London Borough of Sutton

Parks and Open Spaces Strategy

2019-2026

DRAFT

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FOREWORD BY LEAD MEMBER

(To include purpose and reasons for update)

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1. Introduction

Welcome to the first combined open spaces and parks, trees, and biodiversity strategy, which brings together the Council's plans for green, open space throughout the borough. The London Borough of Sutton has more than 464 hectares of parks and open space, including formal parks, wildlife areas, lakes and waterways, and sports grounds and in addition there are allotment sites, cemeteries, highway verges and greens that add to the green appearance of the borough. Satisfaction with parks remains high at 88% and 89% of residents say they visit parks, but with residents' lifestyles changing and the population increasing significantly, it is important that the borough's parks and open spaces continue to be relevant to residents needs and expectations.

There is a renewed appreciation of the public health benefits that being in and using green space brings, and parks can improve people's physical and mental health and wellbeing by supporting people to have active lifestyles. There are volunteering opportunities in parks and biodiversity sites, which can help people get to their know their neighbours, strengthening a sense of community and give all residents scope to learn or improve their skills. Parks are a thriving part of the local economy, hosting small business such as children's nurseries,

training facilities and parks cafes. They provide venues for events such as funfairs, community festivals, food fairs and organised sports. But for those seeking peace and quiet, time to relax with friends or just walk the dog, there are numerous open spaces each with their own character to explore and enjoy.

Trees and woodlands are an important part of Sutton's parks and urban landscape. Sutton is recognised as a "leafy place", and has a proud heritage of tree cover, ranging from Victorian & Edwardian planted avenues of Plane, Lime and Beech, to many veteran trees dating back over 300 years. Trees improve the air we breathe and community wellbeing, by creating a green and calming environment for residents and visitors, while providing a wide range of habitats for wildlife.

The final component of this strategy is the Biodiversity Strategy; a plan of action for protecting, conserving and enhancing Sutton's wildlife at a local level, using measurable targets. It includes plans for managing habitats including chalk grassland, rivers and wetlands, parks and green spaces, woodland and scrub and it is right that all life, whether plant or animal is considered and accommodated across all the land the Council manages. The overarching aim is to ensure the conservation, protection, and enhancement of biodiversity in the borough, for current and future generations.

Sitting under the Council's Environmental Strategy, The Parks and Open Spaces Strategy, including the Tree Strategy and Biodiversity Strategy set out how the Council will continue to provide high quality open space, tree stock and habitats to meet the needs of local people and wildlife and how with careful management the Council's ambitious corporate objectives can be achieved. The strategy replaces the Open Spaces Strategy published February 2007 and the Tree Strategy agreed Feb 2009, and updates the Biodiversity Action Plans 2010 - 2015, and replaces the Habitat Action Plans.

2. Setting the scene

2.1 What is an open space?

Open spaces include ornamental parks, recreation grounds used for sport, biodiversity sites and river corridors where wildlife flourishes, cemeteries and churchyards, allotment gardens, verges and planted areas landscaped to add character and improve the appearance of streets. These spaces must be freely accessible during the day to the borough's residents.

2.2 How does this strategy support the Council's Corporate Plan?

The Council's published Corporate Plan 'Ambitious for Sutton 2018-2023' gives the four priorities of the Council:

- being active citizens
- making informed choices
- living well independently
- keeping people safe

Parks and open spaces provision relates most closely to the Being Active priority. This strategy supports the following outcome for Being Active: “The physical environment is maintained and improved for all residents”. This will be achieved by: :

- Reviewing the existing and developing a new Parks and Open Spaces Strategy (this document);
- Increasing the amount and range of activities in the borough’s parks;
- Working with partner organisations, Friends Groups and Local Committees to increase the amount of external funding contributions that can be secured to deliver improvements to parks;
- Delivering one of the largest parkland areas in London through quality landfill restoration in Beddington;
- Maintaining parks policing and commitment to supporting Friends Groups, organised activities and keeping parks safe and free of anti-social behaviour.

The Corporate Plan also commits the Council to support community tree-planting schemes with the aim of achieving over 2,000 new trees across the borough through:

- Sponsorship of new trees;
- Seeking funding for planting trees through planning and other funding opportunities.

The Council’s Environment Strategy sets out a number of targets and actions relating to creating ‘A Greener Borough’. This Parks and Open Spaces Strategy provides greater detail on how these areas of work will be taken forward and sets out the Council’s vision, objectives, targets and action plans in relation to open spaces management.

2.3 Protecting parks and open spaces through planning legislation

Planning legislation and policy protects the Borough’s parks and open spaces. Planning policy for open space has three tiers; national, regional, and local. In Sutton this primarily consists of:

- The Government’s National Planning Policy Framework (NPPF), which sets out the need to assess the quality and quantity of open space;
- The Mayor’s London Plan, which outlines the need to assess all forms of open space; and
- Sutton’s Local Plan, which identifies and safeguards open space in the borough.

The NPPF (2018) advises that councils should conduct up-to-date assessment of the need for open space and opportunities for new provision; whilst working towards the protection and enhancement of networks of biodiversity and green space. The NPPF is supported by National Planning Practice Guidance (NPPG), which advises local authorities to prepare local strategies and requires them to take account of biodiversity.

The Mayor of London’s London Plan (2016) aims to protect and promote London’s open spaces and green infrastructure. Key relevant policies in this plan include the requirement for planning authorities to audit, manage and protect existing green spaces and infrastructure and develop priorities for addressing deficiencies. Also included are dedicated policies relating to play and recreation space, urban greening, sustainable drainage and biodiversity. The Supplementary Planning Guidance document on the All London Green Grid, published in 2012, added extra emphasis in respect of connecting and integrating London’s green infrastructure network.

The Sutton Local Plan (2018) reflects national and regional policy and designates a number of different types of open space in the borough, including green belt and metropolitan open land, public open space, urban green space and allotments. The Local Plan contains policies that seek to retain the existing level of open space in the borough and to support the improvement, enhancement and management to existing open spaces in Sutton. This includes open space managed by other bodies including Beddington Farmlands (part of the Wandle Valley Regional Park) and Mayflower Park in Worcester Park. The Council will continue to work with other bodies and agencies to secure open space for the benefit of residents.

More detail on the planning policy context is provided in Appendix 1. Appendices 2- 7 from the Sutton Local Plan show access to open space across the borough.

3.0 Research findings from resident and service user surveys

This section analyses and explores the findings of recent resident and service user surveys to help understand how the borough's open spaces are used and the expectations of visitors. Information about parks visitors helps the Council plan for their needs, prioritise spending and identify where improvements should be made. Four items of research are considered:

1. The Residents Survey. Undertaken by MORI on behalf of the Council every two years and most recently in 2017.
2. The Parks and Open Spaces Visitors Survey. An online survey on the Council's website, completed by 690 residents who reported their use of open spaces, how satisfied they were with them, if they felt safe during their visits and whether they had volunteered or wanted to volunteer in parks.
3. Observation Surveys 2018. Carried out by council officers during Autumn 2018 who observed and recorded visitor numbers present and the activities they were engaged in. The thirteen parks surveyed were chosen to be a diverse selection, including small and large sites, traditional parks and simple open spaces
4. The Sustainability Strategy consultation research. Sutton Council consulted with 293 residents about how to ensure the borough becomes a more sustainable place to live, work and visit. This was supplemented by focus groups run by Community Action Sutton. The responses to the greening the borough theme are relevant here.

3.1 Use of parks

The Resident's Survey found that for parks and open spaces:

- 89% of residents say they use parks and open spaces.
- Open spaces were most likely to be used by households with 2+ adults with children: 94% of households in this group say they visit parks

The survey found that for playgrounds:

