 'semi-natural' because the woodlands have received past management. These represent the most important woodland habitats for wildlife, sometimes containing species of local and regional rarity. It is highly unusual to find so much ancient woodland in an urban environment and they are a wonderful resource for the borough. The majority of woods are comprised of broad-leaved species, although some elements of coniferous plantations exist, the result of historical forestry planting for wood production rather than biodiversity.

The woodland type characteristically found in Stevenage is the Oak and Hornbeam stand type with Bluebell dominant in the ground flora. This woodland type has been identified as being internationally important in the EU Habitats Directive. Typical tree species found locally include Pedunculate Oak, Hornbeam, Beech, Ash, Wild Cherry, Silver Birch, Alder and Willows. Locally found shrubs include Hazel, Field Maple, Hawthorn, Dogwood, and Holly. Additionally, in Stevenage, a range of planted exotic trees can be found in some woodland, including Corsican Pine, Western Hemlock and Western Red Cedar.

Important wildlife associated with Stevenage woodlands is diverse, including animals such as Badger, Fox, Hedgehog, Yellow-necked and Wood Mice, Pygmy Shrew, bats, and amphibians. Dormouse was previously recorded in Monk's and Whomerley Woods. Birds such as Green Woodpecker, Greater Spotted Woodpecker, Lesser Spotted Woodpecker, Treecreeper, Nuthatch, Song Thrush, Bullfinch, Marsh Tit and Tawny Owl can also be found in this habitat. A variety of invertebrates are also present, along with important fungi and epiphytes (mosses, liverworts and lichens).

A good diversity of woodland ground flora includes native Bluebell, Wood Anemone, Yellow Archangel, Sanicle and Wood Mellick. Past records of rarities include Bird's-nest and Early Purple Orchids, and Violet Helleborine.

In Stevenage, there exists around 130 hectares of woodland, which includes semi-natural broad-leaved, planted broad-leaved, planted coniferous, planted mixed woodlands and parkland. This represents around 5% of the Borough, somewhat lower than county and national averages. However, given the urban perception of Stevenage town, this is a considerable natural resource. Around 54 hectares is defined as 'ancient woodland' (from Natural England's Ancient Woodland Inventory).

Rather than comprising of a few relatively large woodlands, the Borough of Stevenage has many small woodland blocks. As a result, the woodlands exhibit a large 'edge-effect' – a large amount

of edges, compared to their size. Whilst this may benefit feeding birds and bats, a large length of exposed edge mean that the woodlands are more affected by the adjacent land use. In many cases in Stevenage, adjacent land may have a negative effect on the woodland. For example, in a number of locations where houses back onto woodlands it was seen that the woods were used for dumping of garden and household waste. Garden waste has resulted in the establishment of no-native plants in some woodlands, including invasive and hybrid bluebells which pose a threat to our native Bluebells.

## 4.2 Overall Objectives

### **To conserve and enhance Stevenage's woodlands. To develop and maintain an appropriate structure within the woodlands to optimise their value for wildlife and people.**

Woodlands form the majority of the wildlife habitat in Stevenage Borough. Most of these woodlands, especially those designated as Local Wildlife Sites, are of ancient semi-natural woodland. Good quality ancient semi-natural woodland, not only contains a diverse mix of trees, shrubs, flowers and lower plants, but will also have a varied structure, with a mature canopy, areas of dense shrub layer and open glades or paths. A diverse structure provides more habitats for a wider range of species, including plants, birds and invertebrates.

A high quality ancient woodland will also have a large amount of both fallen and standing dead wood. These each provide habitat for their own wide-ranging community of saproxylic species (dead wood feeding and decomposing organisms) and allow the natural processes of decay and nutrient recycling to occur. Other important habitat features found in woodlands include streams and ponds, with those in woodlands often having their own unique assemblage of associated species and often retaining a relatively natural structure and hydrology.

Perhaps the largest threat to the woodlands of Stevenage Borough is their small size and isolation. Of the 22 woodland Local Wildlife Sites, 86% have an area of less than 5ha with 36% having an area of less than 1ha. The generally small woodland size and the isolation resulting from the loss of connections between semi-natural woodlands and grasslands in the wider countryside, has resulted in populations of characteristic woodland flora and fauna becoming confined to particular sites. Such isolation increases the chances of small populations becoming locally extinct, in response to local factors such as woodland management, introduction of invasive species, population fluctuations or wider issues such as climate change as a result of global warming. Once extinct, they are then unlikely to recolonise from other sites.

At present the woodlands surveyed in the making of this plan are lacking in diversity of structure which limits their ecological potential. They are generally dense, dark and shaded environments with homogenous tree cover and few openings in the canopy. This lack of structural diversity is often exacerbated in small woodlands, where a range of successional stages may not be represented continuously. The spectrum of natural growth phases from open glades to over-mature woodland and dead wood typically found within natural forests is often missing in small woodlands. This may result in the loss of suitable habitat conditions for plants and animals with specialised requirements, which may then become locally extinct. The species which are most vulnerable to this threat are those less mobile species and those associated with open glades or old veteran trees and dead wood.

A major objective should therefore be to introduce dynamism into the woodlands by a combination of thinning, glade creation, ride creation, ride management, coppicing, dead wood retention and tree felling. This will let light into the woodland floor, stimulating the ancient woodland ground flora, restoring and creating wildlife corridors between the woodland compartments. A dynamic and diverse structure within the woodlands will greatly improve the biodiversity of the woodlands by enabling the species that depend on all stages of the woodland successional process to flourish.

## 4.3 Wildlife Sites

Of the 37 Local Wildlife Sites in the Borough, 23 are woodland sites (see Table 4.1).

Wildlife site ref.	Name of site	Site area (ha)	Description
21/018	Margaret's Wood, Todd's Green *	3.84	Ancient semi-natural broad-leaved woodland with reasonable flora bisected by railway. The section south of the railway is composed mainly of Hornbeam coppice with Oak and Hornbeam standards and some Hazel coppice. The section north of railway may have been formerly Oak over Hazel coppice but is currently densely overgrown with Blackthorn and Hawthorn scrub.
21/024	Whitney Wood *	4.66	Ancient semi-natural woodland on the northern edge of Stevenage surrounded by urban development. It comprises a sizeable block of Oak/Hornbeam woodland that was formerly managed as coppice with standards. The stand is now Oak and tall Hornbeams with a scattered Hawthorn/Elder shrub layer. There are relic populations of several plants associated with old undisturbed woodland. Two large ponds add habitat diversity to the wood. A small southerly extension is linked to the main wood by a wide road verge of retained coppice. It includes a few large Oak standards and Hornbeam coppice. Subject to significant dumping of soil and rubble through the wood in March 2009.
21/047	Whitney Drive Wood	0.42	Small fragment of ancient semi-natural Hornbeam coppice woodland with large Oak standards. Formerly part of Whitney Wood. A diverse flora for a small wood includes a good number of ancient woodland indicator species.
21/048	Almond Spring	0.71	Fragment of ancient semi-natural Oak/Hornbeam woodland with Hornbeam, Cherry and Oak remnants mainly around the edges. The central area has been planted with Beech and some Pine. The ground flora is sparse but supports a small number of indicator species.
21/049	Fishers Green Wood	1.08	Pedunculate Oak-Hornbeam woodland, predominantly Hornbeam coppice with Oak, Ash and Cherry standards with some Field Maple coppice along the boundary. The ground flora is typical of ancient woodland with abundant Bluebells. There are remnants of banks on either side.

Wildlife site ref.	Name of site	Site area (ha)	Description
22/002	Sishes Wood	1.47	Ancient Oak/Hornbeam woodland with mainly mature Oak tree standards and sparse Hornbeam coppice. The Oaks are for the most part aligned in rows suggesting that the wood is an old plantation on an ancient woodland coppice site.
22/004	Martin's Wood	3.67	Mixed woodland with some ancient coppice in close proximity to housing estate. Former ancient Oak/Hornbeam coppice. Some Oak and Hornbeam standards remain but the wood has largely been replanted with Scots Pine and Beech. There is a Hornbeam hedge around the margin.
22/005	Wellfield Wood	4.76	Mixed plantation surrounded by housing and next to the new industrial area. Ancient semi-natural Oak/Hornbeam coppice woodland replanted with mainly Beech, Sycamore, Birch, Fir, Poplars and Field Maple. The ground flora supports typical ancient woodland indicators dominated by Bluebells and there is a ditch and hedge around the woodland boundaries.
22/041	Hanginghill Wood	0.97	Ancient semi-natural Oak/Hornbeam coppiced woodland fragment. The canopy is typically Cherry, Hornbeam, Ash and Oak with patches of young Beech. The sub canopy is mainly Hawthorn, Hazel and Elder with coppices of Hornbeam and Ash and several old rotting coppice stools. There is much dead wood and several fine old standards of Cherry and Hornbeam. The ground flora is typically Bluebells, Bramble and Cow Parsley but includes Sanicle and Wood Melick.
29/021	Watery Grove *		Information confidential
29/034	Monk's Wood West	1.19	Thin strip of ancient semi-natural Oak/Hornbeam coppice woodland (originally part of Monk's Wood) located on the west side of Monkswood Way Road. The woodland supports plant species and a structure indicative of ancient woodland
29/038	Broadwater Marsh	0.78	A wet wood in an urban area with an undegraded spring in the corner supporting three fen indicator species including clumps of Tussock Sedge.
29/039	Warren Springs *	0.31	A fragment of ancient semi-natural Oak/Hornbeam woodland adjacent to the old London Road. The woodland consists of overgrown Hornbeam coppice with a sparse under storey of Elder. There are a few Oak standards and some Cherry. At the south end there is some Field maple. The ground flora supports ancient woodland indicators including Bluebells and Dog Mercury. The site is locally important in that it contains the only site within Stevenage for Moschatel.

Wildlife site ref.	Name of site	Site area (ha)	Description
29/040	Monk's and Whomerley Woods	25.29	Ancient Oak/Hornbeam woodland on decalcified boulder clays containing a large moated site and other earthworks. The woodland comprises neglected Hornbeam coppice with scattered Pedunculate Oak, Ash and Field Maple with Hazel, Dogwood, Holly, and Guelder Rose in the shrub layer. The ground flora typically contains Bramble, Dog's Mercury, Bluebell and Wood Anemone. Extensive areas have been converted to mixed, conifer and broad-leaved plantation. The ponds are inhabited by three amphibian species including Great Crested Newts. The varied animal life included Yellow-necked Mouse, Pygmy Shrew and past records of Common Dormouse.
30/002	Loves Wood	2.66	Small area of ancient semi-natural Oak/Hornbeam woodland on the west side of Shephall Way Road. A large part has been cleared and some Oak and Ash replanted. The southern section comprises a Silver Fir plantation with some regeneration of coppice. The wood supports a number of ancient woodland indicator species and once formed a larger woodland along with Ridlins Wood.
30/003	Ridlins Wood	7.22	Ridlins Wood is an ancient woodland site, which has been substantially replanted in the past. The stand type is Oak/Hornbeam with Ash and Field Maple. The semi-natural habitat survives as overgrown Hornbeam Coppice in patches between semi-mature plantation of Scots Pine and Larch. Some Beech is also present in the plantations. The ground flora supports a good range of ancient woodland indicators and Bird's-nest Orchid has been recorded.
30/028	Ashtree Wood and Abbots Grove	7.75	Ancient semi-natural coppiced woodland composed of Hornbeam, Oak, Ash, Hazel, Cherry and Field Maple. The central areas have been replanted with species such as Beech, Cedar and Pine. The ground flora supports ancient woodland indicators with a greater diversity of species associated with the semi-natural canopy along the edges. Bluebells and Dog's Mercury are abundant. There are some boundary coppice stubs and small wood banks within the wood.
30/041	Marymead Spring	0.98	Wet deciduous Hornbeam/Alder woodland with spring sources surrounded by housing. The ground flora indicator species such as Bluebells and Wood Anemones. Wet woodland indicator species are also present.

Wildlife site ref.	Name of site	Site area (ha)	Description
30/043	Great Collens Wood	4.30	Ancient semi-natural broadleaf woodland replanted in places. The canopy is predominantly Hornbeam coppice with Ash, Cherry and Field Maple with a ground cover of Bramble, Bluebell and Dog's Mercury. The middle and southern sections have been replanted with Oak, Ash and Pine. Remnant standards and coppice can be found along the woodland edge in the replanted compartments.
30/045	Pestcotts Spring and Wood	3.12	Ancient semi-natural woodland substantially altered by blanket planting throughout the wood except at the very edges and to the far north. The main canopy supports planted Larch, Beech and some Cherry with occasional Hornbeam and Ash. The ground flora supports a number of ancient woodland indicators with Bluebells dominant in the Spring. The semi-natural canopy consists of Hornbeam coppice and standards plus some Ash standards and Cherry.
30/046	Blacknells Spring	0.63	Thin strip of scrubby, ancient semi-natural woodland with a canopy typically of Hornbeam, Ash, Field Maple and Hawthorn. The ground flora supports wood grasses, Bramble, Bluebell and Yellow Archangel.
30/047	Wiltshire's Spring	0.76	Small remnant of ancient semi-natural woodland with a canopy of old Hornbeam coppice with Ash, Field Maple, and Hawthorn. A section of the wood to the west has been under planted with Beech and Scots Pine. The ground flora supports wood grasses, Bramble, Bluebell and Yellow Archangel.
30/051	Valley Way Wood	2.67	Planted mixed woodland with Oak, Larch and scrub supporting a number of plant species and structural features indicative of ancient woodland. The ground flora is dominated by Bramble and Bluebells.

\* Not owned by Stevenage Borough

It is recommended that SBC include appropriate policies within the Local Plan and other strategic documents to protect all woodland Local Wildlife Sites from damage through development.

## HABITAT ACTION Wo1

The woodlands of the borough are currently almost universally dense, dark and lacking in structure or dynamism. This condition significantly restricts their potential for wildlife. To improve their value for biodiversity and people they would benefit from a substantial programme of conservation work such as thinning, ride creation, glade creation, removal of non-native tree species and coppicing. If the woodland resource is considered in the whole it could provide an attractive proposition for a woodland contractor to harvest, provided that that harvesting was to an agreed plan and primarily to benefit biodiversity. This represents the most financially viable mechanism to realise the conservation aims of this document in times of restricted public funds. If managed correctly a considerable amount of structural work could be undertaken at no cost to the authority or possibly even generating funds. The produce could even be sold locally to residents, developing a sustainable, local, low carbon source of green energy for the town.