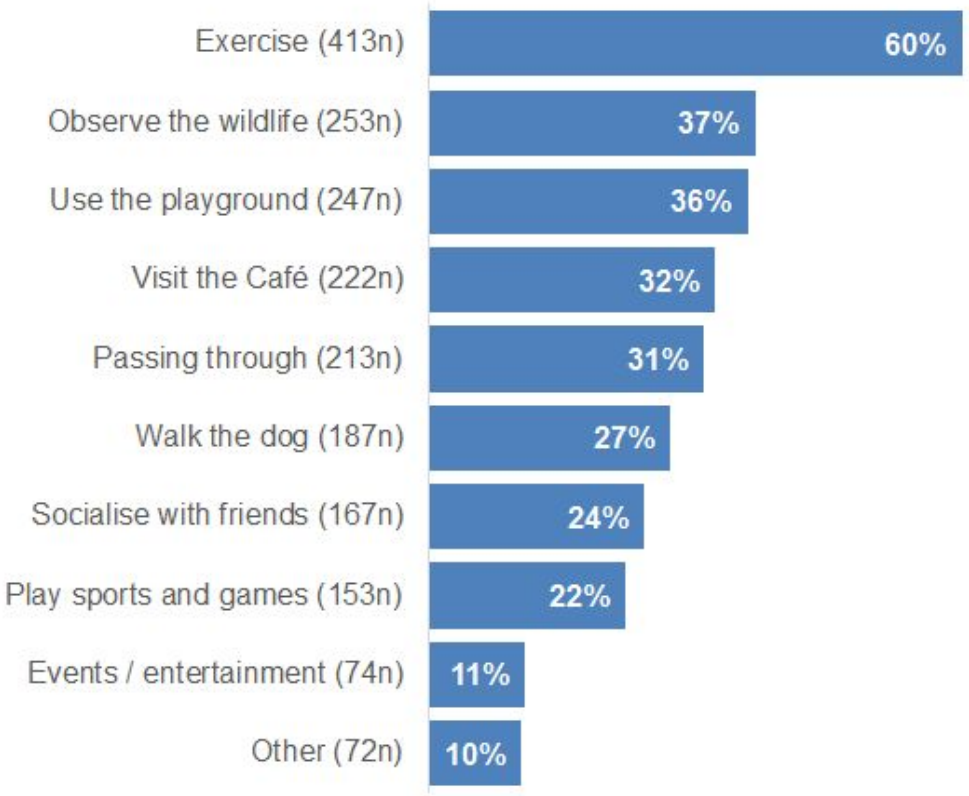
- 41% of people living in the borough use playgrounds.
- This rose to 72% of households with a stay at home parent and 65% of black and ethnic minority households.

The Parks and open spaces visitors survey 2018 found that:

- 44% of residents use the park less than everyday, but more than once a week.
- On average 46% use the park for 30 minutes to one hour per visit.
- More than half (57%) use the park with their family with 28% visiting alone.
- 6 out of 10 (60%) use the park for exercise.

- 32% (218 people) said they would be interested in attending organised activities and events such as walks and talks.

Visitors were asked what they used the park for. The most popular use is for exercise (60%) and of those 61% are female and 32% are male (7% did not disclose their gender). Half of visitors exercising in the park say that this is their main way of exercising. This suggests that parks are already an important venue for exercise , especially for women.



Data from the Observation Surveys 2018 can be used to calculate an annual number of visitors at each park. Of the parks surveyed the top three for annual visitors are likely to be:

1. Manor Park (742, 638 visitors)
2. Beddington Park (628,957 visitors)
3. The Grove (608,382 visitors)

However even the three least visited parks would be expected to have a considerable number of annual visits:

1. Corrigan Avenue Rec (15,374 visitors)
2. Belmont Park (24,835 visitors)
3. Poulter Park/RevesbyWood/Middleton Open Space (linked open spaces) (80,417 visitors)

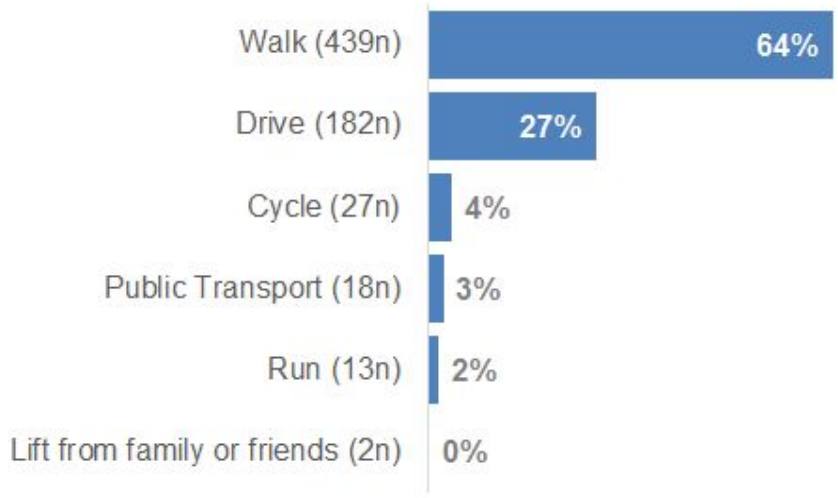
It was noted that the type of visitor varied considerably between the thirteen parks surveyed, for example:

- Overton Park has an estimated 47% teenage visitors and Rosehill East and West 32% teenage visitors; considerably more than any other parks observed, with the next highest Manor Park having just 13%.

- Corrigan Avenue Recreation Ground has an estimated 77% of visitors with a dog; Oaks Park has 76% of visitors with a dog, with Cuddington Recreation Ground the next highest having just 31%.
- At Oaks Park only 5% and at Corrigan Avenue only 8% of visitors are estimated to be children, while all the other parks observed have around 20-30% of visitors that are children.

3.2 Travelling to parks

To understand the distance from home that residents are prepared to travel and the implications their journeys have for local roads and air quality, the Parks and open spaces visitors survey 2018 asked visitors 'How do you normally get to the park?' and 'Approximately how long does your normal journey to the park take?'. The results are shown below.



Most respondents (64%) walk to the park, while around a quarter (27%) drive to the park. For 39% of respondents their normal journey to the park takes between 5 and 10 minutes and less than 2% have a journey to the park which takes more than 30 minutes. This shows the importance of an extensive network of open spaces so that residents can quickly access open space and so that they can use parks as safe walking and cycling routes.

3.3 Satisfaction with parks

The Resident's Survey found that for parks and open spaces:

- Residents satisfaction with parks increased by 6% from 82% to 88% between 2015 and 2017.
- Satisfaction was highest in Beddington & Wallington (91%) compared with St Helier, The Wrythe and Wandle Valley (84%) and Cheam North and Worcester Park (85%).
- Among service users satisfaction increased by 1% from 88% to 89%

The survey found that for playgrounds:

- Residents satisfaction with playgrounds increased by 3% from 71% to 74% between 2015 and 2017.

- Amongst people using playgrounds, satisfaction increased by 4% from 80% to 84%.

The Parks and open spaces visitors survey confirmed that satisfaction is high with 83% of residents saying they were either very or fairly satisfied with their park and 91% either strongly agreed or agreed that their use of the park enhanced their quality of life.

3.4 Barriers to use and parks safety

The Parks and open spaces visitors survey 2018 found that 94% of residents felt either very or fairly safe alone in the park during the daytime, although this fell to 23% after dark. The survey also asked if anything prevented visits to the park or limited their enjoyment of the space. There were 358 responses to this question. Antisocial behaviour was the fourth most selected reason for

From the top ten responses shown below, the issue that prevented most people from visiting the park or limited their enjoyment of the space was dogs. This has significant implications for parks management as dog walkers make up about a third of all parks visitors and in the winter months may be an even larger proportion of visitors as, dogs need walking all year round. Creating some segregation of dog walkers from other users may be necessary in some parks especially at busy times of the year. Maintenance and facilities issues also need to be recognised and appropriate management measures taken to address concerns.

Theme	Number of first responses	Number of second responses	Number of third responses	Total*
Dogs	58	14	1	73
Maintenance	52	9	4	65
Facilities	43	8	1	52
Anti Social Behaviour	25	12	2	39
Travellers	32	6	0	38
Litter	25	5	1	31
Toilets	15	5	3	23
BBQs	10	7	1	18
Parking	11	4	1	16
Café	9	3	1	13

*The responses have been coded to identify the most prominent themes. Where comments included more than one theme, these have been included in the table below as the first, second and third responses. The total number of times a theme was mentioned is recorded in the total column. The themes have been ordered by the total number of times mentioned.

3.5 Volunteering

In terms of volunteering the Residents Survey identified that only 10% of residents regularly volunteer in any capacity in the Borough a significant fall since 2015 when 19% regularly volunteered. No figures are available for volunteering specifically in open spaces.

The Parks and open spaces visitors survey 2018 identified that a small proportion (less than 10%) said that they had taken part in volunteering activities such as litter picking, tree planting, running events, but a third of those surveyed said they would be interested in the future and 169 residents provided their contact details. This suggests that there is considerable potential to involve more volunteers in activities that could benefit parks and support other visitors.

3.6 Greening the borough

This section draws on the new Environment Strategy 2019 -2025 and the findings from the public consultation undertaken in Summer 2018. Respondents were provided with a vision statement for the Greening chapter of the strategy and asked to what extent they agreed/disagreed with it. Respondents predominantly strongly agree or agree with the vision for greening and a very small minority (2.73%) either disagree or strongly disagree with this.

When respondents were provided with the targets that Sutton and partner organisations would work towards to make Sutton a greener borough, they were overwhelmingly in favour of measures to limit loss of green space, increase tree canopy and maintain the biodiversity of the Borough. The table below provides the findings from this question.

Target	Strongly Agree	Agree	Neither Agree/ Disagree	Disagree	Strongly Disagree	Don't Know	No answer
No net loss in green space and by 2050,half of Sutton will be green	44.37%	34.81%	10.24%	5.12%	3.07%	1.71%	0.68%
By 2050, tree canopy cover will increase by 10%	43.34%	31.74%	11.26%	6.48%	3.07%	2.05%	2.05%
Maintain and enhance the biodiversity value of the borough	46.76%	37.20%	8.87%	2.05%	2.39%	1.71%	1.02%

The comments relating to these targets suggested that respondents were keen to see an increase in tree canopy cover with many suggesting a 10% target was not ambitious enough. Related to this 9.8% of participants said the maintenance of trees needs to improve. When respondents were asked if there were any further actions which could be taken to

make the borough greener, the most popular answer was that the tree canopy target should be higher (20.8%). Maintenance of trees and green spaces was favoured by 5.7% of respondents with the same percentage advocating community garden spaces.

The targets were updated following the consultation. A general comment due to the availability of data to monitor the delivery. The final set of targets included in the Greener Borough chapter within the Environment Strategy are:

- No overall reduction of green space in the borough.
- Planet 2,000 trees between 2018 and 2022.
- Maintain and enhance the biodiversity value of the borough.

These responses show the support for provision of open space, trees and maintaining the boroughs biodiversity which will be taken forward through appropriate management, policies and actions (please see the next section).

4. Vision and Objectives

The following vision statement and objectives have been developed to assist in delivering the Council's Corporate Plan and the planning requirements set out in the Local Plan. The research summarised above was used to inform the process.

Vision

The borough's parks and open spaces and trees will be well-maintained; support good public health, local culture, social activities and biodiversity and where possible opportunities will be taken to improve access to open spaces, facilities and activities.

Parks and open space objectives:

1. Promote the use of parks for public health, by working with GPs and clinical commissioning groups to develop a social prescribing offer and to provide residents with a range of sports, leisure and social activities.
2. Develop effective working relationships with sports and leisure partners to support residents as physically active citizens.
3. Work with friends groups, the voluntary sector, sports bodies and the wider community to develop volunteering opportunities in parks and open spaces.
4. Develop a commercial approach to the use of parks assets to generate revenue to support the service and the local economy, including through leasing facilities, hosting and providing events and where appropriate developing paid for community facilities and licensing businesses to deliver services for parks visitors.
5. Manage the council's trees in line with good practice and inspections to enhance the character and appearance of the borough and promote public safety, by maintaining a healthy, diverse and resilient tree population, and encourage tree planting.
6. Look for opportunities to improve the appearance of open spaces and enhance the local character of the borough through appropriate landscaping as funding allows.

7. Enable plant and animal biodiversity to thrive and promote an understanding of nature through careful management of open spaces and delivery of the Biodiversity Strategy.
8. Improve access to open space and facilities throughout the borough by removing barriers to access, providing enhanced facilities and where possible creating new open space.

Tree objectives

1. To manage the council's trees to maximise their lifespan and protect them from indiscriminate removal.
2. To enhance the character and appearance of the borough's streets and parks through choice of appropriate species through the principle of "right tree, right place".
3. To increase and encourage tree planting throughout the borough by planting tree species that ensure a diverse and resilient tree population that can respond to climate change, environmental factors and urban expansion.
4. To ensure that trees on council land are inspected and managed in line with good practice and records kept for the work completed, so that they do not pose an unreasonable threat to people and/or property, and to promote good tree health.
5. To improve the legal and technical framework in relation to insurance issues and reduce the costs of existing, and new claims for damages against the Council.
6. To continue to provide a cost effective tree service.
7. To raise awareness of the social and environmental benefits that trees provide through promoting education and partnership working and to develop community involvement in tree related issues.
8. To ensure that trees and woodlands contribute to a high quality natural environment, protecting and enhancing biodiversity.

Biodiversity objectives:

1. deliver robust, targeted actions to maximise biodiversity and natural habitats within the borough,
2. conserve and protect those areas identified as having the highest biodiversity value
3. deliver on the targets of the agri-environment Higher Level Stewardship and Basic Payment Schemes
4. deliver on the Environment Strategy targets for wildlife and natural habitats
5. work with key partners to deliver valuable outcomes for biodiversity
6. link with the Local Plan in maximising opportunities for wildlife within the built environment through Green Infrastructure and Biodiversity Accounting

5. Parks and open space management, policies and actions

This section details a number of open space management themes and sets out the policies and actions the Council will implement in partnership with friends groups, residents groups, sports bodies, external funding bodies, businesses and contractors. The findings from the research section have been used to inform the development of the policies and actions set out here.

5.1 Parks buildings as cafes and other landlord activities

Parks cafes are a valuable asset to any park and act as a focal point, resting area and provide toilets to enable longer stays in the larger parks. In addition to the community offer, cafes are small businesses and local employers, offer passive security for the park and a friendly welcome for parks visitors. The Council wishes to encourage cafes to open in all viable locations and to support existing cafes through offering commercially viable leases and ensuring that other activities in the parks support and do not undermine cafes.

Other former service buildings, depots, houses and pavilions no longer needed for their original purpose can be repurposed to provide a home for sports groups, park cafes, local businesses or to provide homes. It is important that these assets are put to good use for the community and in doing so there is the potential for the Council to generate income to further support investment.

Policy P1

The Council will support cafe operators through offering economically viable leases to operators that still provide a return to the Council to assist in funding essential investment in parks services.

Policy P2

The Council will support cafes by ensuring that activities in parks benefit or do not undermine their business and wherever possible facilities and landscaping will be developed and maintained to make the cafes attractive community spaces and meeting points.

Policy P3

The Council will identify opportunities to repurpose buildings within open spaces. Priority will be given to economically viable leisure or parks related activities, but if such an activity cannot be identified alternative commercial uses should be sought and planning permission sought for change of use.

Actions

1. Work with cafe operators to review the facilities and landscaping around the cafes and prepare an action plan to improve each location, subject to funding.
2. Consult with cafe operators about the type of events or activities that would help their businesses to thrive.
3. Identify and record all property assets within open spaces.
4. Prepare properties for leasing by ensuring the property has a current Energy Performance Certificate (EPC) at level E or better;
5. Lease properties at market rents for commercial purposes when appropriate.

5.2 Events and activities

Hosting events in open spaces has a number of benefits for the community including:

- Providing opportunities for young people through activities and employment;
- Making entertainment and culture more accessible and boosting the cultural offer to the local community;
- Assisting in developing a strong community identity and strengthening cross community relations;
- Having an economic impact, directly and indirectly, by creating and supporting employment and business opportunities both at and surrounding events;
- Providing a source of income for local projects through fundraising;

- Enhancing the reputation of the borough;
- Providing income for parks and open spaces.

The Council aims to host a sustainable and varied programme of outdoor events, while minimising negative impacts on the community and the fabric of parks.

There are a number of types of events suitable for parks and open spaces.

5.3 Community / civic events

Community events are organised by the community or voluntary groups for the benefit of the borough or local residents. A community event must always be offered with no entrance fees to the public. They will not provide significant advertising or other commercial benefit to a profit-making business or organisation. The organiser will be asked to provide proof that they are not profiting from allowing third party contractors, e.g. commercial stallholders to attend their event. Fees, where levied for community and third sector stallholders, will be set at an affordable and accessible level. The Council will charge a hire fee for such events.

5.4 Friends Group events

Many parks and open spaces have Park Friends Groups and other User Groups who help to oversee the maintenance, development and enjoyment of parks and open spaces. These events would generally be free for the public to enter. The Council will not charge for these events.

5.5 Charity events

Charity events of a non-commercial nature should be for the benefit of a registered charity and are designed to raise funds for that charity. The Council will charge a hire fee for such events.

5.6 Commercial, including promotional and marketing events

The Council will charge a hire fee for this type of event which includes all events intended to generate a profit or that are part of a commercial marketing campaign. Examples include:

- Corporate events;
- Trade fairs and exhibitions;
- Commercial music, theatre or comedy concerts or festivals;
- Marketing and promotional activities for profit making organisations (not charitable or fundraising);
- Funfairs and circuses.

5.7 Private hire and corporate events

Events included in this category may include weddings, private parties, professional caterers, awaydays, conferences, gala dinners, award ceremonies, coach or vehicle parking and other similar events, and will be assessed on a case-by-case basis. They might include the erection of temporary structures. The Council will charge a hire fee for such events.

5.8 Criteria for approving events bookings

Policy P4

Bookings will be taken for the sites listed below provided the event organisers can demonstrate that they can meet the pre-agreed criteria. The list of sites should be reviewed and amended at least every three years. Events must meet the following criteria:

1. There must be appropriate arrangements for visitor access including car parking, public transport, gates and paths.
2. Public protection arrangements to meet legal duties with regard to health, safety and welfare must be detailed.
3. Community safety and security must not be compromised by the event and suitable risk assessments and insurance must be provided.
4. Welfare arrangements must be appropriate for the type of event planned, including adequate toilet provision, food safety, noise control and waste disposal.
5. Licencing permissions must be addressed.
6. Any site specific requirement or limits need to be met, for example the size of event must be able to be accommodated on the site and it must be an appropriate type of event for the park.