In a change to the previous BAP, all woodlands and their management priorities have been considered. These prescriptions could potentially inform wildlife conservation and habitat creation through a timber extraction agreement. The management advice is broadly similar for most of the woodlands due to their similarity. These principles should therefore be drawn up into a five year plan and personalised for each woodland.

### Sishes Wood

Sishes Wood has better structure than most of the woodlands and shows signs of being recently managed. In common with other woodlands in the town it lacks light penetrating to the woodland floor and structure i.e. different conditions of light and sizes of tree. Where this does occur e.g. above right, more complex woodland vegetation has developed. It lacks rides or glades, and has a notable population of non-natives e.g. Cherry Laurel. The following management actions are recommended:

- Remove Cherry Laurel and treat stumps with herbicide to prevent regrowth (above left).
- Remove all non-native invasive species.
- Remove conifers.
- Reinstate coppicing in sinuous strips rather than big coupes.
- Coppice younger Hornbeam, leave oldest stools.
- Control Holly by regularly cutting back.
- Create wide central, sinuous ride through coppicing and felling trees of small diameter.
- Subject to safety considerations, leave all large trees to mature and senesce.
- Thin Sycamore copse on the south side of the wood by 50% and introduce coppicing.



Cherry Laurel



Developing understory

- Create glades and wide central ride in south side of woodland.
- Install interpretation boards or an electronic guide to the Stevenage Woodlands.
- Create a friends group to undertake management.

## HABITAT ACTION W02

### Martin's Wood

Martins Wood is also characterised by dense homogenous regrowth with little structural diversity. It would benefit from a similar management prescription.

- Remove conifers.
- Remove all non-native invasive species.
- Reinstate coppicing in sinuous strips rather than big coupes.
- Coppice younger Hornbeam, leave oldest stools.
- Control Holly by regularly cutting back.
- Create wide central, sinuous rides through coppicing and felling trees of small diameter.
- Subject to safety considerations, leave all large trees to mature and senesce.
- Thin the woodland to create keyholes through which light can penetrate.
- Install interpretation boards or an electronic guide to the Stevenage Woodlands.
- Create a friends group to undertake management.



Dense homogenous regrowth

## HABITAT ACTION W03

### Monk's Wood West

Monk's Wood West is a thin strip of woodland adjacent to the Roaring Meg Retail Park and is a remnant of the larger block of woodland to the east. It is dominated by old Hornbeam coppice.

The woodland would benefit from rotational coppicing to create more structural diversity, stimulate the ground flora. The Hornbeam would make excellent logs for firewood.

## HABITAT ACTION W04



### **Broadwater Marsh**

Broadwater Marsh is a small, steeply sloping secondary woodland. The difficulty of access, size, good structure and the relatively young age of the woodland means that management is not considered to be a priority on this site. It should be allowed to develop as a non-intervention woodland.

### **HABITAT ACTION Wo5**

### **Warren Springs**

Warren Springs is a small triangular wood sandwiched between the B197 London Road adjacent to the Roaring Meg Retail Park and a business unit next to the railway. The site is important in that it is the only site in Stevenage Borough where Moschatel (pictured), a scarce Hertfordshire flower, can be found.

Rotational coppicing of the Hornbeam and regular removal of litter is advised. The installation of a netting fence would prevent fly tipping from the car park and prevent litter blowing into the woodland.

### **HABITAT ACTION Wo6**

### **Monk's and Whomerley Woods**

Monk's and Whomerley Wood is the largest (25.29ha) example of ancient Oak and Hornbeam woodland in Stevenage Borough. It has benefitted from clearance and management works conducted during the period of the previous BAP by local conservation volunteers. This work ably demonstrates the kind of management that would significantly improve the majority of the Stevenage woodlands for wildlife if applied more widely. The picture below demonstrates the beneficial impact creating rides and glades has had on the ground flora. More of this work is required.

Away from the worked areas, the woodland displays the familiar character of dark homogenous planted blocks or over-stood coppice with little diversity, structure or light penetrating to the floor. The work undertaken to open up the wood demonstrates what can be achieved through this form of management. It should be expanded more aggressively into the rest of the wood and into others. Harvesting the wood through the use of a forestry contractor could be the best way of achieving this and should be explored. The scale of the work required to fully optimise the wood for wildlife is such that it is considered to be beyond the scope of small volunteer groups although they will continue to have a role to play.

However the importance of the input of volunteers should not be underestimated, both for conservation benefit and to develop groups of residents with an emotional attachment to this environment. The future condition of the woodland requires that residents are knowledgeable and well informed about what beneficial management looks like and care that it is undertaken. The development of conservation volunteers who want to work on the woodland is a major achievement of the previous BAP. There will always be tasks for volunteers to get involved with such as ride management, coppicing, hedgelaying, glade creation or bat and bird box making. The woodland interpretation and discovery trail that has been installed over the previous plan period provides an excellent resource for residents.



Moschatel

The following management is recommended for the woodland.

- Remove conifers.
- Remove all non-native invasive species.
- Reinstate coppicing in sinuous strips rather than big coupes.
- Coppice younger Hornbeam, leave oldest stools.
- Control Holly by regularly cutting back.
- Create a network of wide, sinuous rides through the woodland based on existing desire lines. Rides should be a minimum of 10m wide – 20m if possible.
- Leave all large native trees to mature and senesce.
- Where safe to do so, leave standing deadwood wherever safe to do so.
- Thin woodland extensively to let light into woodland floor.
- Create glades through coppicing, link to ride network when possible.
- Eradicate invasive Lesser Periwinkle.
- Block some ditches to retain water in the woodland and create diversity of ground conditions.
- Formalise aims by producing a conservation management plan for the woodland.
- Install interpretation boards or a guide to the Stevenage Woodlands electronic guide.
- Create a friends group to undertake management.
- Make and install bird and bat boxes (Kent bat boxes) and monitor use in conjunction with local bird and bat groups.



## HABITAT ACTION W07

### **Wiltshire's Spring**

Wiltshire's Spring is a small woodland to the south of the Fairland's Valley Boating Lake. It is recommended that the conifers are removed and that it is thinned where it is too dense and little light penetrates to the woodland floor.

## HABITAT ACTION W08



### Fisher's Green Wood

Fisher's Green Wood is a surprisingly diverse thin strip of woodland with a well-developed ground flora. It consists largely of Hornbeam coppice and would benefit from the reintroduction of rotational coppicing. Only younger stools should be coppiced to reduce the risk of killing ancient stools. If they have been out of rotation for many years they may lack the vigour to send out sufficient new growth to sustain the tree, particularly if compromised by deer browsing.

#### HABITAT ACTION W09



Complex structure and prominent ground layer

### Marymead Spring

This wet woodland is relatively young in origin as evidenced by the ground flora present. It should be a low priority for management but would benefit from introducing step weirs or terracing to the water course to hold back water, create small pools and wet areas subject to consent from the Environment Agency. These do not have to be complicated structures and could be created by volunteer groups.

#### HABITAT ACTION W010



### Ashtree Wood and Abbots Grove

Ancient semi natural woodland that has been extensively re-planted resulting in dense, dark understorey, little ground flora and homogenous structure. It would benefit from a similar prescription as recommended for other woodlands.

- Remove conifers.
- Remove all non-native invasive species.
- Reinstate coppicing in sinuous strips rather than big coupes.
- Coppice younger Hornbeam, leave oldest stools.
- Control Holly by regularly cutting back.
- Create a network of wide, sinuous rides through the woodland based on existing desire lines. Rides should be a minimum of 10m wide – 20m if possible.
- Where safe to do so, leave all large native trees to mature and senesce.
- Leave standing deadwood wherever safe to do so.
- Thin woodland extensively to let light into woodland floor.
- Create glades through coppicing, link to ride network when possible.
- Formalise aims by producing a conservation management plan for the woodland.
- Install interpretation boards or an electronic guide to the Stevenage Woodlands.
- Create a friends group to undertake management

#### HABITAT ACTION W011



Dense young planting with little ground flora diversity

### **Pestcotts Spring and Wood**

Extensively and densely replanted semi natural ancient woodland which would benefit from similar management as other woodlands.

- Remove conifers.
- Reinstate coppicing in sinuous strips rather than big coupes.
- Do not re-coppice oldest Hornbeam stools, particularly ancient boundary trees.
- Control Holly by regularly cutting back.
- Remove all non-native invasive species.
- Create a network of wide, sinuous rides through the woodland based on existing desire lines. Rides should be a minimum of 10m wide – 20m if possible.
- Where safe to do so, leave all large native trees to mature and senesce.
- Leave standing deadwood wherever safe to do so.
- Thin woodland extensively to let light into woodland floor.
- Create glades through coppicing, link to ride network when possible.
- Formalise aims by producing a conservation management plan for the woodland.
- Install interpretation boards or an electronic guide to the Stevenage Woodlands.
- Create a friends group to undertake management.



Woodland glade with associated complexity



Example of dark ride

### **HABITAT ACTION W012**

#### **Great Collens Wood**

Ancient semi natural woodland extensively replanted. Management prescription similar to other woodlands e.g. Pestcotts Spring

### **HABITAT ACTION W013**



Dense internal planting on the left and remnant exterior coppice with standards on right

### **Hanging Hill Wood**

Hanging Hill Wood has comparatively more diverse structure and ground flora than many other woodlands. Its small sized allows light to penetrate from the sides which stimulates the edges of the wood. It would also benefit from a similar prescription to other woodlands.

HABITAT ACTION Wo14



The installation of a Tawny Owl is a welcome addition to the woodland and could be reproduced in other woodlands. Habitat management as described above would benefit this species by providing more habitat for small mammal prey.

HABITAT ACTION Wo15



### **Wellfield Wood**

Dense single aged forestry planting and little understorey. Dark rides visible but with two Hornbeam standards in the foreground that should be retained.

Wellfield Wood is another woodland that would benefit from a similar prescription to those above. Due to its wet nature it would also benefit from creating woodland ponds within it.

HABITAT ACTION Wo16



### **Blacknells Spring**

Thin strip of remnant ancient woodland which is compromised in terms of habitat quality by its width and proximity to housing. Dumping of garden waste and other material evident. A lower priority woodland for intervention. Remove garden waste and dumped material.

HABITAT ACTION Wo17



### **Ridlins Wood**

This woodland together with Monk's and Whomerley Wood has the highest potential for improvement. Where gaps in the canopy allow, an interesting ancient woodland ground flora develops and it has more complex hydrological variations than most of the other woodlands. It is also densely planted and would benefit greatly from the application of the prescriptions described above. The greatest rewards are likely to be achieved in terms of ecological enhancement from prioritising this site along with Monks and Whomerley Woods.

#### **HABITAT ACTION W018**



Dense plantation understory inhibiting ground flora.

### **Almond Spring**

Small urban woodland which would benefit from the general woodland management prescription but lower priority due to size and condition.

#### **HABITAT ACTION W019**



Create ride along desire line and control Holly.

### **Whitney Drive Wood**

Small urban woodland which would benefit from general woodland management prescription but lower priority due to size and condition.

Hornbeam coppice which could provide a source of firewood which could fund beneficial management.

#### **HABITAT ACTION W020**

### **Valley Way Wood**

Another small semi natural woodland which has been densely planted in the past. Would benefit from improving structure and eradication of non-native species as per general woodland management prescription.

#### **HABITAT ACTION W021**



### Loves Wood

This woodland would benefit from removal of conifers and thinning as per general woodland together with ride creation and reinstatement of coppicing.

### HABITAT ACTION Wo22

Margaret's Wood, Todd's Green and Whitney Wood were not surveyed because they are not owned or managed by SBC.



Dense conifer plot

### Litter and Fly Tipping

Many of the woods are used extensively by the public and can accumulate a considerable amount of litter. Also, those woods adjacent to housing estates are often subjected to fly tipping. All woods should be inspected regularly and litter and fly tipping removed as necessary.

### HABITAT ACTION Wo23

## 4.4 Non-designated Sites with Improvement Potential

No other sites were identified with improvement potential.

## 4.5 Local Nature Reserves

Local Nature Reserves (LNRs) are for both people and wildlife. They are places with wildlife or geological features that are of special interest locally and offer people special opportunities to study or learn about nature or simply enjoy it.

Natural England recommends that LNRs should be:

- a. greater than 2ha in size
- b. capable of being managed with the conservation of nature and/or the maintenance of special opportunities for study, research or enjoyment of nature as the priority concern

and also be either:

- c. of high natural interest in the local context or
- d. of some reasonable interest and of high value in the local context for formal education or research or
- e. of some reasonable natural interest and of high value in the local context for the informal enjoyment of nature by the public

### HABITAT ACTION Wo24

It is recommended that that all the woodland sites listed above are assessed to determine if any are eligible for designation as a Local Nature Reserve.