This arrangement applies to the following sites:

Site	Funfairs	Large community events - up to 5000 people	Small community events -up to 1000 people	Music and theatre events	Boot fairs - Up to 6 a year per site
Beddington Park	yes	yes	yes	yes	yes
Carshalton Park	Yes (as part of fireworks display)	yes	yes	no	no
Cheam Park (Recreation Ground)	yes	yes	yes	Daytime only	no
Grove Park	no	no	yes	yes	no
Manor Park	no	Yes - depending on the type of event	yes	Daytime only	no
Mellows Park	Yes -only smaller specialist types	no	yes	no	yes

Oaks Park	no	yes	yes	yes	yes
Overton Park	no	Yes- depending on the type of event	Yes- depending on the type of event	yes	no
Poulter Park	no	yes	yes	yes	no
Rosehill Park West	yes	yes	yes	Daytime only	no
Roundshaw Playing Fields	yes	yes	yes	yes	yes
St Helier open Space	Yes -only smaller	yes	yes	Daytime only	yes

When events requested meet the agreed criteria, ward councillors will be informed of the request but will not be asked to approve the booking.

For other local or small sites the Ward Councillors will be consulted on proposed new events in their ward and only where the majority are in favour will the booking be accepted.

Policy P5
Income generated from events in parks and open spaces will be used in the first instance to cover the costs of managing events and meet the budget requirements. Any surplus income will be used to maintain parks .

Policy P6
The Council's fees and charges will be benchmarked against prices charged by other similar London Boroughs to ensure both market competitiveness and maximisation of potential income to Council. The applicable fees and charges will be advertised on the Council's website.

Flexibility will be retained to permit Council officers to negotiate fees if an event is considered to be particularly advantageous for the borough. In addition, the Council reserves the right to vary the charge for major events where the proposed entrance fees are considered to be high.

Actions
1. The Council will undertake an annual review of fees and publish them on its website.
2. The Council will rigorously enforce against events that have not been granted permission.

Policy P7

Friends groups will not be charged for events they organise provided they are free to enter or take part in, raise funds only for the friends group and the parks and do not include commercial organisations or businesses.

5.9 The potential for open spaces and parks activities and sports to improve public health

Open spaces provide opportunities for visitors to improve their physical, mental and social wellbeing and research shows that access to green space is associated with better health outcomes. Income related health inequality is less pronounced where people have access to green space.[1] Environmental benefits from open spaces can also make a significant impact on our general health by improving air and water quality, decreasing the risk of flooding and providing access to tranquility.[2]

5.10 Physical and mental well-being

Inactivity is recognised as contributing to obesity, coronary heart disease and type 2 diabetes. The table below shows how Sutton fares compared with the nation as a whole when assessing physical health.

	Nationally	Sutton Residents
Percentage of adults (18+) classified as obese or overweight in 2016/17	57.3%	55.2%
Percentage of adults doing 150 minutes of physical activity a week, as recommended by the Chief Medical Officer	59.5%	64.6%
Percentage of physically inactive adults - taking less than 30 minutes moderate activity a week	28.1%	22.9%
Percentage of people with type 2 diabetes aged 40 to 64 (national Diabetes Audit)	46%	42.8%
Percentage of people with type 2 diabetes aged 65 to 70 (national Diabetes Audit)	35.6%	38%

Physical activity is defined by the World Health Organisation as: “a state of complete physical, and social well-being, and not merely the absence of disease”. Physical activity and parks go hand in hand, as they provide opportunities for exercising, through walking, cycling, organised and informal sport, childrens play, gardening and through volunteering

[1] Mitchell R, Popham F. Effect of exposure to natural environment on health inequalities: an observational population study. Lancet. 2008;372(9650):1655-60.

[2]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/643239/PHE_and_National_Parks_England_accord.pdf

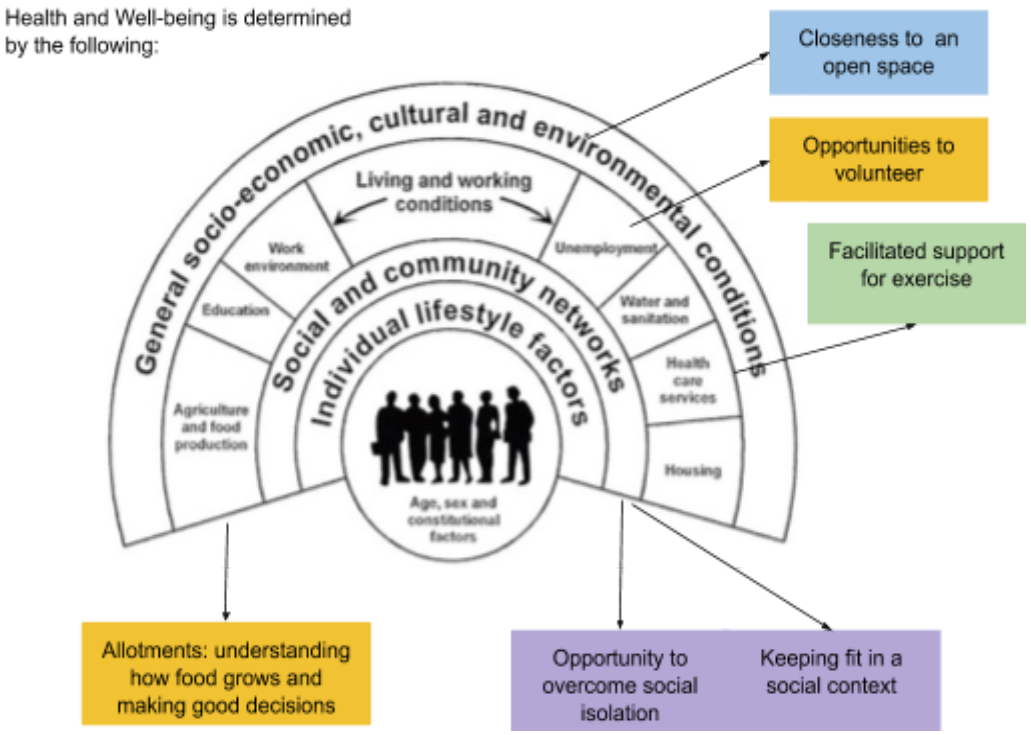
activities. Research shows that being in natural, green surroundings such as parks reduces stress, anxiety, aggression and lowers blood pressure.

In additional to physical health issues, one in four adults experiences at least one diagnosable mental health problem in any given year, with a cost to the economy estimated at £105 billion a year[3]. While visiting open spaces cannot cure every problem, physical activity is now recognised as being as effective in the treatment of depression as psychotherapy or medication and can help people reduce the symptoms associated with anxiety disorder, phobias, panic attacks and stress disorders.

5.11 Social wellbeing

Parks can be used to build a nurturing community spirit, through events, social gatherings, sports and involvement in volunteering, that bring together different kinds of people (gender, ethnicity, social class etc) in a space where everyone feels safe and can mix.

The diagram below shows how our health and wellbeing is influenced by our surroundings and circumstances and the ways that open spaces can be used to help individuals with their health and life choices.



5.12 Social Prescribing

Social prescribing, is a way GP's, nurses and other primary care professionals can refer patients to a range of local, non-clinical treatments such as increased physical activity, or greater participation is social activities. Sutton does not formally have a social prescribing

[3] https://www.england.nhs.uk/wp-content/uploads/2016/02/Mental-Health-Taskforce-FYFV-final.pdf

model, but the Council has commissioned the NHS Health Check programme which is designed to spot early signs of stroke, kidney disease, heart disease, type 2 diabetes or dementia for adults aged 40 to 74. At the end of the check the patient will receive their cardiovascular risk (% risk of developing or having a cardiovascular incident). The consultation carried out by a health care assistant will provide support and advice to help them change their behaviour and may recommend that they become more active. Part of the role of public health is to encourage, facilitate and coordinate the ability for patients to take part in physical activity post a health check. Parks and open spaces can provide for many of these needs through organised and informal sport and other volunteering and recreational activities.

5.13 Parks based provision of outdoor sports facilities

The Council has traditionally provided outdoor sports facilities for a range of pitch based sports including football, rugby, baseball and cricket, but demand for these sports in Sutton's parks has declined recently. In part this may be due to parks facilities not meeting players' expectations in terms of quality and a greater emphasis on private club sport. The Council is no longer able to support sport financially and a complete review of provision is now required to assess demand in the borough and establish how much of that demand can be met through private clubs and what provision is required in public open spaces.