## 4.6 Woodlands Habitat Action Plan

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
Wo1	All Woodland Wildlife Sites	Include policies in Local Development Framework to ensure protection of woodland wildlife sites	SBC	Publication of Local Plan	Appropriate policies published
Wo2	Sishes Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo3	Martin's Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo4	Monk's Wood West	Rotationally re-coppice Hornbeam over a 10 year period	Privately Owned	2019	All stools re-coppiced by 2027
Wo5	Broadwater Marsh	No intervention, natural succession	SBC	N/a	N/a
Wo6	Warren Springs	Rotationally re-coppice Hornbeam over a 10 year period. Install fence	SBC	2017 and 2027	All stools re-coppiced by 2027
Wo7	Monk's and Whomerley Woods	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
Wo8	Wiltshire's Spring	Thin plantation and re-coppice	SBC	5 year plan	Plan issued and initiated
Wo9	Fishers Green Wood	Rotationally re-coppice Hornbeam over a 10 year period	SBC	2027	All stools re-coppiced by 2027
Wo10	Marymead Spring	Introduce step weirs and terracing to create pools and hold back water	SBC	2019	Water retention features created
Wo11	Ashtree Wood and Abbotts Grove	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo12	Pestcotts Spring and Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo13	Great Collens Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
Wo14	Hanging Hill Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo15	All Woodland	Tawny Owl boxes erected in all suitable woodland	SBC	2022	Boxes in all woodlands of sufficient size
Wo16	Wellfield Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo17	Blacknell's Spring	Clear dumped material	SBC	2017	Material cleared from the wood
Wo18	Ridlins Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo19	Almond Spring	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
Wo20	Whitney Drive Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo21	Valley Way Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo22	Loves Wood	Implement management to improve structural diversity of woodland via directed harvesting for firewood. Recruit volunteers to conduct less commercial conservation activities on an annual basis. Introduce dynamism into the woodland ecosystem.	SBC	5 year plan	Plan issued and initiated
Wo23	All woods	All woods should be inspected regularly and litter and fly tipping removed as necessary.	SBC	Annually	Before and after photos
Wo24	All	Assess all woodland sites to determine if any are eligible for designation as a LNR	SBC	2018	Issue Recommendations

## Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Woodland Habitat Plan

Action No.	Site	Action	By Whom (TBA)	Success Criteria	Achieved
Wo1	All Woodland Wildlife Sites	Include policies in Local Development Framework to ensure protection of woodland wildlife sites	SBC	Appropriate policies published	Yes
Wo2	Sishes Wood	Remove holly and laurel from wood	SBC	Before and after photos	Yes, partial 2012, 2015, 2016
Wo3	Martin's Wood	Remove holly from wood	SBC	Before and after photos	Yes, partial 2012
Wo4	Monk's Wood West	Re-coppice Hornbeam over a five year period	Privately Owned	Before and after photos	No
Wo5	Monk's Wood West	Repair fence	Privately Owned	Before and after photos	Yes 2012
Wo6	Broadwater Marsh	Remove a number of saplings from the northwest corner	SBC	Before and after photos	
Wo7	Warren Springs	Fence off the wood	Privately owned	Before and after photos	No
Wo8	Monk's and Whomerley Woods	Agree a five year management plan with HMWT	SBC	Plan issued	No
Wo9	Monk's and Whomerley Woods	Create a Woodland Trail and link to the Shackledell Grasshopper Trail	SBC	Trail Opened	Yes
Wo10	Wiltshire's Spring	Thin saplings in the northwest sector	SBC	Before and after photos	Yes
Wo11	All woods	All woods should be inspected each year and litter and fly tipping removed as necessary.	SBC	Before and after photos	Yes
Wo12	All	Assess all woodland sites to determine if any are eligible for designation as a Local Nature Reserve	SBC	Issue recommendations	No

# 5. ANCIENT HEDGEROWS

## HABITAT ACTION PLAN

### 5.1 General

Hedgerows resemble woodland edge and scrub habitats. They exhibit a wide range of variation and the most important are rich in relic species of ancient woodland. Some of these will be remnants of the original woodland cover retained to mark a boundary when the surrounding woods were first cleared. The oldest may have existed for more than 1000 years. These older hedges will usually contain a greater number of shrubs and trees than recent plantings and will therefore be of greater wildlife value.

However, hedges of any age can be important if other wildlife habitats are scarce. Over 600 plants, 1500 insects, 65 birds and 20 mammal species are known to live or feed in hedgerows. Hedgerows provide a vital refuge for wildlife in urban areas and may also assist movement by linking woodlands and other semi-natural habitats.

Since 1945 there has been a drastic loss of hedgerows. Between 1984 and 1990 the net loss of hedgerow length in England was estimated at 21% (Countryside Survey 1990, DOE 1993). This loss was the result of a combination of outright removal (1.7% pa) and neglect (1.8% pa). Since 1990 the loss has continued, with neglect becoming increasingly important and removal less so. The current UK total, assuming a continued overall net loss of about 5% per annum may be estimated to be about 450,000 Km (Biodiversity: The UK Steering Group Report). The loss of hedges nationally, due to neglect, is also reflected in Stevenage. The lack of management is contributing to a moribund habitat of low vigour, poor health and reduced biodiversity.

A number of factors have led to these losses. The decline of mixed farming means that on many farms hedges have no function in stock management. Hedges have been removed to increase field size because of larger machinery or larger herd size. Wire fences have replaced hedges as stock-proof structures on many farms. Hedges that have lost their function have either been neglected, and left to grow tall without structure, or conversely, hedges may be over-managed until they become a remnant line of short separated bushes.

The margins of hedgerows can often be of considerable importance particularly where they are derived from semi-natural grassland. Such margins may be rich in wildflowers and will add to the value of the hedge. For example, butterflies and moths whose caterpillars feed on the hedgerow shrubs need sources of nectar which can be provided by the ground flora.

## 5.2 Overall Objectives

### **To manage Stevenage's ancient hedgerows to produce a diverse structure and to ensure their survival for the benefit of wildlife and local residents**

The general perception of the design of a new town such as Stevenage is that of a large-scale housing development where some land is set aside for recreational facilities and the area made more environmentally friendly by the provision of grass verges and the planting of trees and shrubs along the streets. This provides an attractive living environment but, as the planting is of new stock, there is a lack of ancient woodland and hedgerows. This is not the case in Stevenage Borough.

During the planning and development of Stevenage much of the existing semi-natural woodland was retained, which is why the borough is so rich in this important habitat (see Section 4). Also, prior to the building of the new town, the area contained a number of country lanes lined with ancient hedgerows and these too were incorporated into the design and were used to provide pedestrian links from one part of the town to the other. These ancient hedgerows are still present today and many of the country lanes have now been designated as cycle ways and are well used by pedestrians and cyclists alike.



The ancient hedgerows are a mix of mature standards such as Oak, Ash, Hornbeam and Field Maple, many of which are ivy-covered, and mature more traditional hedgerow species such as Hawthorn, Blackthorn and Elder. There are several signs that these hedgerows have been coppiced in the past but not in recent times. The main issue is, therefore, how to manage the hedgerows for the future.

The mature standards are probably best left alone, although it may be necessary to coppice one or two to let in more light onto the ground below the hedge to encourage the growth of ground flora. One of the problems with coppicing some of these mature standards is that, due to previous coppicing, the stools are quite high off the ground and therefore further coppicing will be in excess of one metre off the ground, which in some instances is exacerbated by the fact that the hedgerows are on a bank. The ivy should be left as this provides both food and nesting sites for birds and a source of nectar for butterflies.



The hedgerow species can either be managed by laying or coppicing and each hedge should be evaluated carefully on its own merits before deciding on which option to choose. In the past, many hedgerows were laid as this provided instant and robust stock fencing. However, this is inappropriate along what are now predominantly cycle ways and therefore the best option is to coppice, which will thicken the hedge and rejuvenate growth. This will produce thick luxuriant hedges with sunlight and occasional dappled shade from the retained mature standard trees, thereby increasing biodiversity and providing an attractive environment for both cyclists and pedestrians.

The objective of the previous plan was to produce an inventory of all the ancient hedgerows in the borough and to develop a policy for their management, to meet the combined requirements of the future survival of the hedges, wildlife and residents alike. Whilst an inventory was completed a policy and prescription for their conservation and management remains an objective of this plan.

## 5.3 Wildlife Sites

Of the 37 Wildlife Sites in Stevenage Borough, Kitching Green Lane is the only ancient hedgerow classified as a Local Wildlife Site (See Table 5.1).

It is recommended that SBC include appropriate policies within the Local Plan and other strategic documents to protect the Kitching Green Lane Wildlife Site from damage through development.

### HABITAT ACTION AH1

The management of the site will be covered by the Habitat Action Plans detailed in Section 5.4

Wildlife site ref.	Name of site	Site area (ha)	Description
29/018	Kitching Green Lane	0.19	Old Green Lane stretching from Upper Kitching Spring woodland to the north to Pigeonswick Wood in the south. The site includes the boundary around Burleigh Meadow. Old Hornbeam stubs found along the lane adjacent to the wood. The green lane supports a gappy hedge of Blackthorn, Elm, Hazel and Elder. Five spikes of the very rare parasitic Greater Broomrape have been recorded along the ditch at the west end of Burleigh Meadow. The section of the green lane by Burleigh Meadow is part of the SSSI. Part of the site lies outside Stevenage Borough.

## 5.4 Non-designated Sites with Improvement Potential

As stated above, Stevenage Borough contains a number of ancient hedgerows along the pedestrian and cycle way links from one part of the town to the other. Following an inventory in the last BAP, the next step, therefore is to review the inventory and publish it.

### HABITAT ACTION AH2

It is already known that out of all these ancient hedgerows only one, Kitching Green Lane, is designated as a Local Wildlife Site. The inventory should therefore be reviewed to see if any of the other ancient hedgerows meet the criteria for being designated as a Local Wildlife Site.

### HABITAT ACTION AH3

As discussed in Section 5.2, there are a number of options for managing the mature standards and hedgerow species. Although it is likely that the management of each hedge will be considered on its own merit, a policy shall be developed and agreed on the general approach to the management of the hedgerows and an Ancient Hedgerow Management Plan published.

## HABITAT ACTION AH4

Implement the Ancient Hedgerow Conservation and Management Plan.

## HABITAT ACTION AH5

### 5.5 Ancient Hedgerows Habitat Action Plan

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria
AH1	Kitching Green Lane Wildlife Site	Include appropriate policies in the Local Plan and other strategic documents to ensure protection.	SBC	Publication of Local Plan	Appropriate policies published.
AH2	Ancient Hedgerows	Review and publish an Ancient Hedgerow Inventory.	SBC	2018	Inventory published.
AH3	Ancient Hedgerows	Review the inventory to see if any of the ancient hedgerows meet the criteria for being designated as a Local Wildlife Site.	SBC	2019	List of Local Wildlife Sites updated.
AH4	Ancient Hedgerows	Prepare and publish an Ancient Hedgerow Management Plan	SBC	2019	Management Plan issued.
AH5	Ancient Hedgerows	Implement Management Plan	SBC	Annually	Before and after photos.

## Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Ancient Hedgerow Habitat Plan

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria	Achieved
AH1	Kitching Green Lane Wildlife Site	Include appropriate policies in the Local Development Framework and other strategic documents to ensure protection.	SBC	Publication of Local Development Framework	Appropriate policies published.	N/A LDF not produced
AH2	Ancient Hedgerows	Prepare and issue an Ancient Hedgerow Inventory.	SBC	December 2010	Inventory issued.	Inventory completed.
AH3	Ancient Hedgerows	Review the inventory to see if any of the ancient hedgerows meet the criteria for being designated as a Wildlife Site.	SBC	June 2011	List of Wildlife Sites updated.	No
AH4	Ancient Hedgerows	Prepare and issue an Ancient Hedgerow Management Plan	SBC	December 2011	Management Plan issued.	Yes
AH5	Ancient Hedgerows	Implement Management Plan	SBC	Annually	Before and after photos	Yes

# 6. WETLANDS HABITAT ACTION PLAN

## 6.1 General

The term 'wetland' covers a diverse range of habitats. Within Hertfordshire alone this includes rivers, streams, springs, watercress beds, ponds, lakes, reservoirs, sewage works, marshes, fens, swamps, wet grassland and carr woodland. These wetlands are hugely important for both wildlife and people.

Unfortunately in Stevenage Borough, the variety of wetland is fairly restricted comprising ornamental lakes, ponds, springs, one swamp and streams.

Ornamental lakes account for by far the largest area of open water, being dominated by the five lakes in Fairlands Valley Park. This is a multi-use site, where nature conservation has to be considered alongside recreation and amenity uses.

There are also a number of ponds in the Borough, some of which are associated with grassland or woodland Wildlife Sites. However, many of these are at threat of being lost unless they are brought under appropriate management as a matter of urgency.

In Stevenage Borough as well as the rest of the UK, the loss of wetland habitats may to some extent be compensated for by the increase in garden ponds and without this resource, many of our aquatic species would be at greater risk. Garden ponds are therefore an important part of our wetland habitats and should be encouraged.

As far as flowing water is concerned, the largest natural watercourse in Stevenage is the Stevenage Brook and its tributaries, running along the western half of the Borough. Aston End Brook extends along the eastern edge of the Borough. Both eventually enter the river Beane as they travel south into Hertfordshire. Due to their size and nature, both are prone to damage from pollution. The River Beane is a chalk stream and as such of international significance due to its rarity and special biodiversity. All of Hertfordshire's chalk streams are under threat from over-abstraction. Low flows are more susceptible to pollution as dilution is lessened.

However, many of the wetland habitats in Stevenage are rich in wildlife, supporting animals such as Great Crested Newt, Smooth Newt, Common Toad and Common Frog, along with many dragonflies, damselflies and other aquatic insects. A range of birds such as Kingfisher, Grey Heron, Grey Wagtail and Little Grebe can also be found on lakes, ponds and streams in the Borough, along with rare or scarce plants such as Water Violet, Fine-leaved Water Dropwort and Tussock Sedge. Additionally, several species of mammals use the wetland habitats, including bats that have been recorded feeding over the lakes and vegetated fringes in Fairlands Valley Park.

## 6.2 Overall Objectives

**To conserve and restore Stevenage's wetlands through appropriate and sensitive management to optimise their value to wildlife and people**

The key issues on wetlands generally relate to either hydrology or management. Wetlands are now much reduced, fragmented and overall, drier. In the past drainage and direct destruction were the main problems. Nowadays water levels are still falling and a major concern is unsustainable

abstraction of water. Wetlands have always been popular areas for human leisure and recreational activities. These pressures continue to increase and if unmanaged, pose a real threat to the biological integrity of many sites. The following issues are relevant to Stevenage's wetlands today.

Low water levels are the primary threat to all forms of wetland and there is a widespread feeling that all wetlands, from rivers to ponds, have never before been so short of water. Any long-term lowering of water levels in any wetland, or reduced incidence or duration of flooding, can cause severe losses in biodiversity and changes in community composition. Such problems are exacerbated during times of drought, such as in 2006 and 2012 when widely fluctuating annual rainfall led to Hertfordshire rivers drying-up. Low flows or lowered water levels in ponds mean that pollution incidents are magnified because of a reduced dilution factor.

There is an inevitable process of natural succession to scrub and woodland as wetlands accumulate organic matter and dry out. This results in an overall loss of species, often scarce, especially if early successional stages are not regularly being re-created in compensation. Ponds and marshes are particularly vulnerable to rapid succession.