Sports bodies, including the England and Wales Cricket Board, the Football Association, Bowls England, Sport England and the Lawn Tennis Association have sports development programmes in place and are willing to work with local authorities to promote their sports and develop facility improvement programmes. Improvement programmes may require a financial contribution from the Council and in that case the Council should consider investing in activities that best deliver the "being active citizens" corporate objective.

5.14 Playing pitch strategy

The Council produced its first playing pitch strategy in 2004 with an update in 2010. It included details on football, mini league, rugby, cricket, tennis, and netball. Preparing a playing pitch strategy is the best way to begin the process of reviewing provision. This assesses the amount of land available for sport, the likely demand for pitches and the quality of pitches provided. The likely demand in each age group and sport can be estimated by looking at population data. From this the Council can work with sports bodies to plan for current and future needs and agree how to provide the quantity and quality of pitches and facilities needed to encourage participation in outdoor sports and deliver the corporate public health objectives. The strategy is also essential to support funding bids to sports bodies.

5.15 Other sports provision

In addition to traditional pitch based sports, parks provide venues for other outdoor sports including bowling, croquet, baseball, table tennis, running, nordic walking, rambling, fitness training and golf. Some of these sports are provided by other organisations or businesses that use the parks as venues and there is scope for further sports to be provided for in this way. Sharing of facilities such as bowling pavilions and ball courts may assist with affordability of sports and it is recognised that providing a range of activities is essential to ensure that all ages, abilities, sexes and interests can be accommodated. Many of the

sports have social activities to keep players engaged and provision of club facilities supports the social aspects and assists with recruitment and retention of participants.

5.16 Informal recreation

Parks and open spaces provide residents with opportunities for informal activities including playgrounds, ball courts, outdoor gyms, trim trails, geocaching, walking and rambling. These activities can be just as beneficial for health as participation in organised sport and are free to use and open to all.

Policy P8

The Council will ensure there is sufficient capacity for organised outdoor sports to meet community needs.

Actions

1. Prepare a Playing Pitch Strategy to assess the Borough's demand for playing pitches and the capacity available to provide for that demand.
2. Prepare an action plan to improve facilities to meet demand, establishing costs, funding sources and timescales for improvement works.
3. Work with Idverde to introduce a recommended and licensed personal trainer scheme for Sutton's open spaces.
4. Work with Idverde to promote the use of existing parks facilities for sport and prepare a business plan for sports and activities to inform provision of facilities to meet the demand for new sports and activities.

Policy P9

The Council will maintain a network of playgrounds to ensure children can access safe playspace close to their homes.

Actions

1. Review playground provision working with Sutton Housing Partnership and other play providers and produce a plan to ensure provision and renewal of facilities within the budget available.

Policy P10

The Council will develop a menu of activities to offer to residents through GPs for social prescription.

Actions

1. Parks, Leisure, Libraries and other services to consider their service offer and develop a joint menu of activities that can be offered to residents through GPs for social prescribing.
2. Identify partner organisations who can help deliver activities in open spaces including sports clubs, external not for profit organisations and businesses.
3. Identify funding sources that will help pay for activity sessions in open spaces

4. Research the barriers to activities for target groups identified in the Corporate Plan and develop ways to include these groups in activities.

Policy P11
The Council will work with sports bodies and commercial partners to provide for a range of sports and activities in open spaces that meet community needs and generate income to offset the cost of parks maintenance and improvements.

Policy P12
Fees and changes for activities, sports and events will be maintained at a level that enables the service to cover the costs of provision.

5.17 Friends Groups
The Council wishes to support friends of parks groups and recognises the benefits they have for open spaces. Research by the Parks Alliance identified that where strong, active friends groups existed in parks, budget reductions were better overcome and an active friends group may benefit their park by:

- Bidding for external funding such as grants for projects;
- Being a sounding board for improvement ideas;
- Organising events in the park;
- Acting as ‘eyes and ears’ reporting damage/incidents in the park to either the police or parks officers as appropriate;
- Bringing a parks visitors’ perspective to discussions on standards and how maintenance work is carried out;
- Helping to promote the park by passing on information by word of mouth, helping to produce leaflets or keeping a noticeboard up to date;
- Taking part in improvement activities as a working party and to run projects in the park.

Friends groups' comments on proposals are often helpful and the groups are invaluable in helping to gather comments from a range of users and identifying key issues. Although they may not be fully representative of the wider community they will usually be the Council’s first point of contact when a user perspective is needed. Not every decision can involve consultation with friends groups as the Service has limited capacity, and in some cases decisions are taken by councillors, or officers must follow pre-agreed policies, such as the tree removal policy. Appendix 8 shows the support the Council may provide for friends groups.

The Council encourages friends groups to be properly constituted, with an elected committee comprising of a Chairperson and Secretary,where appropriate a Treasurer, and to adopt a constitution. There should be regular meetings during the year. The Council can provide draft constitution documents that friends groups can adapt as appropriate.

Policy P13
The Council will support the formation of new parks friends groups and facilitate a good working relationship with groups, involving them as much as is practicable in decision making about their park.

5.18 Parks, biodiversity and tree volunteers
It is not only Friends Groups that can contribute to the local parks and open spaces. A wealth of skills from the wider community can be invested in supporting green spaces. The Residents Survey identified that only 10% of residents regularly volunteer in any capacity in the Borough, down from 19% in 2015. While figures are not available for volunteering in open spaces, the trend highlights the difficulties with attracting and keeping volunteers. The reasons given for not volunteering are shown in the table below.

Table - reasons for not volunteering

Reason	**%**
Work commitments	59
Other things to do with spare time	31
Look after children/the home	26
I have to study	6
Illness/disability	6
Not the right age	6
I haven't heard about opportunities to help	5
I don't know any groups that need help	4

Tapping into the group who suggest they don't volunteer because they haven't heard about opportunities may provide the volunteers that parks, biodiversity and trees need. Volunteers can contribute to green spaces by:

- Supporting maintenance through tasks such as gardening, pruning and clean-ups.
- Carrying out additional projects that improve the parks' landscape, habitat and biodiversity.
- Monitoring and surveying.
- Coordinating and delivering activities and events.
- Promoting the park.
- Securing external funding for new projects and events.

Volunteering has been successful in Beddington Park, where during the 2017-19 period it has been supported through Heritage Lottery funding and the employment of a Volunteer Coordinator. Over 4700 volunteer hours were carried out between January 2017 and December 2018 covering clean-ups, tree planting, gardening, pruning, biodiversity and habitat enhancement, clearance of invasive species and activities significantly enhanced the

park. Additionally the Biodiversity Team works across the borough with Sutton Nature Conservation Volunteers to successfully enhance biodiversity.

Volunteering opportunities not only benefit our green spaces but the volunteers themselves and the wider community. It provides opportunities for social inclusion and evidence has shown volunteering benefits both mental and physical health, helping prevent depression and to lower blood pressure. Volunteering in parks has the added physical and mental health benefits of both being outdoors and often being physically active. Volunteers may gain new skills to support future employment and self-development.

However, sufficient funding and staff support by the local authority is critical to maintaining the momentum of volunteers. Further to this, evidence shows that greater facilitation and support can overcome inequalities that may exist within volunteer participation. Where greater independence is relied upon, sections of the community that are better equipped with skills, confidence and resources operate more successfully than more deprived groups who may not feel they have the capacity to volunteer without assistance.[4]

Following a restructure of the Council's Cultural Services in 2017, volunteering allowed various activities to be continued, and further offerings developed, in the face of restricted budgets and changes in staff roles. This has shown how volunteers can enhance a service whilst offering benefits to volunteers and park visitors through increased social engagement, skills development and a closer community involvement in evolving services.

Open space, tree and biodiversity objectives can all benefit from greater engagement with volunteers in this way, although there are additional challenges, such as a greater number of sites, a need for tools and equipment, fewer support staff on site and dual working with contractors. With dedicated staff to coordinate and manage volunteers, and integrated working with the contractors, this could work effectively.

An initial volunteer pilot may help investigate wider borough demand and the support needed, whilst a volunteer strategy would assist with successfully developing and delivering volunteering opportunities within parks and open spaces.

Policy P14
The Council will develop a broad volunteering programme of opportunities to ensure that local people can contribute to the development and maintenance of open spaces, including parks, sports facilities and conservation land.

Actions

1. Develop a programme of volunteering opportunities.
2. Run pilot sessions in selected parks to determine demand in specific parks and types of roles volunteers are interested in undertaking.
3. Evaluate pilot to inform the development of a varied programme across key sites in the borough.

[4] https://publications.parliament.uk/pa/cm201617/cmselect/cmcomloc/45/45.pdf

Policy P15
To offer support to volunteers through staff time, inductions and training.