Pond management can frequently be well intentioned but ultimately damaging. By aiming for attractive, mid-successional ponds, the valuable and differing features of ponds can be destroyed. It is crucial that the existing biodiversity of a pond is understood prior to making management decisions – 'look (long and hard) before you leap!'

Given the number and diversity of ponds within Stevenage, there is an opportunity to continue to develop an 'adopt a pond' scheme whereby local communities or businesses take responsibility for caring for their local ponds with guidance and support from experienced advisors. Advisors would work with the community and businesses to agree and prepare a pond management plan. The plan would then be implemented by the adopters. This model has been extremely successful in a number of ponds in the previous plan period, most notably Poplars Pond and Ascot Crescent.



Poplars Pond before

Whilst, water resource management has to be tackled nationally and regionally, residents of Stevenage have a part to play in conserving water. Water abstracted from Hertfordshire's chalk aquifers is pumped to the homes and businesses of the town. Reducing consumption in the town will clearly benefit rare habitats such as our chalk streams that depend on springs emanating from the aquifer. One of the main objectives in this wetlands plan should be to raise awareness of how our demand for water affects local wildlife habitats such as the River Beane and therefore encourage residents and businesses in Stevenage to use less water. Affinity Water should be engaged as a partner in this process as this is also a priority for them and they have experience and resources which would be valuable. In addition to saving water a prime objective should be to restore and preserve our valuable wetland resource by the application of sensitive management to achieve a balanced aquatic environment and to offset the effects of natural succession.



Poplars Pond after

## 6.3 Wildlife Sites

Of the 37 Local Wildlife Sites in Stevenage Borough only Ridlins Mire and Barnwell School are classified as wetland Local Wildlife Sites (See Table 6.1). Ridlins Mire has no open water but is an ancient peat bog to the south of Ridlins Wood.

It is recommended that SBC include appropriate policies within the Local Plan and other strategic documents to protect the Wetland Wildlife Sites from damage through development.

### HABITAT ACTION We1

Wildlife site ref.	Name of site	Site area (ha)	Description
30/004	Ridlins Mire	3.07	Ancient peat bog to the south of Ridlins Wood surrounded by roads. The spring line formed up the slope of the site at a sand/clay contact causes run-off down the slope. Impeded drainage from the underlying clay has resulted in the development of a rheophilous ombrogenous bog. At the north end of the site a small domed peat mire has accumulated, a habitat type found nowhere else in Hertfordshire. There is a good wetland flora and several unusual plants have been recorded. The site is also important for invertebrates including a national rarity.
30/070	Barnwell School	NA	Pond in school grounds important for amphibians.

There are no recommended actions for Ridlins Mire.

#### Barnwell School

This pond is of a reasonable size and is maintained in good condition by the school. Great Crested Newts are known to be present. It has a good selection of floating, emergent and marginal vegetation and the only element missing for a completely well balanced pond is submerged vegetation. The recommended action is therefore to introduce some native submerged vegetation to enhance egg laying opportunities for amphibians.

Action remains unchanged under the 2016 review.

### HABITAT ACTION We2



## 6.4 Non-designated Sites with Improvement Potential

### 6.4.1 General

There are a number of wetland sites in Stevenage Borough, which although not designated Wildlife Sites, have significant potential for improvement to increase biodiversity. These fall into the following categories:

- a. Parkland lakes
- b. Large ponds
- c. Garden ponds

### 6.4.2 Parkland Lakes

The most significant complex of parkland lakes is at Fairlands Valley Park. These lakes are a cascade of five lakes with water flowing from north to south. The most southerly of the five lakes (Main Lake) is a purpose-built recreational lake with sloping concrete or grassy banks with limited potential for improvement.

The four other lakes have all improved significantly for wildlife in the time since the previous plan was written.



No 2 lake before



No 2 lake after



Millennium Lake before



Millennium Lake after



Environment Lake before



Environment Lake after



Balancing pond

The most northerly waterbody (Balancing Pond) is designed to hold back storm water runoff for a short while to allow the settlement of the solids. The site periodically holds water and has developed into a marshy environment which supports good numbers and range of biodiversity. Its isolated, undisturbed nature and natural margins add to its value for wildlife. Controlled access to views across this area would enable residents to enjoy the wildlife it supports.

No 2 lake is a long thin lake with plastic piling banks. This lake has developed significantly in the time since the previous plan and now has a vigorous and diverse fringe of emergent and marginal vegetation on both banks and a developing reed

Balancing pond

Lake 2

Environmental lake

Millennium lake

Main lake



bed. Allowing these features to develop has greatly improved the wildlife value of the lake and the amenity value. This lake would be further enhanced by removing the plastic piling to enable a more natural margin to establish. The piling could be retained in places to enable access to the water for viewing.

The Environment Lake has also benefitted from a change in management intensity. Thick emergent fringes to the lake have been allowed to develop and a broad rough grassland margin created on the western aspect. This grassland margin should be cut and cleared periodically to prevent succession and to conserve the floral diversity. It is also a suitable source for seed to enrich other areas of the park. Green hay spread from here into the grass margins that have been created will add to their interest and value. Removal of the plastic piling on the edge of the lake will again add to the value of the waterside margin.

The boundaries of the Millennium Lake have developed a rich emergent and marginal flora, whilst retaining more formal areas to enable people to access the waterside. There are a large number of waterfowl present which are presumably sustained by feeding. Although feeding the ducks and geese will not be beneficial for the ecology of the lake it is clearly a popular exercise which enables people to interact with nature, and so should not be discouraged. The steel mesh on the island should be removed.

The park lakes have developed into a great ecological asset for the town through implementing the recommendations of the previous plan. The few further steps recommended above should be initiated to continue to advance this progress.

### HABITAT ACTION We3

The Main Lake is a purpose-built recreational lake and is also used for angling. The suggested actions for this lake remain unchanged from the previous plan period. There are no islands on the lake and the edge is exclusively gently sloping concrete or grassy banks with no emergent or marginal vegetation.

The previous plan advocated the provision of floating islands of vegetation. Where these have been established they are functioning well but they are too small to have a substantial impact. If possible more of these should be provided to create a larger area of beneficial habitat.

Coir Rolls were also recommended to be placed around the margins of the lake. These were installed in a joint project with the Environment Agency in 2016. If the opportunity to install more of these presents itself it should be embraced.

### HABITAT ACTION We4

As in the previous plan, it is proposed that this area be designated as the Fairlands Valley Local Nature Reserve.

### HABITAT ACTION We5



Main Lake before



Main Lake after

## 6.4.3 Large Ponds

A total of 19 large ponds were located in Stevenage Borough (see Table 6.2). There was no access to Oakfield Farm Ponds.

Pond no.	Pond	Map Ref	Description
1	Stevenage Golf Course Pond 1	TL269221	60m x 30m. In middle of fairway with a completely open aspect. The grass banks are mown right down to the water's edge. There are several patches of water lilies. No emergent vegetation and minimal hard rush marginal vegetation. Tadpoles present. Carp present.
2	Stevenage Golf Course Pond 2	TL269219	25m x 15m. Edge of fairway. All except eastern boundary mown down to the edge. Half the margin edged by willows, Alder, Hornbeam, Holly and Hornbeam. Lots of leaf litter and no submerged vegetation. Eastern end shallow. Eastern margin shaded but with marginal Marsh Marigold and Yellow Iris. Western margin open aspect with marginal Hard Rush.
3	Stevenage Golf Course Pond 3	TL271218	30m x 15m. Edge of fairway with completely open aspect. Mown down to edge apart from eastern bank. Small island of rushes. No submerged vegetation. Floating Sweet Grass on western and southern sides. Emergent Brooklime at western end and along eastern bank. Marginal Hairy Willowherb, rushes and Water Figwort along eastern bank.
4	Stevenage Golf Course Pond 4	TL269216	15m x 10m. Shaded by Oak, Hornbeam and Hawthorn. Edges not mown. Plenty of submerged Canadian Pondweed. No floating vegetation. Emergent Soft Rush, Brooklime and Hairy Willowherb. Smooth Newt present.
5	Town Centre Pond	TL241242	80m x 15 widening to 70m x 40m. Totally open aspect. Wooden piling to all banks. Banks mostly concreted except for overhanging Hawthorn, Sycamore, and Laurel on north eastern corner. No submerged, floating, emergent or marginal vegetation.
6	Poplars Pond	TL268235	20m x 10m. Open aspect. Alder, Elder and Hawthorn on east and north banks. The pond has been significantly improved during the previous plan period. Litter and encroaching vegetation has been cleared from the pond and it is now in excellent condition.
7	Towers Pond	TL239238	30m x 30m. Fairly open aspect, but surrounded by mature Oak, Hawthorn, Ash and Hornbeam. Has become very overgrown with Greater Reedmace during the previous plan period and requires sensitive clearance.

Pond no.	Pond	Map Ref	Description
8	Whomerley Wood Moat Pond	TL246236	25 x 15m. Overshadowed by mature Hornbeam and Oak. No submerged or emergent vegetation and minimal marginal vegetation. Covered in duckweed.
9	Whomerley Wood Moat	TL246237	Moat 6m wide on a pitch radius of 40m. Shaded out by Hornbeam and Oak. No emergent vegetation and minimal marginal vegetation
10	Whomerley Wood Six Hills Way	TL247238	30m x 15m. Lined with overhanging Hornbeam on the north, east and west sides. South bank coppiced Hazel and sapling Ash and birch. Reasonably open aspect. 30% of the area of the water is a mat of Parrot's Feather. The other 70% is open water full of Water Soldier. Minimal emergent Soft Rush. Marginal bramble and Honeysuckle on southern bank. Great Crested Newt present.
11	Monks Wood West Pond	TL244232	15m x 10m. Shaded by mature Oak and Hornbeam. Covered in duckweed. Emergent Pendulous Sedge and Yellow Iris. No marginal vegetation.
12	Monks Wood East Pond	TL244232	20m x 10m. Fairly shaded by Oak, Silver Birch and Hornbeam. Covered in duckweed. Emergent Yellow Iris, Greater Pond Sedge and Floating Sweet Grass at southern end. Minimal marginal vegetation except for stand of Pendulous Sedge in southwest corner.
13	Symonds Green Common North Pond	TL221251	20m x 10m. Fairly open aspect but lined on the north bank by Oak and marginal bramble. No submerged or floating vegetation. Plenty of emergent and marginal Yellow Iris, Reed Sweet Grass and Greater Pond Sedge. Emergent vegetation has encroached into the pond during the previous plan period but open water still present. Central berm between the 2 ponds was overgrown.
14	Symonds Green Common South Pond	TL221251	30m x 20m. Fairly open aspect but overhanging mature willows and Field Maple on the south and west banks. No submerged or floating vegetation. Emergent and marginal Reed Sweet Grass, Yellow Iris and nettles on north and east banks.

Pond no.	Pond	Map Ref	Description
15	Fishers Green Common	TL222261	30m x 10m. Fairly open aspect but with dense brambles, nettles, Elder and willow around margins. Minimal floating algae and floating Sweet Grass and submerged starwort. Emergent Lesser Spearwort and Water Forget-me not, Woody Nightshade and sedges. Marginal Hard and Soft Rush in northwest corner. Volunteer management has been beneficial.
16	Ascot Crescent	TL260263	20m x 15m. Open aspect. Lined with Ash, Dog Rose, Oak and Elder. Submerged Water Milfoil with minimal Water Lily. Emergent Branched Bur-reed, Water Forget-me-not and minimal Water Plantain. Marginal Water Forget-me not, Hairy Willowherb, Soft Rush, Hard Rush, Brooklime, Woody Nightshade. Smooth Newt present. Significant clearance to the pond and its environs has occurred in the previous plan period, with the help of local volunteers.
17	Chells Manor	TL267252	40 m diameter with large island in middle. Fairly open aspect but all island and pond banks lined with overhanging Hawthorn, bramble, Elder, Ash, pyrocantha, willows, limes and Sycamore. No floating or submerged vegetation. Emergent Yellow Iris and Hard Rush at northern end. No access, privately owned.
18	Oakfield Farm Ponds	TL222248	No access, privately owned.
19	Margaret's Wood, Todd's Green	TL221266	30m x 20m. Some open aspect, but completely surrounded by overhanging Hornbeam, Elder, Hawthorn, Oak and willows. There are also a large number of willows growing out of the water. 30% of the pond area is covered by floating and submerged starwort. Minimal emergent Yellow Iris and marginal nettles. Great Crested Newt present. No access privately owned.

The water levels in these large ponds throughout the year depends on a combination of their water source, outlets and their underlying water tables. In periods of drought it is possible for these ponds to dry out and there is little that can be done to prevent it. Ponds such as these are called seasonal ponds and can benefit from these circumstances as fish populations are controlled. This is beneficial to the survival of the invertebrates within the pond.

Actions remain the same as in the previous plan period where no management has been implemented. Where new actions or continuation of beneficial management is required, the text has been amended.

The recommended action for each of the remaining 18 ponds is as follows:

### Stevenage Golf Course Pond 1

This is a large pond in the middle of the fairway with Common Toad, Common Frog and Smooth Newt known to be present. Like many golf course ponds it is mown right down to the edges and has no emergent vegetation and minimal marginal vegetation. Large carp are also present in the lake, which muddy the water and eat any aquatic life including vegetation. The recommended action is therefore to consider the removal of the carp.

#### HABITAT ACTION We6

Consider the implications and benefits of stopping mowing within the out-of-bounds markers.

#### HABITAT ACTION We7

### Stevenage Golf Course Pond 2

This pond is to the side of the fairway, is silting up (and becoming dominated by self-set willows) and is gradually being shaded out by the bankside trees. Great Crested Newt and Common Frog are known to be present. The recommended actions are therefore to remove some of the mud above the existing water level to create new marsh.

#### HABITAT ACTION We8

Remove the willow and alder on northern bank and three crack willows at the eastern end.

#### HABITAT ACTION We9

Consider the implications and benefits of stopping mowing within the out-of-bounds markers.

#### HABITAT ACTION We10

### Stevenage Golf Course Pond 3

Pond 3 is at the edge of the fairway and is in fairly good condition with plenty of natural floating, emergent and marginal vegetation. Great Crested Newt, Smooth Newt, Common Toad and Common Frog are known to be present. It would benefit from less strict mowing regime on the banks.

#### HABITAT ACTION We11



#### **Stevenage Golf Course Pond 4**

A relatively small shady pond away from the fairway and surrounded by trees. It has some emergent vegetation and a substantial amount of submerged Canadian pondweed. The southeast corner is silting up with soil washed down from the stream. The recommended action is therefore to remove the silt from the southeast corner.

**HABITAT ACTION We12**



#### **Town Centre Gardens Pond**

This pond is situated close to the town centre and is clearly an attraction to the residents from the nearby housing estates. Significant habitat enhancements were enacted during 2011 including the introduction of planting as directed by the previous plan. Unfortunately the planting was not successful due to heavy grazing from waterfowl. It is not proposed to revisit this because of the difficulty in controlling this pressure.



#### **Poplars Pond**

Poplars Pond is a small pond with marginal, floating and submerged vegetation. Considerable litter collection and vegetation clearance has taken place in the previous plan period, invigorating the pond and resulting in the discovery of the Hertfordshire-rare, Opposite-leaved Pondweed.

The pond has been adopted by the Scouts who should continue to carry out the management regime they have implemented with advice from HMWT.

**HABITAT ACTION We13**



#### **Towers Pond**

The pond has succumbed to succession since being opened up in 1999/2000. It now requires the invasive Greater Reedmace to be cleared from the centre of the pond by mechanical means, a third at a time. Following this a biannual work party will be required to pull out the regrowth on a regular basis to keep it under control.

**HABITAT ACTION We14**



### **Whomerley Wood Moat Pond**

This pond is in the middle of the moat in the northern section of Whomerley Woods. It is totally shaded out by tall mature trees and has no natural vegetation apart from a covering of duckweed. Due to its age and habitats, it is possible that the pond may contain some rare species of aquatic invertebrates. Accordingly, it is recommended that the pond be surveyed by specialists from the Freshwater Habitats Trust. Management recommendations should be informed by their findings.

**HABITAT ACTION We15**



### **Whomerley Wood Moat**

This is a large moat, being 6m wide on a pitch radius of 40m, but is totally shaded out by hornbeam and oak with no emergent vegetation and minimal marginal vegetation. From experience elsewhere, due to its antiquity, it is possible that the pond may contain some rare species of aquatic invertebrates. It is recommended that the moat be surveyed by specialists from the Freshwater Habitats Trust. Management recommendations should be informed by their findings.

**HABITAT ACTION We16**



### **Whomerley Wood Six Hills Way**

The Six Hills Way pond has a reasonably open aspect but is shaded by some mature trees behind the south bank. The pond also contains two introduced species of aquatic plants, Parrot's Feather and Water Soldier. Attempted control of the Parrots Feather and Water Soldier by removal during the previous plan period was not successful.

It is unlikely that this plant will be eradicated so management should be concentrated on continuing the coppicing of trees on the south side of the pond to let light into the pond and stimulate marginal and emergent plants. Coppice 1/3 of southern area each year on rotation. This should correspond with clearing vegetation from 1/3 of the middle of the pond each year to control the Parrots Feather, Water Soldier and successional process.

**HABITAT ACTION We17**



### **Monks Wood West Pond**

This relatively small pond in the middle of Monk's Wood was totally shaded by Oak and Hornbeam when the previous plan was drawn up. Volunteers have coppiced trees on the south side of the pond to beneficial effect. This should be continued so that 1/3 of trees in this area are coppiced every year on rotation.

### **HABITAT ACTION We18**

### **Monks Wood East Pond**

The trees around this pond were coppiced as a result of recommendations made in the previous plan. It is important that the coppiced material is kept relatively short by re-coppicing regularly. Volunteers should re-coppice 1/3 of the regrowth per year on rotation.

### **HABITAT ACTION We19**

### **Symonds Green Common North and South Ponds**

The previous plan recommended that the path between the two ponds be closed off. This path no longer appears to be present. The marginal plants on the edges of the ponds are vigorous but should be periodically controlled to prevent them from encroaching too much into the water.

Smaller trees to the south and west of the pond should be coppiced on a three year rotation to stimulate the margins in that area and reduce leaf fall into the pond.

### **HABITAT ACTION We20**



### **Fishers Green Pond**

The pond has received some management by Wild Stevenage volunteers in the previous plan period. They have done an excellent job and should continue their management. This should consist of annual clearance of vegetation from within the pond to prevent succession and to coppice trees and cut back bramble from around the pond.

#### **HABITAT ACTION We21**

### **Ascot Crescent**

The management of this pond over the previous plan period has had a transformatory effect. Its condition at the time of this survey was exemplary, so the advice is to continue to maintain the pond in this way. This will involve annual control of invasive marginal plants and coppicing of small trees bordering the pond. Selective limb removal from trees overhanging the pond should be undertaken to reduce leaf fall into the pond.

#### **HABITAT ACTION We22**

Willow by the side of the pond were pollarded in the previous plan period but will need to be re-pollarded every five years.

#### **HABITAT ACTION We23**

### **Adopt a pond Scheme**

The adopt-a-pond scheme recommended in the previous plan had some notable successes, namely Poplars Pond and Ascott Crescent. Efforts to engage with local people and businesses bordering each of the other ponds should be made to attempt to reproduce the success of these schemes in those locations.

#### **HABITAT ACTION We24**

## **6.4.4 Garden Ponds**

The Borough's lakes and ponds have been covered in Sections 5.4.2 and 5.4.3 respectively. However, possibly the largest and most significant wetland resource in the Borough are garden ponds, which are covered in the Neighbourhood Nature Habitat Action Plan (see Section 7.4.4)



## 6.4.5 Chalk Rivers

The Borough's demand for water contributes to abstraction of water, which will affect the River Beane and its special wildlife. In partnership with Affinity Water, there should be a campaign to raise awareness of the effects of Stevenage's demand for water on this important chalk river. The town's residents and businesses should be encouraged to save water and thereby contribute to the conservation of Hertfordshire's chalk rivers.

### HABITAT ACTION We 25

## 6.4.6 Stevenage Brook

All rivers are designated as Biodiversity Action Plan (BAP) priority habitats under the UKBAP, provided that the "reaches are not heavily degraded with little scope for improvement, for example because they are heavily canalised". Although the Stevenage Brook has a significant number of issues, including water quality and modifications, it still fits within the scope of UKBAP Priority Habitat Description for Rivers.

The Stevenage Brook is covered by the Thames River Basin Management Plan (water body GB106038033310), which states that the river should reach Good Ecological Status (GES) by 2027. The reasons that the water body does not currently meet GES are phosphate levels and poor invertebrate abundance and diversity.

Stevenage Brook currently first appears at Six Hills Way and then runs through Elder Way Flood Meadow, Broadwater Marsh, Stevenage Brook Marsh and finally leaves Stevenage Borough via the Stevenage Golf Course.

However, early maps predating the development of the new town shows that there was a spring that fed the Stevenage Brook at Bedwell Plash (TL241243), from where the Brook flows south, under the roundabout at Broom Barn (TL240238) before emerging in the section currently above ground. The maps also show a branch arising from a pond north of Holy Trinity Church (TL235249), which could also conceivably be a spring-fed source, as well as another branch that appears to rise from a pond at Symond's Green (TL221251). Map contours support the idea that the catchment extends to just south of Whitney Wood, but that water from Fisher's Green itself probably feeds into the Hiz catchment.

The phosphate levels and lack of invertebrate abundance and diversity are linked to a certain extent and river restoration can certainly play a major part in helping the brook improve in richness and diversity. This includes creating a range of habitats suitable for a range of invertebrates and fish species as well as using natural habitats to filter poor quality water. The condition of the water may also be improved by the provision of silt traps in the road drainage systems before they discharge into the brook.

It is recommended that a study be carried out to investigate the potential for restoration of the Stevenage Brook.

### HABITAT ACTION We 26

There are numerous places along the brook where overhanging vegetation could be cut back from the margins to let light in and stimulate marginal growth within the channel.

Selecting five 10 meters sections where all vegetation bordering the brook is cleared to the ground, will add diversity and life to the channel. It will also enable people to gain better views of the watercourse, particularly if undertaken around crossing points. One of these could be created each year of the biodiversity action plan period and then revisited by volunteers to recreate every five years.

### HABITAT ACTION We 27



## 6.4.7 Wetland Opportunity Areas

### **Aston Valley Flood Storage area**

There is an opportunity to create a 'pondscape' within the Aston Valley Flood Storage Area. Digging a network of pools and scrapes here would add complexity to this environment and provide ideal conditions for wetland invertebrates such as dragonflies, without compromising the functionality of the site. This would lend itself to the creation of an interpreted 'Pond Discovery Trail', leading residents through the environment and highlighting the ecological benefits of the scheme.

Approach the Environment Agency to explore the possibility of creating a pondscape at Aston Valley.

### HABITAT ACTION We 28

### **Wickes SUDS scheme**

There is a central engineered channel to a culvert in this drainage scheme. Removing this channel and digging some pools will enable flood waters to be retained in the area without compromising the functionality of the area. To be investigated in partnership with the Environment Agency.

### HABITAT ACTION We 29



### Roebuck SUDS scheme

This is a long straight heavily shaded drainage channel. It lacks any complexity and is simply to transfer water from one place to another as quickly as possible. There is no water storage element to it.

Removing bankside vegetation, meandering the channel, digging pools and creating small dams to the flow of water will hold back the water in a sacrificial area and create good wildlife habitat. Approval will be required from the Environment Agency for these works and the others above. They should be approached to investigate if they would be willing to be partners in the scheme.



### HABITAT ACTION We 30

## 6.5 Local Nature Reserves

Local Nature Reserves (LNRs) are for both people and wildlife. They are places with wildlife or geological features that are of special interest locally and offer people special opportunities to study or learn about nature or simply enjoy it.

Natural England recommends that LNRs should be:

- a. greater than 2ha in size
- b. capable of being managed with the conservation of nature and/or the maintenance of special opportunities for study, research or enjoyment of nature as the priority concern

and also be either:

- c. of high natural interest in the local context or
- d. of some reasonable interest and of high value in the local context for formal education or research or
- e. of some reasonable natural interest and of high value in the local context for the informal enjoyment of nature by the public

It is recommended that that all the wetland sites listed above are assessed to determine if any are eligible for designation as a Local Nature Reserve.

### HABITAT ACTION We31

## 6.6 Wetlands Habitat Action Plan

Action No.	Site	Action	By Whom (TBA)	By when	Success Criteria
We1	All Wetland Wildlife Sites	Include appropriate policies in the Local Plan and other strategic documents to ensure protection	SBC	Publication of Plan	Appropriate policies published.
We2	Barnwell School	Introduce submerged vegetation	Barnwell School	2018	Vegetation introduced
We3	Fairlands Valley Park Lakes	Review the management plans for these lakes in the light of the recommendations of the Biodiversity Action Plan review.	SBC	2017	Additional measures implemented
We4	Fairlands Valley Park Main Lake	Look for opportunities to introduce marginal coir rolls.	SBC	2018	Rolls installed.
We5	Fairlands Valley Park Lakes	Designate Fairlands Valley Lakes 2-5 as a Local Nature Reserve.	SBC	2018	Reserve Designated
We6	Stevenage Golf Course Pond 1	Remove Carp	SLL	2018	Carp removed
We7	Stevenage Golf Course Pond 1	Consider the benefits and implications of stopping mowing within the out of bounds markers	SLL	2018	Mowing regime altered
We8	Stevenage Golf Course Pond 2	Remove mud above water level	SLL	2018	Mud removed
We9	Stevenage Golf Course Pond 2	Remove willow and alder on northern bank and three crack willows at eastern end	SLL	2018	Trees removed
We10	Stevenage Golf Course Pond 2	Consider the benefits and implications of stopping mowing within the out of bounds markers	SLL	December 2019	Mowing regime altered
We11	Stevenage Golf Course Pond 3	Consider the benefits and implications of stopping mowing within the out of bounds markers and behind eastern bank	SLL	2019	Mowing regime altered

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
We12	Stevenage Golf Course Pond 4	Clear silt from southeast corner	SLL	2018	Silt removed
We13	Poplars Meadow	Continue annual maintenance programme.	Scouts	Annually	Maintenance undertaken
We14	Towers Pond	Remove Reedmace from the pond	SBC	2017	Pond opened up
We15	Whomerley Wood Moat Pond	Employ Freshwater Habitats Trust to carry out a survey.	SBC	2018	Survey report issued
We16	Whomerley Wood Moat	Emloy Freshwater Habitats Trust to carry out a survey.	SBC	2018	Survey report issued
We17	Whomerley Wood Six Hills Way	Coppice 1/3 of southern bankside trees each year.	SBC	Annually	Management carried out each year
We18	Monks Wood West Pond	Coppice 1/3 of southern bankside trees each year.	SBC	Annually	Management carried out each year
We19	Monks Wood East Pond	Coppice 1/3 of southern bankside trees each year.	SBC	Annually	Management carried out each year
We20	Symonds Green Common North and South Ponds	Coppice small trees on southern and western boundary	SBC	2017 and 2022	Management undertaken
We21	Fishers Green Common	Continue annual management programme	SBC	Annually	Annual management undertaken
We22	Ascot Crescent	Annual maintenance clearing 1/3 marginal vegetation	SBC	Annually	Annual management undertaken
We23	Ascot Crescent	Re-pollard/remove large pollarded willows on the southern bank.		2018	
We24	Adopt a pond	Expand adopt a pond to other pond site communities and empower to manage pond	SBC	2018	More ponds being managed by local communities

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
We25	River Beane	Run a campaign to raise awareness of the need to save water in order to conserve chalk river habitats.	SBC	2017	Campaign report by March 2018
We26	Stevenage Brook	Carry out a study to investigate the potential for restoration of Stevenage Brook	SBC	2017	Report issued
We27	Stevenage Brook	Clear 5 10m sections of the brookside vegetation, 1 per year	SBC	2022	5 sections cleared
We28	Aston Valley Flood Storage area	Discuss possibility of creating an interpreted pondscape discovery trail in the area with EA	SBC/EA	2017	Conduct discussions
We29	Wickes SUDS scheme	Remove central channel and create pools to hold water	SBC/EA	2018	Channel removed and ponds created
We30	Roebuck SUDS scheme	Make channel more complex to hold back water and create more productive habitat	SBC/EA	2022	Engineering complete
We31	All	Assess all wetland sites to determine if any are eligible for designation as a Local Nature Reserve	SBC	2017	Issue Recommendations