Actions

1. To seek funding for staff member(s) to cover a coordinator role that oversees recruitment, training, delivery and volunteer communications.
2. Develop a volunteer strategy to ensure a consistent and effective approach to delivery.
3. Work with Idverde to ensure volunteers are working in conjunction with the current maintenance efforts and to explore opportunities for volunteers to learn from grounds staff.
4. Ensure written risk assessments and insurance are provided by self-supported volunteer groups
5. Write appropriate risk assessments to cover Council supported volunteer activity.

5.19 Parks management plans and inspections

Parks management plans help officers with day to day effective management of large and busy parks and ensure a continuity of approach, ensuring that issues can be dealt with and that opportunities for improvement are taken. They also help stakeholders understand the priorities for the site and what can be achieved within the resources available. Stakeholders will be consulted during the development of the plan and suitable objectives. The management plan will assist with decision making and explain how performance will be managed and benchmarking will be used to set appropriate standards for maintenance.

Management plans will include costed action plans and provide a timeline for delivery. Management plans will be reviewed at least every five years and the action plans updated every two years.

To support the management plans a programme of site condition inspections will be carried out to ensure that parks and openspaces infrastructure is maintained in a safe and suitable condition to use. This will include inspection of play and sports equipment, paths and roads and buildings. Records will be maintained of all inspections.

It was noted in the research section that one of the most visited areas of land is the river Wandle corridor and it is proposed to create a management plan for the river walkway to ensure it is managed cohesively in future. Research also showed that while there is sufficient quantity of open space in the St Helier and Wandle Valley wards, there is generally lower usage and satisfaction with the parks in these wards. This also needs to be addressed through the comprehensive management plans dedicated to this group of open

spaces. Similarly the open spaces surrounding Roundshaw, would benefit from a cohesive plan to ensure the community maximises the benefit of this local resource.

Policy P16
Parks Management Plans will be prepared or updated for open spaces giving priority to the large and most visited parks. The management plans will include action plans that will be updated every two years.

Policy P17
An inspection programme of facilities will be carried out at an appropriate frequency to ensure compliance with best practice and legislation.

Actions

1. Prepare or update Management Plans for the most visited open spaces: Beddington Park; Carshalton Park; Carshalton Place; Cheam Park and Rec; Collingwood Rec; Fairlands Park; Grove Park; Manor Park; Mellows Park; Oaks Park; Overton Park; River Wandle Walkways.
2. Prepare management plans for other large parks or groups of parks: Corrigan recreation Ground; Rosehill Park; Queen Mary's Park; St Helier Open Space/Middleton Open Space/ Revesby Woods/and Poulter Park; Roundshaw Playing Fields/Roundshaw Park and associated lands.
3. Publish service standards
4. Ensure a programme of facilities inspections is carried out to meet legal and best practice standards to identify issues and programme rectifications, ensuring records are maintained as required.

5.20 Parks and open spaces security
Security is a diverse subject covering issues such as locking arrangements, anti-social behaviour, graffiti and vandalism, unlawful movement of vehicles, encampments, alcohol and drug use, fire setting and wildlife protection. The Council and the Metropolitan Police have primary responsibility and work closely to maintain the safety and security of the Borough's parks and open spaces. The Safer Parks Team who are Metropolitan Police officers patrol the opens spaces andare supported by Council officers delivering parks improvements and maintenance and environmental enforcement. External companies are also used to deliver specific enforcement activities.

5.21 Locking arrangements
The majority of the Borough's parks and open spaces are not locked at anytime. A limited number of parks are locked overnight to exclude the public and a further small number are secured to prevent vehicular access. It is important to appreciate that a well used park is generally a safe park. There is enormous value in the passive security other parks visitors bring, acting as a deterrent to misuse. In addition dog walkers and those looking for shortcuts like to be able to access parks throughout the day. The default position is therefore to leave parks open unless there is a documented case for locking.

Policy P18

When it is agreed by the Council and the Safer Sutton Partnership that locking is required, locking will be provided as follows:

- Only locking for a short period to establish if the issue problem is temporary
- Only locking at times the issues occur e.g weekends only, summer only
- Reviewing arrangement regularly to establish if issues remain or if locking can be withdrawn

Byelaws

There are byelaws for parks and open spaces and bye laws related to dogs. These are displayed on the back of Parks welcome signs where provided and on the Borough's website.

Policy P19

The Council will ensure that the byelaws are promoted widely.

Actions

1. Ensure the byelaws are displayed as widely as possible in parks and open spaces
2. Display the byelaws on the Council's website.

5.22 Unlawful Encampments

On 7th November 2018 the High Court granted a full injunction order lasting 3 years forbidding "Persons Unknown" from occupying land or depositing waste on Council owned land in the Borough including all of the Council's parks and open spaces, housing land, car parks, office car parks and associated land and various highway locations. Notices explaining this injunction are posted at all sites and the injunction can be viewed in full on the Council's website.

Policy P20

The Council will work with partners including the Metropolitan police to ensure that parks and open spaces remain free from encampments and flytipping that might otherwise detract from visitors enjoyment.

Action

Ensure the enforcement notices are inspected and replaced as required.

5.23 Allotments

The Council has thirty six allotment sites with over 2,500 plots of varying sizes. The sites are protected from development for other purposes in legislation and by the Sutton Local Plan, the boroughs planning policy document. Charges for allotment plots are based on the size of the plot in question and also include a payment towards the costs of providing water. Each plot holder has a legal agreement with the council to maintain their plots and this is supported by a set of allotment guidelines (London Borough of Sutton & Idverde Allotment Gardeners Guidelines Version 6 - 2018) that all plot holders are expected to abide by.

Greening and Food Growing are recognised as priority areas in Sutton's Environment Strategy 2019 - 2025 and allotment gardening is one way to deliver on this objective.

"Growing food locally and buying locally grown food helps reduce emissions from agriculture. Sutton's Environment Strategy 2019 - 2025.

A number of the Council's allotment sites are full and have waiting lists, and some sites have waiting lists for specific plots but are not full. The Council through Idverde will encourage sites to elect a representative, and will work with allotment site representatives to encourage sites to improve the allotments and seek external funding to make further improvements, clear plots and work towards full occupation of all sites. A full list of allotment sites is shown at Appendix 8.

In recent years the Council has received an increased amount of complaints regarding bonfires and stove fires on allotment sites causing nuisance, and affecting their quality of life. Under the Environmental Protection Act 1990 it is an offence to emit smoke, fumes or gases which are a nuisance.

Policy P21
All allotment plot holders are expected to maintain their plots as set out in their allotment agreement and follow the guidelines as set out in the 'London Borough of Sutton Allotment Gardeners Guidelines'.

Policy P22
From 1st January 2020 fires of any kind will no longer be allowed on the council's allotment sites. Failure to abide by this policy will result in termination of the allotment agreement of any plot holder found having a fire on the site. This Policy supersedes the guidance in Version 6 - 2018 of the Allotment Gardeners Guidelines.

Policy P23
A rent free period on a newly tenanted plot may be allowed for a period of up to two years at the discretion of the Allotment Officer if the plot is particularly overgrown or if it has large amounts of rubbish or green waste deposited on it.

5.24 Highway verges
Highway verges add to Sutton's green appearance, help absorb rainfall running off surrounding hard surfaces and in summer assist in keeping air temperatures cooler. Verges in more rural parts of Borough also provide useful habitat for wildflowers and the creatures that depend on them.

Policy P24
The Council will maintain verges to enhance the appearance of suburban streets and where appropriate in more rural places and on wider verges and greens encourage wildlife through a more relaxed regime that encourages wild flowers and provides habitat for wildlife.

5.25 Cemeteries and churchyards

The “Audit of London Burial Provision” undertaken by the Cemetery Research Group, University of York in March 2011 revealed that many boroughs where supply is deemed to be likely to be exhausted within the next ten years. Across London the potential land held in reserve for burial, not all of which has planning consent, might meet one fifth of the projected demand. Where boroughs are unable to meet demand this may be displaced to adjacent boroughs which might otherwise have met burial needs for the next 10-20 years. However some boroughs have already started to use new methods to reuse graves space that legislation permits and this may become more commonplace in future.

Sutton has two active cemeteries; Sutton cemetery in Stonecot and Bandon Hill in Beddington which is run jointly with Croydon Council. In 2018 the number of burials was 90 (including ashes) and the number for graves sold was 26 for both Sutton Common and Bandon Hill cemeteries. At Sutton Cemetery there is sufficient space to offer new graves for the next 20-30 years at current levels of burial.. At Bandon HIll Cemetery reclaimed graves (graves where further burials are possible without disturbing existing buried remains) are offered. This provision will be able to continue for up to 30 years at current burial levels.

Both cemeteries operate within the Institute of Cemetery and Crematorium Management’s Charter for the Bereaved standards.

Caring for the community - Cemeteries shall be managed with competence and efficiency, to ensure that the entire bereavement experience occurs without error or insensitivity, and meets the religious, secular, ethnic and cultural needs of the bereaved. The service shall comply with all statutory and Health and Safety requirements.

Srevise sensitivity - Cemeteries shall be managed to create and maintain an atmosphere of solace and respect throughout the entire proceedings. This sensitivity shall extend to all staff and contractors working there, through the application of bereavement sensitive specifications. Staff will respond sympathetically to individual funeral needs and shall give a justifiable reason for refusing any specific request.

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Staff - All staff should possess qualifications and undergo recognised training specific to their duties. The appointment of all staff must emphasise the need for proper conduct and demeanour, as well as technical expertise. Staff must act and speak in a manner that recognises the sensitivity of bereavement, both during and outside working hours, and should not accept gratuities.

Environmental issues - The Council shall minimise the impact of bereavement upon the environment, by encouraging greater use of earth friendly materials and environmentally friendly practices.

6. Tree Strategy

6.1 Introduction

The Council is responsible for more than 140,000 trees including 111,000 estimated to be growing in woodlands. Most notable of these are the Sweet Chestnuts in Carshalton Park, one of which has been awarded Great Trees of London Status, and the large London Plane

in Honeywood Walk, Carshalton, once recorded as the largest Plane tree in England.

The strategy covers trees growing on land managed by Sutton Council and sets out the policies and procedures that officers will follow in managing council trees. The following sections explain each aspect of tree management including information, policies and actions required to meet the policy aims.

6.2 The Value of Urban Trees

Trees in towns provide a range of benefits that can sometimes be difficult to quantify, but have considerable beneficial impacts on the lives of residents who may not have access to green space.

Sutton Council employs Capital Asset Valuation of Amenity Trees (CAVAT) as a system for calculating the value of trees as public assets rather than liabilities. It is designed not only to aid decision-making in relation to the trees, but also where the value of a single tree needs to be expressed in monetary terms.

Residents living in close proximity to trees, may experience some inconvenience due to overhanging branches, leaf and fruit fall, obstruction and physical damage. Many issues can be dealt with by regular maintenance of the trees and appropriate maintenance of adjacent property. A dilemma often occurs when the tree makes an important contribution to the local environment but also causes inconvenience to those living nearby.

The Council's approach to addressing issues is through inspections and maintenance as set out below.

6.3 Tree Inspection and Maintenance

The aim of tree management in Sutton is to maximise the benefits of trees, while taking a balanced and proportionate approach to tree safety and minimising problems for residents.

6.4 Why trees are inspected

Trees are living organisms affected by age, disease and stress due to position, pollution, and external forces and impact their health and condition. Council trees, especially those in highway areas, are often subject to higher stresses and so have to be managed accordingly. Trees cannot be considered entirely free from risk. as they are exposed to extreme weather that can compromise their safety, although the risk they present is generally low and acceptable (National Tree Safety Council "Common sense approach to tree management").

The Council has a duty of care to proactively inspect and maintain the trees it is responsible for and to achieve this employs appropriately qualified tree officers and undertakes inspections in line with relevant legislation and case law.

The majority of the Council's trees grow in areas of public access or near structures and would have the potential to cause harm if they were to fail.

6.5 Planned inspection of trees

The council's inspection and management system requires all of its trees to be surveyed and their condition details recorded, at least every four years on a cyclical programme. Some trees are inspected more regularly, such as those around education sites (surveyed annually) and large mature trees in areas of high usage such as busy main roads, that are surveyed in line with their risk assessment. As part of the inspection regime, other problems such as obstructive growth, excessive overhang to properties and their potential to be involved in damage to property will be addressed.

When a tree is inspected, the officer will look at its condition and safety, identifying any obvious defects and recommending prioritised remedial works, if required. The inspection will cover the trees' biological and structural condition, using a recognised Visual Tree Assessment (VTA) methodology.

Inspections details are recorded on a database for legal, and health & safety reasons. The Council also analyses the data collected to assess which trees pose a greater risk due to their age, size and position and then plans a prioritised inspection regime based on the findings.

As part of the inspection process, works will be recommended to remove or minimise the potential for trees to cause harm to people and or property, and also (within budget limitations) to reduce other nuisance factors such as shading, overhang to properties etc .

6.6 Issues the Council will address through pruning:

- Potentially hazardous trees – where the tree poses a significant threat to people or property, it will be felled or, at least, have remedial works conducted to reduce the threat to an acceptable level.

- Trees affecting public access or highway safety – where there is a risk to the public

from overhanging branches the council will cut back branches.

- Basal growth – the Council has an annual programme (from May to September) to cut back growth at the base of trees that restrict lines of sight or encroach across pavements or into roads.

- A tree that has been implicated in damage to property, including -
    1. Direct damage to walls and drives
    2. Subsidence
    3. Direct damage from tree failure

6.7 Issues the Council will not address through pruning:

- Trees/branches blocking light including to solar panels – there is no legal right to light.

- Tree debris (falling leaves, fruit or cones) – this is not a 'legal nuisance' and is regarded as a natural process.

- Branches touching telephone wires – this is the responsibility of British Telecom (BT) so should be reported to http://www.openreach.co.uk/orpg/home/contactus/contactus.do

- Honeydew – this is a sticky substance produced by insects feeding on leaves which then can drop onto the ground or on property and cars. There is no practical treatment to prevent this. Affected residents should consider measures which they can take to protect their property – for instance, getting covers for or regular washing of cars/property.

- Bird fouling – even when trees are pruned they are still inhabited by wildlife so there are no practical measures or treatment for this.

- Improving signal to satellite dishes or TV aerials. Affected residents should consider relocating aerials/dishes to another part of the roof or using signal 'boosters'.

- Pollens and allergens – as all vegetation produces pollen as part of a natural process, this does not constitute a 'legal nuisance'.

All recommended tree works will be in accordance with British Standard BS3998 (2010) and other best practice guidelines.

Ward councillors are notified prior to tree works being carried out, so that they can raise queries with the Tree Officers. This is not a consultation process and the overriding responsibility for safety will be with the Tree Officers. Work orders will not be sent to individual members of the public. Tree Officers work with the Biodiversity Team to ensure that inspections and operations are carried out in line with wildlife and protected species legislation and guidance.

6.8 Other inspections

Trees may also be inspected following events such as a severe storm or impact damage and

maintenance works may be recommended on a priority basis, if necessary.

Where a defect has been identified on a tree during a visual inspection and further investigation is necessary, the Tree Officers may use more invasive equipment to establish the extent and severity of the problem.

Policy T1
The Council will carry out a visual tree assessment of trees as a minimum every four-years record and evaluate data from inspections on a dedicated database and plot locations on a linked mapping system

Policy T2
The Council will offer an annual tree inspection service for schools that opt into the scheme

Policy T3
The Council will ensure that footways and highways are clear of obstructing growth from its trees

Policy T4
The Council will inform ward councillors when undertaking cyclical tree works in their wards

Policy T5
The Council will aim to promote a better understanding of the management, care and value of trees, to increase public awareness of their importance

Policy T6
The Council will ensure the Tree Officers carrying out inspections are qualified to minimum level 2 NVQ and be experienced.

6.9 Tree removal Guidelines
This section sets out the circumstances under which a decision is made to remove trees on council land. Tree Officers are authorised to remove trees in the following circumstances, and will use the following criteria in making decisions on tree removal. Officers will inform Ward Councillors where practicable when a tree is to be removed.

- Trees that are, in the opinion of a qualified Tree Officer, dead, dying or dangerous, due to their poor structural or biological condition and that may pose a risk to people or property, providing that there is no other recourse available, such as remedial pruning, to remove or minimise the risks.

- Trees that are causing an obstruction or where alternative safe access cannot be provided to the public highway, public right of way or access to property or footway and have become a safety issue. This criterion also includes where the main trunk and buttress roots of a tree have narrowed the width of the footway to under 1.2 meters and the obstruction could not be safely negotiated. Every case will be assessed individually and the site usage and alternative access will be taken into account e.g. a pavement on the other side of the road may provide a suitable alternative.

- Trees that are causing a legal nuisance to an adjoining property and where pruning

would not address the problem (a “legal nuisance” is one that is actionable in law; a tree cannot be a “legal nuisance” to its owner). Examples might include soil subsidence as a result of tree root growth, physical damage to another owner's property or a severe and unreasonable degree of noise, disturbance or loss of enjoyment of the adjoining dwelling or garden. These cases may arise when a tree is physically very close to, or in contact with, an adjoining property. Felling is acceptable only when the nuisance is severe and it is not possible to remove or minimise the problem by any other means including pruning. This subject is looked at in more detail in section 6.4 Insurance.

- Trees preventing essential repairs to property where it is not possible to overcome the problem by any other means than removal.

- Trees that can be used to gain criminal access or may be obstructing essential police or Council-monitored CCTV surveillance and it is not possible to remove or minimise the problem by any other means such as removing or repositioning the camera or by pruning.