**TABLE 6.4****Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Wetland Habitat Plan**

Action No.	Site	Action	By Whom	By when	Sucess Criteria	Achieved
We1	All Wetland Wildlife Sites	Include appropriate policies in the Local Development Framework and other strategic documents to ensure protection	SBC	Publication of Local Development Framework	Appropriate policies published.	Yes
We2	Barnwell School	Introduce submerged vegetation	Barnwell School	December 2010	Before and after photos	No
We3	Fairlands Valley Park Lakes	Review the management plans for these lakes in the light of the recommendations of the Biodiversity Action Plan.	SBC	December 2010	Plan Issued	Yes
We4	Fairlands Valley Park Main Lake	Introduce floating islands and marginal coir rolls	SBC	December 2010	Before and after photos	Yes
We5	Fairlands Valley Park Lakes	Designate Fairlands Valley Lakes 2-4 as a Local Nature Reserve.	SBC	May 2013	Reserve Designated	No
We6	Stevenage Golf Course Pond 1	Consider removal of Carp	SBC/SLL	December 2010	Carp removed	Yes
We7	Stevenage Golf Course Pond 1	Introduce emergent and submerged vegetation	SBC/SLL	December 2012	Before and after photos	No
We8	Stevenage Golf Course Pond 1	Consider the benefits and implications of stopping mowing within the out of bounds markers	SBC/SLL	December 2011	Before and after photos	No
We9	Stevenage Golf Course Pond 2	Remove mud above water level	SBC/SLL	December 2011	Before and after photos	No
We10	Stevenage Golf Course Pond 2	Remove willow and alder on northern bank and three crack willows at eastern end	SBC/SLL	December 2011	Before and after photos	No

Action No.	Site	Action	By Whom	By when	Sucess Criteria	Achieved
We11	Stevenage Golf Course Pond 2	Introduce emergent vegetation	SBC/SLL	December 2011	Before and after photos	No
We12	Stevenage Golf Course Pond 2	Consider the benefits and implications of stopping mowing within the out of bounds markers	SBC/SLL	December 2011	Before and after photos	No
We13	Stevenage Golf Course Pond 3	Introduce some submerged vegetation.	SBC/SLL	December 2011	Before and after photos	No
We14	Stevenage Golf Course Pond 3	Consider the benefits and implications of stopping mowing within the out of bounds markers and behind eastern bank	SBC/SLL	December 2011	Before and after photos	No
We15	Stevenage Golf Course Pond 4	Clear silt from southeast corner	SBC/SLL	December 2012	Before and after photos	No
We16	Town Centre Pond	Introduce some submerged and floating vegetation.	SBC	December 2010	Before and after photos	Yes
We17	Town Centre Pond	Agree with HMWT a longer-term development plan for the pond.	SBC	December 2010	Plan issued	No
We18	Poplars Meadow	Clear the litter from the pond and the surrounding area.	SBC	December 2010	Before and after photos	Yes
We19	Towers Pond	Introduce some submerged and floating vegetation.	SBC	December 2010	Before and after photos	Yes but Reedmace colonised pond
We20	Whomerley Wood Moat Pond	Pond Conservation to carry out a survey.	SBC	December 2012	Survey report issued	No
We21	Whomerley Wood Moat	Pond Conservation to carry out a survey.	SBC	December 2012	Survey report issued	No, pond mostly dry for the plan period

Action No.	Site	Action	By Whom	By when	Sucess Criteria	Achieved
We22	Whomerley Wood Six Hills Way	Remove the Parrot's Feather.	SBC	December 2010	Before and after photos	Yes but unsuccessful in removing it all
We23	Whomerley Wood Six Hills Way	Remove Ash and birch saplings and mature Hornbeam on southern bank to open up aspect.	SBC	December 2010	Before and after photos	Yes
We24	Monks Wood West Pond	Remove some trees at the southern end to open up the aspect.	SBC	December 2011	Before and after photos	Yes
We25	Monks Wood East Pond	Remove some trees at the southern end to open up the aspect.	SBC	December 2011	Before and after photos	Yes
We26	Symonds Green Common North and South Ponds	Block the hole in the hedge or to deepen the channel to prevent the causeway from being used a crossing point.	SBC	December 2010	Before and after photos	Yes
We27	Symonds Green Common North and South Ponds	Remove the logs and rubbish from the ponds.	SBC	Annually	Before and after photos	Yes
We28	Symonds Green Common North and South Ponds	Introduce submerged and floating vegetation.	SBC	December 2010	Before and after photos	No
We29	Fishers Green Common	Clear out the rubbish.	SBC	Annually	Before and after photos	Yes
We30	Ascot Crescent	Remove some leaf litter from the open areas of water.	SBC	December 2010	Before and after photos	Yes
We31	Ascot Crescent	Remove the willow saplings from the pond.	SBC	December 2010	Before and after photos	Yes

Action No.	Site	Action	By Whom	By when	Sucess Criteria	Achieved
We32	Ascot Crescent	Re-pollard/remove large pollarded willows on the southern bank.	SBC	December 2010	Before and after photos	Yes
We33	Chells Manor	Remove the trees and shrubs from the southern bank to open up the aspect.	SBC	December 2012	Before and after photos	No
We34	Chells Manor	Introduce some submerged and floating vegetation.	SBC	December 2010	Before and after photos	No
We35	Margaret's Wood, Todd's Green	Remove some of the trees to open up the aspect.	SBC	December 2011	Before and after photos	No
We36	Ponds	Trial an 'Adopt a Pond Scheme' with one local community group.	SBC	Spring 2011	First Report March 2011	Yes
We37	River Beane	Run a campaign to raise awareness of the need to save water in order to conserve chalk river habitats.	SBC	Summer 2011	Campaign report by March 2012	Yes
We38	Stevenage Brook	Carry out a study to investigate the potential for restoration of Stevenage Brook	SBC	Summer 2010	Report issued	Yes
We39	All	Assess all wetland sites to determine if any are eligible for designation as a Local Nature Reserve	SBC	December 2010	Issue Recommendations	No

# 7. NEIGHBOURHOOD NATURE ACTION PLAN

## 7.1 General

Neighbourhood nature refers to the habitats and the species that inhabit them, in our cities, towns and villages – the places we call our home. Neighbourhood nature includes our gardens, local parks, schools and the green spaces surrounding our work places. For much of the time neighbourhood nature provides our main contact with wildlife. It provides the natural backdrop to our activities and enriches our lives at all levels.

Wildlife is everywhere. Some form of natural life is present in almost every environment on earth. In our towns and cities, wildlife is present despite the actions of the human population rather than because of them. It is not always recognised that the value of urban wildlife to biodiversity conservation can be as great as that in the countryside.

Great value is also found in the effects it has on the people who encounter it. These effects are not easily quantified but are increasingly understood to be of considerable benefit. Everyday contact with wildlife can lead to an increasing appreciation of nature conservation, as well as environmental policies in general.

Yet there has been an almost unconscious view that nature should not exist in such places. Neighbourhood nature is often perceived of as untidy, unhealthy, weeds or vermin. Recently however, there has been a change in attitudes towards our urban habitats. The challenge now is to take these ideas forward in order to maximise the benefits for both wildlife and people who share these neighbourhoods.

It is probably not widely recognised, that to many forms of wildlife, buildings can appear similar to natural habitats such as cliffs and caves. Kestrels and Peregrine Falcons frequently nest on our churches and tower blocks and bats, Swifts, House Sparrows and Starlings are quick to make use of holes under eaves, particularly in old buildings.

The need people feel for contact with nature together with a growing interest in the environment, and increases in leisure time, have been reflected by the recent popularity of wildlife gardening. In addition to private gardens, the grounds of schools, community centres, retail parks, business parks and housing developments are being cared for with nature in mind. Gardens are generally a mosaic of small habitats formed by lawns, shrubberies, rockeries, old trees, vegetable patches, fruit trees and bushes, hedges, walls, ponds, compost heaps, and the houses and other buildings. It is this variety of habitat that is a key factor in creating the richness of the garden ecosystem.

The feeding of garden birds is an increasingly popular activity. Many garden birds are adaptable and their ability to utilise new habitats and food sources is a key aspect of their ecology. Suburban gardens are believed to support the highest density of breeding birds of any habitat in Britain. The regular breeding birds of suburbia are mostly those of scrub and open woodland, presumably because the patchwork of garden habitats resembles the richest of woodland margins.

Garden ponds have turned out to be ideal habitats for several amphibians. Amphibians in general like dense vegetation around part of the perimeter of the pond. The abundance of such habitats in suburbia, together with a fair amount of introduction, has enabled Common Frogs and Smooth Newts to become widespread in urban areas.

Even allotments can play an important role. The open spaces provided by allotments can provide a

significant wildlife resource in urban areas. Many species of birds will breed or feed in such areas. Compost heaps will support a variety of invertebrates and not infrequently, Slow Worms and Grass Snakes benefit from the habitat mosaics created there.

## 7.2 Overall Objectives

**To maximise biodiversity in the urban environment by encouraging the design and use of our buildings, gardens and allotments to be sympathetic to the requirements of our wildlife.**

By far the greatest threat to the urban environment is the continual demand for more of it. The demand for more housing, offices and factories results in the loss of more greenbelt or infill on brownfield sites within our towns. In some respects the loss of brownfield sites has a more adverse effect on wildlife than the loss of green belt, which is very often arable farmland land with little wildlife value. In reality it will not be possible to stop or slow down the demand for new buildings and therefore it is more appropriate to divert our energies into ensuring that our urban environment is tailored to maximise its biodiversity potential.

The design and construction of modern buildings has seriously reduced the breeding and roosting sites for both birds and bats. Even on older buildings these sites are being lost due to repairs or restoration work. It is therefore important to influence the design of new buildings to provide suitable nesting and roosting sites and to retrospectively introduce such sites to existing buildings.

Fortunately, gardening for wildlife and the provision of garden ponds is on the increase and in some instances results in wildlife populations higher than those found in the countryside where their natural habitat is being lost. However, with a little guidance just minor changes to the design of wildlife gardens and ponds it is possible to increase the biodiversity value considerably.

Similarly allotments provide an attractive habitat for some forms of wildlife but with just a little extra effort, could provide ideal habitats for creature such as slow worms and grass snakes.

Therefore, the key to maximising biodiversity in the urban environment is not to oppose the relentless spread of urbanisation, but to ensure that the requirements of our wildlife are built into its design and that the Borough's residents are made aware of how to encourage wildlife into their homes and gardens.

## 7.3 Wildlife Sites

Of the 37 Wildlife Sites in Stevenage Borough only Exeter Close is classified as a neighbourhood Local Wildlife Site (See Table 7.1).

It is recommended that SBC ensure that Local Wildlife Site policies in the Local Plan and other strategic documents recognise and protect the Exeter Close Wildlife Site from damage through development.

### HABITAT ACTION N1

**TABLE 7.1**  
**NEIGHBOURHOOD NATURE LOCAL WILDLIFE SITES WITHIN STEVENAGE BOROUGH**

Wildlife site ref.	Name of site	Site area (ha)	Description
22/036	Exeter Close *	-	Houses and the nearby Wellfield Wood is an important area for protected species (bats).

\* Not owned by Stevenage Borough Council

## 7.4 Non-designated Sites with Improvement Potential

### 7.4.1 General

There are a number of features in the urban environment, which with a little modification can have a significant effect on biodiversity. These are:

- a. Buildings
- b. Gardens
- c. Garden Ponds
- d. Allotments

### 7.4.2 Buildings

In the past the construction of buildings was such that there were open eaves, loose tiles and holes in the walls, all of which provided both nesting and roosting habitats for bats and birds. However with modern construction techniques eaves are fitted sealed or with grilles, tiles are fitted with no gaps and walls are built with no holes. The situation is made worse by the fact that even on old buildings nesting and roosting sites are being lost due to repairs and restoration work. For some species such as the Swift this has had a devastating effect on their populations.



Stevenage's buildings could be more biodiverse through the inclusion of features to benefit nesting and feeding birds and roosting bats. The inclusion of 'green or brown' roofs on buildings, along with spaces for birds and bats should be a priority in light of declining populations of all bats and some urban birds.

The screaming of Swifts in early May is a real sign that summer has arrived. Swifts have all-dark plumage, narrow scythe-shaped wings and on a very close view reveal a pale throat. They spend most of the year on the wing, only touching down at the nest site during the summer. They even 'roost' on the wing!

Having completed a 14,000-mile round trip to South Africa during our winter months, they are only with us for four months to breed before once again setting off on their long return journey. However, because of the loss of their breeding sites their population has dropped by 40% in the last 15 years (Swift Conservation) and it is predicted that they will be extinct within 20 years if replacement

nesting sites are not provided.

There are a number of ways of preserving and increasing the number of nest sites:

- a. Preserve existing nesting sites in old buildings
- b. Ensure that there is provision for nesting sites in new-build designs
- c. Retrospectively provide nest sites in existing buildings by modifying the design or installing nest boxes.



More information on Swift Conservation can be found at [www.swift-conservation.org](http://www.swift-conservation.org)

There are Swift colonies in Stevenage Old Town and it was proposed in the previous BAP to instigate a plan to not only safeguard the existing nesting birds but also attempt to get them to expand into adjacent areas. The recommended action remains to:

- a. Identify the Swift colonies in Old Stevenage and carry out a census of the nesting pairs.

### HABITAT ACTION N2

- b. Engage with and encourage local residents and businesses in the area of the colony to preserve the existing nest sites and to create new sites. Through development management, seek to incorporate Swift nesting places in new buildings and/or developments.

### HABITAT ACTION N3

- c. Encourage local residents and businesses adjacent to the study area to incorporate nest sites into their buildings. Through development management, seek to incorporate Swift nesting spaces in new buildings both in and around the existing breeding colony and across the rest of Stevenage.

### HABITAT ACTION N4

- d. Carry out an annual survey for nesting Swifts in the main colonies, adjacent areas and newly created nest sites.

### HABITAT ACTION N5

- e. The previous plan recommended a Swift Action Plan with Stevenage Homes Ltd. (SHL) to ensure Swift's needs were considered when new housing was planned or repairs are made to existing stock. A relationship was established resulting in boxes being installed in Walkern Road when houses were re-roofed and insulated. This should be continued with SHL being encouraged to contact HMWT for advice when carrying out roof or fascia repairs.

### HABITAT ACTION N6

An example of how Macclesfield residents have rallied round to try and safeguard the future of “their” swifts is given in the Case Study below

## Case Study – Macclesfield Express, Wednesday March 18, 2009

Residents have successfully campaigned to save endangered swifts living in their rooftops- by persuading their landlords to make special nest holes for them. When Cheshire Peaks and Plains (CPP) announced plans to replace the roofs on Brookfield Lane, the tenants’ first thoughts were for the feathered friends who inhabit their eaves every year.

So, led by resident April Boswall, they called on pressure group Swift Conservation to help. Mum-of-two April, 41, said: “When they told me what they were going to do, my first thought was for the swifts. A lot of the houses on our road get them. I get most with about eight or 10 each year, so we contacted Swift Conservation first thing to let them know. They got back to us and then spoke to CPP on our behalf.”

CPP had already started the work, but agreed to adapt the fascia boards with little 1” by 2” cubbyholes for the protected swifts to swoop into.

Housewife April, who lives with husband Dave, added:” They’ve made me three at the front and five at the back and I so hope it works and they come back this year. I so look forward to seeing them, I absolutely adore them. They swoop from the sky, then fly up the side of our houses and into the roofs, it’s an amazing sight.”

April and her neighbours have been asked by Swift Conservation- who survey the birds in a bid aid their survival- to keep them informed on the Brookfield Lane population.

Brian Martin of Swift Conservation said: “This kind of roofing work is vital for the survival of these birds – which have a large population in Macclesfield – because about 95% use eaves to build their nests. All they need is a tiny edge of a gable or eave. If more is not done to protect swifts, they could be extinct by 2028.

A CPP spokeswoman said:” It has been fantastic to work with Swift Conservation and local residents to continue to enable these birds to visit this particular area of Macclesfield and nest. We are grateful to the local residents, some of whom agreed for roofing work on their properties to be delayed and for adjustments to be made to their roofs to accommodate these birds.”

### 7.4.3 Gardens

Gardening for wildlife has been with us for some time now but to many it is still just a matter of planting a fruit-bearing plant, a butterfly bush and a sunflower. However, with very little extra effort it is possible to significantly increase the attractiveness of a garden to wildlife.

The kinds of plants we choose can have a profound influence on biodiversity. A diverse range of plants will, in general, lead to a diverse range of visiting animals but there are other important guidelines to bear in mind when planting. For example:

- Flowers with flat-topped umbels or daisy-like heads are particularly attractive to many nectar-seeking insects
- Flowers with complex flowers (e.g. double flowers) can make nectar inaccessible to insects.
- Sterile flowers (e.g. Hydrangea) are of limited use in the wildlife garden.

- Plant flowers in large blocks of colour to attract poorly sighted insects like butterflies.
- There's no need to limit planting to native stock only, especially in the nectar border, but be sure to choose some natives, particularly shrubs and trees, which are associated with thousands of insects and other animals.
- Plant for cover as well as appearance: a good thorny hedge or ivy-covered wall will give protection to many nesting birds and other animals.
- Avoid using plants that are known to cause problems in the wider environment, e.g. Spanish Bluebells, Japanese Knotweed, Parrot's Feather and New Zealand pygmy weed.

As well as being thoughtful about how we stock our garden with plants, there are many other ways in which we can boost garden biodiversity.

- Try to provide flowers throughout the year.
- Provide animals with water. Even installing a birdbath will have a very noticeable effect; but if you can go the whole way and provide a pond, you will notice a big difference.
- Create 'habitat piles'. These can be piles of logs, stones and rubble, cuttings, hollow stems and canes, or just about anything else. As long as they are left undisturbed, they will attract myriad invertebrates and other small animals.
- A compost heap is, in one sense, just another kind of habitat pile. However compost heaps also have unique characteristics (e.g. they generate heat) that make them extremely productive microhabitats in the garden. They also benefit the wider environment because it's a direct way of recycling vegetable waste.
- Provide nest boxes. Bird nest boxes are a classic way of attracting birds to the garden, but nowadays the concept has been widened to include many other animals. You can buy (or often make quite simply) nesting or shelter boxes for hedgehogs, bats, solitary bees, bumblebees, ladybirds, lacewings and many other insects. Very often, the shelters you put up will be used in unexpected ways; for example bumblebees sometimes use nest boxes intended for birds.

So, with a few guidelines it is possible to enhance the wildlife garden into one that has a significantly improved biodiversity and provides some habitats that are disappearing from our countryside. The recommended action from the previous BAP was to include guidance on wildlife gardening in each issue of the Borough's magazine, the Chronicle. This aspiration has not changed.

## HABITAT ACTION N7

Improve awareness of neighbourhood nature by publishing regular articles in the Council's publication "The Chronicle".

## HABITAT ACTION N8

### 7.4.4 Garden Ponds

Garden ponds have been with us for a long time and are fortunately becoming more popular. Apart from providing a tranquil feature in any garden, they also provide a home to a selection of aquatic creatures, including amphibians, dragonflies and insects.

However, it is important to distinguish between an ornamental pond and a wildlife pond. Ornamental ponds are frequently designed with fish in mind and therefore often have filtration systems and are kept meticulously tidy. The planting regime, if any, tends to be more regimented and not allowed to become too invasive.

Wildlife ponds, however, are designed specifically to encourage the maximum amount of wildlife, and are therefore far more natural looking and are allowed to develop in a more haphazard way.

A wildlife pond performs a number of tasks. Firstly, a well-managed wildlife pond will become a thriving habitat for all kinds of creatures. Amphibians, aquatic animals and insects alike will find food and shelter within the pond's ecosystem. Secondly, a wildlife pond can become a haven for wild birds and mammals. At times it may prove a lifesaver, as it may be the only source of water in times of drought and during high summer. Thirdly, a wildlife pond will prove a popular breeding ground for many different amphibians and insects.



One of the biggest and most crucial decisions is where to site the wildlife pond. It is such an important consideration because the site will, by and large, determine how successful the pond is. So when choosing the location of the pond, try to opt for a spot or a corner of the garden that's quiet and will remain undisturbed. This allows the resident and visiting wildlife to feel safe and secure. Also try to site the pond away from any deciduous trees, as their shedding leaves in autumn can prove to be a menace.

The wildlife pond will need a bare minimum of 4 hours of sunlight a day. Having the pond in a spot that is constantly sunny can lead to an overabundance of oxygen-gobbling algae. Similarly, a pond that is mostly in shade will be cold and uninviting, and is less likely to thrive.



The shape and depth of the pond is also important. A pond with sheer sides will prove a death trap for many animals, particularly small animals such as hedgehogs that can't swim, but have no way of crawling out of the water. This is why it's so important to have a pond with a number of shallow shelves. These shelves not only protect the wildlife from drowning, but also allow small mammals and birds safe access to drink, wade and bathe in the water. A shelf around an inch deep is ideal, followed by one or two deeper shelves around 12 inches deep.

The wildlife pond should be at least 18-24 inches at the deepest point. However, the deeper the pond the better as this aids hibernation and shelter for many pond-dwellers. One very important point is that you should never put fish into the wildlife pond, as they will eat much of the wildlife that comes to shelter and live there!

The wildlife pond will basically need three types of plants – marginals (for planting around the boggy edges), oxygenating plants (to help the pond regulate itself and keep clean) and aquatic plants (to provide food, shade and shelter for pond life). Taller marginals will provide shelter and breeding grounds for certain types of insects, whereas frogs and other amphibians may prefer low-growing foliage on your pond shelves. Always take your time to research and choose your aquatic plants, as your choices will ultimately dictate how successful your pond becomes. Get the balance right and your wildlife pond will require very little management and interference.

Therefore, whilst ornamental ponds are an attractive feature of any garden, wildlife ponds provide a much more varied habitat and therefore significantly contribute to increased biodiversity. The recommended action from the previous plan was to publish a Wildlife Pond article in the Council's publication "Chronicle". Another article or the reissuing of the original article will help to remind residents of how valuable their ponds could be for wildlife.

## HABITAT ACTION N9

## 7.4.5 Allotments

Allotments are more like farmland cultivated by traditional means than gardens as they are labour intensive and are probably subjected to less application of herbicide and pesticide. No matter how well cultivated allotments are, there are always overgrown areas on unoccupied plots, margins and unused corners. These areas are left to develop naturally and provide ideal habitat for a variety of wildlife.

Even parts of the plots that are in use can be set aside or a small pond dug and can benefit from the guidelines given for gardens and garden ponds (see Sections 7.4.3 and 7.4.4 respectively). Also, as allotments are generally out of view from the house more extreme measures can be considered such as laying down a large sheet of corrugated iron, either on unused areas or on areas that are left fallow. Many allotment holders used these sheets as a matter of course to suppress weeds on sections that they propose to sow the following year. The warm ground below these sheets are attractive to cold-blooded creatures such as Slow Worms and Grass Snakes.



The recommended action is therefore to liaise with the Stevenage Gardens and Allotments Association to publish an article on managing allotments for wildlife in the Council's publication "Chronicle". As with the previous action another article will reinvigorate allotment holders to grow with wildlife in mind.

### HABITAT ACTION N10

## 7.4.6 Street Trees

Trees planted along streets help to define and frame the streetscape giving visual identity and enhancing the street scene.

One of the most topical issues with street and garden trees is that of subsidence. Trees are increasingly the subject of litigation over claims of subsidence and damage to buildings. Although trees are often not a cause of soil shrinkage or heave, the public perception towards trees can be one of wariness. It is important to note that the perceived threat of subsidence is much greater than the actual threat. It is estimated that less than 1% of the total tree population has been proven to have caused damage. The adequacy of the building foundations for the local soil and geology is the underlying issue. However, the amount of money lost by tree and property owners due to subsidence claims is considerable, with single claims running into the tens to hundreds of thousands of pounds. Insurance companies, mortgage lenders and the press tend to perpetuate and increase this negative perception.

The importance of street trees should not be underestimated. People in Stevenage will come into contact with street trees more often than trees planted in other locations. Often they are the only significant vegetation growing in streets. Unfortunately the visual amenity provided by street trees is often only truly appreciated when a tree is pruned heavily, or removed, and the difference is noticed. The particular benefits that street trees provide include:

- enhanced quality of life for people living and working in Stevenage through promoting a sense of well-being and so promoting health
- increased privacy in residential roads and gardens through screening

- increased local property values: a survey of any Estate Agent's window will always show more expensive properties being in "tree-lined streets"
- linking areas of green space
- filtering airborne dust and pollution
- reducing temperature extremes at street level
- they absorb some traffic noise.

There are many disease resistant elm trees (although not native) becoming available, although unfortunately some are not appropriate for hedgerow or woodland planting. However, they are good as standing trees and are suitable for roadside planting. It is recommended that Stevenage consider including elm in its replanting programme (with other appropriate trees e.g. lime to provide nectar and honeydew for invertebrates).

## 7.5 Neighbourhood Nature Action Plan

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
N1	Exeter Close Wildlife Site	Ensure policies in Local Plan and other strategic documents ensure its protection	SBC	Publication of Local Plan	Appopriate policies published.
N2	Stevenage Old Town	Identify the swift colonies in Old Stevenage and carry out a census of the nesting pairs.	SBC	August 2017	Report issued
N3	Stevenage Old Town	Engage with and encourage local residents and businesses in the area of the colony to preserve the existing nest sites and to create new sites. Through planning control, seek to incorporate Swift nesting spaces in new buildings and developments.	SBC/ HMWT	Ongoing	Ensure opportunities to incorporate swift boxes into planning decisions is taken.
N4	Stevenage Old Town	Encourage local residents and businesses adjacent to the study area to incorporate nest sites into their buildings. Through planning control, seek to incorporate Swift nesting spaces in all new buildings both in and around the existing breeding colony and across the rest of Stevenage.	SBC/ HMWT	Ongoing	Ensure opportunities to incorporate swift boxes into planning decisions is taken .

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
N5	Stevenage Old Town	Carry out an annual survey for nesting Swifts in the main colonies, adjacent areas and newly created nest sites. Contact Herts Bird Club and Herts Environmental Records Centre for advice.	SBC	Annually	Contact HERC and HBC for surveyor contact
N6	-	Build on relationship established with Stevenage Homes Limited to ensure Swift's (and other protected species) needs are considered when new housing is planned or repairs are made to existing stock.	SBC/ SHL/ HMWT	Ongoing	SHL contact HMWT when preparing plan for roof or facia repairs.
N7	-	Include guidance on wildlife gardening in the Chronicle	SBC	Annually	"Wildlife Gardening" articles published
N8	-	Improve awareness of neighbourhood nature by publishing an article in the Borough's magazine.	SBC	2018	"Neighbourhood" Nature article published
N9	-	Publish a Wildlife Pond article in the Chronicle.	SBC	2019	"Wildlife Pond" article published
N10	-	Publish an article on managing allotments for wildlife in the Chronicle.	SBC/ SGAA	2019	Wildlife Allotment" article published

## Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Neighbourhood Nature Plan

Action No.	Site	Action	By Whom	By when	Success Criteria	Achieved
N1	Exeter Close Wildlife Site	Include policies in Local Development Framework and other strategic documents to ensure its protection	SBC	Publication of Local Development Framework	Appropriate policies published.	N/A LDF not published
N2	Stevenage Old Town	Identify the swift colonies in Old Stevenage and carry out a census of the nesting pairs.	SBC	September 2011	Report issued	No
N3	Stevenage Old Town	Engage with and encourage local residents and businesses in the area of the colony to preserve the existing nest sites and to create new sites. Through planning control, seek to incorporate Swift nesting spaces in new buildings and developments.	SBC	April 2012	Before and after photos	Yes
N4	Stevenage Old Town	Encourage local residents and businesses adjacent to the study area to incorporate nest sites into their buildings. Through planning control, seek to incorporate Swift nesting spaces in all new buildings both in and around the existing breeding colony and across the rest of Stevenage.	SBC	April 2012	Before and after photos	Yes

Action No.	Site	Action	By Whom	By when	Success Criteria	Achieved
N5	Stevenage Old Town	Carry out an annual survey for nesting Swifts in the main colonies, adjacent areas and newly created nest sites.	SBC	Annually	Report issued	Yes
N6	-	Agree a Swifts action plan with Stevenage Homes Limited to ensure Swifts needs are considered when new housing is planned or repairs are made to existing stock	SBC/SHL	December 2011	Swifts Action Plan Issued	Partial
N7	-	Include guidance on wildlife gardening in the Chronicle	SBC	Annually	"Wildlife Gardening" articles published	Yes
N8	-	Improve awareness of neighbourhood nature by publishing an annual article in the Borough's magazine.	SBC	December 2011	"Neighbourhood" Nature article published	Yes
N9	-	Publish a Wildlife Pond article in the Chronicle.	SBC	December 2011	"Wildlife Pond" article published	Yes
N10	-	Publish an article on managing allotments for wildlife in the Chronicle.	SBC/SGAA	December 2011	Wildlife Allotment" article published	Yes
N11	All	Create a Street Tree Register	SBC	December 2010	Register Issued	Yes

# 8. IMPLEMENTATION AND MONITORING

## 8.1 Implementation

The delivery of the Biodiversity Action Plan (BAP) will be the responsibility of Stevenage Borough Council (SBC), supported by key partners. During the previous plan period the Council and its partners engaged with local communities in the conservation of Stevenage's green spaces and raised awareness of the town's habitats and associated wildlife. As a result volunteer working groups have been set up and a steering group continues to meet to guide the implementation of the plan.

The terms of reference of the Steering Group should continue to be to:

1. Monitor and review the progress of implementation of the BAP.
2. Select individuals or organisations to carry out the required monitoring work.
3. Assess the results of the monitoring work.
4. Agree new actions if required as a result of the monitoring work.
5. Ensure that an Annual Report of the progress against the BAP actions is completed each year.

## 8.2 Monitoring

In order to assess the effectiveness of habitat creation and management changes it is important to monitor the changes to the habitats and species they support. The most significant monitoring achievement of the previous BAP was to undertake an audit of all the Stevenage Local Wildlife Sites (LWS). This provides a baseline which can be revisited in the future to judge the relative condition of the LWS in the borough.

This current BAP review provides an update as to the condition of the LWS resource and puts forward management suggestions that could be implemented to improve their condition. Regular condition monitoring will be necessary to assess changes and to potentially alter management if required. It is recommended that all LWS are resurveyed every five years. This will enable changes to be detected and management implemented to address them if they are negative.

### MONITORING ACTION Mo1

Monitoring actions have been suggested throughout this plan review and have been set out in the monitoring action plan below. Other monitoring suggested in the previous plan has been largely completed. Where it has not been completed it should be revisited during this plan period.

## 8.3 Monitoring Action Plan

Action No.	Site	Action	By Whom (TBA)	By when	Sucess Criteria
Mo1	Local Wildlife Sites	Resurvey all Local Wildlife Sites in Stevenage to compare condition with 2013 survey	SBC/ HMWT	2022	Report issued
G6	Shackledell Grassland	Introduce regular monitoring programme for Great Green Bush Cricket	SBC	2018	Contact HERC and establish training programme and volunteer group.
G22	Roadside Grass Verges	Identify further areas for wildflower verge management	SBC	2018	New sites for wildflower meadow management identified and management changed
N5	Stevenage Old Town	Carry out an annual survey for nesting Swifts in the main colonies, adjacent areas and newly created nest sites. Contact Herts Bird Club and Herts Environmental Records Centre for advice.	SBC	Annually	Contact HERC and HBC for surveyor contact
N2	Stevenage Old Town	Identify the Swift colonies in Old Stevenage and carry out a census of the nesting pairs.	SBC	August 2019	Report issued
N5	Stevenage Old Town	Carry out an annual survey of the nesting Swifts in the main colonies and in the adjacent areas.	SBC	Annually in June	Report issued
We17	Whomerley Wood Moat Pond	Freshwater Habitats Trust to carry out a survey.	SBC	2018	Survey report issued
We18	Whomerley Wood Moat	Freshwater Habitats Trust to carry out a survey.	SBC	2018	Survey report issued

## Achievements against the targets of the Stevenage Biodiversity Action Plan, 2010-2015, Surveillance Activities

Action No.	Site	Action	By Whom	By when	Success Criteria	Achieved
G15	Fairlands Valley Park Southern Sector	Monitor the new hay meadow area in the first year and then biannually for the key indicator species.	SBC	Biannually	Results Issued	Yes
G17	Fairlands Valley Park Southern Sector	Assess new hay meadow in year three and if too dense, inoculate with Yellow Rattle.	SBC	2014	Photos	Yes
G20	Fairlands Valley Park Southern Sector	Assess extended hay meadow in year three and if too dense, inoculate with Yellow Rattle.	SBC	2014	Photos	Yes
G23	Roadside Grass Verges	Monitor each of the verges in the first year and then biannually for the key indicator species.	SBC	Biannually	Results Issued	Partial
G24	Roadside Grass Verges	Carry out a flora survey on each of the grass verges.				
G25	Roadside Grass Verges	Assess success in year 3 and identify further areas for verge meadows	SBC	2013	Grassland Mowing Plan Updated	No
N2	Stevenage Old Town	Identify the Swift colonies in Old Stevenage and carry out a census of the nesting pairs.	SBC	September 2011	Report issued	Attempted but unsuccessful

Action No.	Site	Action	By Whom	By when	Success Criteria	Achieved
N5	Stevenage Old Town	Carry out an annual survey of the nesting Swifts in the main colonies and in the adjacent areas.	SBC	Annually in June	Report issued	Attempted but unsuccessful
We18	Whomerley Wood Moat Pond	Pond Conservation Trust to carry out a survey.	SBC/ PCT	December 2012	Survey report issued	No
We19	Whomerley Wood Moat	Pond Conservation Trust to carry out a survey.	SBC/ PCT	December 2012	Survey report issued	No

# 9. SUMMARY

This five-year Biodiversity Action Plan (BAP) for Stevenage Borough updates the 2010-2014 BAP and identifies action for 2017 until 2022.

The Plan lists 104 SMART actions (projects), as follows:

Grassland habitat	25 actions
Woodland habitat	24 actions
Ancient Hedgerows habitat	5 actions
Wetland habitat	33 actions
Neighbourhood Nature habitat	10 actions
Monitoring Action Plan	1 new action

The delivery of the BAP will be the responsibility of Stevenage Borough Council, supported by key partners. It is recommended that a dedicated officer be appointed/designated to manage the delivery of the plan, particularly as there is a significant opportunity to involve the local community in volunteer working groups and the implementation of many of the Neighbour Nature Habitat Actions. There is also a major opportunity to raise awareness of the town's rich resource of wildlife habitats with the local communities.

Progress will be monitored by a Steering Group and progress will be detailed in an Annual Report.

# 10. GLOSSARY

## Agenda 21

An Action Plan for the 21st century endorsed at the Earth Summit. Agenda 21 sets out how we can meet the needs of communities and individual people today, whilst improving the quality of life and safeguarding the environment for future generations.

## Biodiversity

Biological Diversity - the total variety of life on earth or any given part of it, the variety of genes, species and habitats within an area.

## Biodiversity Action Plan (BAP)

A framework for achieving the conservation of biodiversity based on the targeting of resources towards protecting priority habitats and species. BAPs also provide a means for the involvement in conservation of a wide range of organisations including the participation of members of local communities. BAPs can be prepared at a range of levels: country-wide (e.g. the UK Biodiversity Action Plan), for counties (e.g. the Hertfordshire BAP) or for recognised areas (e.g. the National Forest BAP).

## Broadleaved Woodland

10% or less canopy cover by conifers.

## Coniferous Woodland

10% or less canopy cover by broadleaved species.

## Conservation

The management of habitats and human use of the environment to sustain the diversity of wildlife occurring.

## Convention on Biological Diversity

The Convention was signed by the Prime Minister and 150 other Heads of State or Governments at the Earth Summit in Rio de Janeiro in June 1992. Under Article 6A of the Convention signatories must develop national strategies, plans or programmes for the conservation and sustainable use of biodiversity.

## Coppicing

The traditional form of management of much of the broadleaved woodland in the UK. It involves cutting down trees and shrubs near ground level, allowing the tree to re-grow from the stump, and re-cutting at intervals of one or more decades to provide a harvest of long straight poles, which may be used for fencing, crafts or construction.

## Diversity

An assessment of the richness of different types in a location (which can be a large or small area) including the number of different habitats or numbers of different species.

## Earth Summit

A United Nations Conference on Environment and Development held in Rio de Janeiro in June 1992.

## Ecology

The study of the inter-relationships between living organisms and their environment.

## Environment

The external surroundings (i.e. physical and chemical conditions) experienced by and influencing species and habitats.

## Fauna

All animal life.

## Flora

All plant life.

## Habitat

A place in which a particular plant or animal lives. Often used in a wider sense, referring to major assemblages of plants and animals found together such as woodlands or grassland.

## Habitat Action Plan

A targeted programme of management measures aimed at conserving or maintaining/restoring a specific habitat. Habitat Action Plans identify conservation objectives and targets for the habitat in question and specify actions and responsibilities for achieving the objectives.

## Habitats Directive

The abbreviated term for Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. This Directive promotes the conservation of certain priority habitats and species within the European Union by requiring Member States to take measures to maintain or restore natural habitats and populations of wild species.

## Indicator species

An organism whose characteristics (e.g. presence or absence, population density, dispersion, reproductive success) are used as an index of attributes too difficult, inconvenient, or expensive to measure directly. For example, such characteristics may be used to indicate the degree of pollution or other environmental conditions at a particular locality.

## Invertebrates

Animals without a backbone (insects, for example).

## Local Agenda 21

Partnerships of local people, communities and organisations to achieve Agenda 21 at a local level.

## Local authority

A local government body, such as a County, District or Borough Council.

## Local Biodiversity Action Plan

A Biodiversity Action Plan prepared for a local area (usually a single county, grouping of counties, District or Borough). Government guidance recommends that local BAPs correspond to local authority boundaries.

## Local Nature Reserve (LNR)

An area of land that is of special nature conservation interest locally. LNRs are declared and managed by local authorities under the National Parks and Access to the Countryside Act 1949.

## Local Wildlife Site

A site not qualifying as of national importance for the wildlife it contains (i.e. a SSSI) but regarded to be of importance for wildlife at a county level, its importance being merited in a parish, district, borough or county context.

## Mixed Woodland

10-90% of both broadleaved and coniferous species in the canopy.

## Monitoring

A process of repeated observations of one or more elements of the environment, such as a population of species or water quality. Monitoring should follow a prearranged programme in space and time and use pre-set methods for data collection. Monitoring provides factual information concerning the present state and past trends in environmental parameters.

## Nationally rare species

Species of very limited national occurrence and distribution. They are defined as those species known to occur in 15 or fewer of the 10 x 10 km Ordnance Survey grid squares that divide Great Britain.

## Nationally scarce species

Species of limited national occurrence and distribution. They are defined as those species known to occur in 16-100 of the 10 x 10 km Ordnance Survey grid squares that divide Great Britain.

## Native species

A species that occurs naturally in an area and, therefore, not having been introduced by humans, either accidentally or intentionally.

## Non-native species

A species which has become established in the wild in an area (most usually a country) in which it does not naturally occur. Non-native species may be introduced into an area as a result of human activities/ intervention (whether deliberate or accidental). These species may have adverse effects on native species and habitats as a result of competition.

## Parkland

This category comprises areas of scattered trees or woodland whose tree canopy cover is less than 30%.

## Pollard

A tree that has been cut about two metres above the ground so as to produce a crop of branches suitable for fencing or firewood. Cutting at such a height prevents the new shoots from being eaten by grazing animals

## Pollution

The introduction by man, directly or indirectly, of substances into the environment resulting in deleterious effects to wildlife, hazards to human health or hindrance to activities such as fishing and recreation.

## Population

All individuals of one species occupying a defined area and usually isolated to some degree from other similar groups of the same species.

## Red Data Book species

A species listed in catalogues published by the International Union for the Conservation of Nature (IUCN), national agencies or county-level organisations, listing species which are rare, endangered or vulnerable to extinction globally, nationally or within counties.

## Ride

An open unmade track through a wood.

## Scrub

Defined as vegetation dominated by locally native shrubs, scrub usually has a canopy less than 5 metres in height, occasionally with a few scattered trees.

## Semi-natural habitats

A habitat modified to a limited extent by human activities, but still consisting of species naturally occurring in the area. The majority of important habitats remaining in the UK are considered to be semi-natural as opposed to natural.

## Short list species

The top priority species for conservation in the UK as identified in the UK BAP Steering Group Report. This report also identifies a long list of species which are of a lesser, but still national, conservation priority.

## Site of Special Scientific Interest (SSSI)

An area of land or water notified by a statutory conservation agency under the Wildlife and Countryside Act 1981 as being of national nature or geological conservation importance.

## Survey

An inventory of the attributes of a site, area or region, usually in terms of habitat and associated species and normally following a standardised procedure.

## UK Biodiversity Action Plan

A strategy produced in 1994 by the UK Government that provides the framework for fulfilling the UK's responsibilities towards the Convention on Biological Diversity.

## UK Steering Group Report

The report following from the UK BAP in 1995 which establishes specific actions and responsibilities for achieving the UK BAP.

## Water quality

The nature of a body of water in terms of its physical characteristics, turbidity for instance, and its chemical characteristics, nutrient status or level of pollutants for example.

## Wetland

Any habitat that is characterised by the presence of flowing or standing water at some stage in the year. Wetlands can range from open water bodies such as lakes and ponds, to seasonally wet habitats such as carr woodland or lowland wet grassland.

## Woodland

Woodland is defined as vegetation dominated by trees (more than 5 m high when mature) forming a distinct, although sometimes open, canopy. If the cover of tree canopy is less than 30%, the area is shown as scattered trees on the appropriate background habitat. Where there are sizeable open spaces or rides these are recorded as the appropriate habitat.