- Thinning out young and developing trees. This work is usually essential during the establishment period to reduce the number of young trees in a plantation or group. This is often carried out gradually as the trees grow bigger, allowing the best trees to flourish and encouraging healthy growth and development. Sometimes tree removal from mature groups may be necessary for the same reason.

- Removal for wildlife habitat improvement. Occasionally it may be necessary to fell, thin or coppice trees to promote habitat benefits, for example, to prevent loss of meadowland, or to encourage native tree species or ground flora. This action will only be undertaken in liaison with the Biodiversity Team.

- A tree or trees need to be removed to allow development on Council owned property and the development is in the best interest of the community as a whole. The decision on whether to approve removal of the tree or trees will be referred to the Director of Environment Housing and Regeneration, in consultation with the Chair of Environment and Neighbourhood Committee. The Head of Service responsible for the specific area of Council land to be developed will need to provide compelling evidence that the removal of the tree/s is essential to allow the scheme to proceed. It would be required as part of this process to provide new planting or landscaping to mitigate the loss of the existing tree/s either within the development site or preferably in the local area. This may require more than one new tree to compensate for the loss of a mature tree.

- Notification of tree removal. When a tree has been identified for removal as part of a cyclical survey and is non urgent, the officer will send a notification to those residents that will be immediately affected by the decision (this will include the actual property and the two adjacent properties). This does not apply where the tree is deemed to be an immediate hazard.

- Trees will not be removed for the following reasons: (please note: this list is not exhaustive, but is to be used as a guide)
  - Trees shading properties
  - Overhang to properties
  - Honey dew problems (sap)

- Bird droppings
- Perceived risk
- Leaf fall
- Fruit falling onto ground
- Size of tree
- Allergies
- Not Council-owned
- Residents perception is that a tree is too large
- TV or satellite reception

6.10 Tree removal and vehicle crossovers

Situations where it would be considered appropriate to remove a healthy tree for a vehicle crossover:

- Under the Council's Equality and Diversity Policy, it is recognised that some residents with disabilities may have special requirements, for mobility for example, and may require better access or to their property. This would be taken into account when considering a request to remove a tree to facilitate a drop kerb. Evidence would be required and a case would be presented by the Tree Officer to the local ward Councillors for a decision. The cost of the tree removal and replacement would have to be met by the applicant.

- Removal to allow access to an authorised development or redevelopment. This would have to be agreed by Development Control Committee, when deciding approval of developments.

- Tree stem diameter is less than 60mm in diameter at 1.5 meters from ground level.

6.11 Tree removal appeals procedure

If a resident or any other stakeholder disagrees with the Council officer's decision not to remove a tree, the following process will be followed:

1. The resident will be asked for evidence to support their request.

2. The Tree Officer will write a report about the tree and the circumstances surrounding the appeal and send it to the three local ward Councillors.

3. There will then be a 28 day period for ward Councillors to comment. Following the 28 days the replies will be taken into account in the decision making process.

4. If two or more Councillors support the residents appeal for the tree to be removed, the report will be sent to the Strategic Director of Environment, Housing and Regeneration who has delegated authority to make a final decision in consultation with the Chair of the E&N Committee.

5. If two or more Councillors do not support the residents appeal the tree will not be removed and the resident/stakeholder making the request will be informed. Ward members not responding will be regarded as not supporting the appeal.

Policy T7

The Council will adhere to the guidance and procedures on tree removal as set out in

section 5 of the Strategy and Action Plan for Council Owned Trees

6.12 Tree Planting

The Council has committed to tree planting as part of the corporate plan and officers follow the principle of planting the right tree in the right place.

There are a number of ways that sites for new trees can be identified:

- Requests from residents
- Sites identified during cyclical inspections, either where space is identified or where the existing tree has to be removed
- As part of an individual site's management plan
- Replacement of failed trees from planting schemes from the past two seasons
- Friends groups or other partners identifying suitable areas in parks, open spaces or highway areas managed by the Council - the tree officers would work closely with these groups to facilitate any scheme that is viable

When purchasing and planting new trees, officers will consider the recommendations of British Standard - BS8545 Trees: from nursery to independence and where possible trees will be planted between November and February dependent on weather and a programme of maintenance will begin soon after. Requests need to be with officers before 1st September each year to ensure that stock can be ordered . Requests after 1st September will be added to the following year's list.

Young trees will be watered for two seasons after planting, the frequency of which will depend on the weather conditions and any restrictions that apply, such as hosepipe bans.

Letters will be sent to any adjacent residents encouraging them to help care for the newly planted trees, including watering, especially during hot weather.

6.13 Tree planting Guidelines

If a resident or group has requested that a new tree or trees are planted adjacent to their property, or within a public area, stakeholders who may be affected by such plantings will be consulted. Where this is a highways tree, generally the two properties immediately affected would be consulted.

Officers will decide on the correct selection of species based on the criteria below.

- Consider existing habitats and landscape value and that tree planting would have a positive impact
- Trees should not be located where they will experience inappropriate growing conditions e.g. in the shadow of tall buildings
- Where appropriate, take opportunities to plant large species of trees with a long lifespan
- Consider existing and future infrastructure requirements
- Consider the statutory safety requirements to maintain a clear route along roads (heights of buses, HGVs, cars, cycles and horses)
- Consideration should be given to obstruction of views from junctions and driveways when positioning new tree/s
- Consider the type of trees when planting in clay soils. Avoid planting high water demanding trees in clay soil areas and ensure tree species are appropriate to local

soil type
- Consider if dropped kerb requests are likely – trees will be planted on the boundary between properties to keep the frontages open to use for access
- Consider underground and overhead services
- Consider if planting a given species in the position will cause issues due to bearing large fruit e.g. some species of Pear or fruit known to be harmful to humans or animals if taken in quantities.

If a suitable space for a new tree has been identified by the tree officer and not requested by a resident, or other stakeholder, officers will still consult with the owners/occupiers of the properties likely to be affected by the new planting. If the resident is not available, a card will be left with details and a contact number of the officer involved. If no contact is made from the resident within 28 days, it will be presumed that there are no objections and tree planting will commence. If there are objections to the planting proposal an alternative location will be considered to try to reach agreement.

6.14 Funding

The Council does not have a dedicated budget for tree planting and the main sources are:
- Local committees
- Mayor for London grants
- Woodland Trust community support
- Private sponsorship
- Development projects, with possible impacts from Biodiversity Accounting
- Section 106 funding

6.15 Sponsored or Donated Trees

Before the Council considers accepting sponsorship of a tree from a member of the public the Tree Officers will:
- Arrange a site meeting if requested at the proposed planting site
- Agree the final position and species, ensuring they are suitable for the location
- When site and species have been agreed, the person sponsoring the tree will be asked for payment of the appropriate amount
- The tree will then be ordered and will be purchased and planted with all other highways and parks trees at the appropriate time of year (November to February)

In parks and open spaces it is preferable to plant within existing woodlands or groups of trees, and only plant trees in formal lawns, or open areas, where a specimen tree is beneficial to the appearance of the park. If a suitable location cannot be found or suitable tree species agreed, the sponsorship will be declined. The priority is to plant trees that enhance the park.

The cost of planting a tree depends on the type and size of the tree, and includes:
- The purchase and delivery of the tree
- Planting, staking and provision of any top soil or soil conditioners required
- Regular watering of the tree in the first growing season as and when required - watering is mainly conducted throughout the summer months to ensure successful establishment. Sponsors are encouraged to supplement this during the summer period to give the tree as good a chance as possible

Although the Council tries to ensure the successful establishment of every tree planted, due to the vulnerable nature of young trees there may be failures. If the tree should fail during the

first season, it will only be replaced free of charge if a problem has occurred that means the nursery will replace it. Once the tree has been planted it then becomes the property of the London Borough of Sutton.

Policy T8
The Council will replace tree losses wherever practicable, and affordable and choose trees with reference to biodiversity, location, the potential environmental factors, and amenity considerations using the right tree right place checklist. Newly planted trees will be maintained so that they have the best chance of establishment.

Policy T9
The Council will seek to involve the community and stakeholders in raising funds for, planting and maintaining trees in the borough, including encouraging residents to use waste water to help new trees establish.

Policy T10
The Council will continue to provide a sponsored tree scheme

Policy T11 The Council will maintain a tree planting list for planting from November to February each year and establish priority locations for tree planting, taking into account the following factors:

- Transport corridors
- Biodiversity objectives
- Areas of regeneration and community forests/woodlands
- Corporate plans

Policy T12
Plaques on trees are not allowed as they detract from the look of the park. They are also vulnerable to damage, which can be upsetting for the family. Commemorative trees with plaques can only be planted within cemeteries. Planting of bulbs or bedding around sponsored trees is only allowed when agreed by the parks management. Floral tributes or other items attached to trees will be removed, again these items detract from the overall look of the park.

Policy T13
No human remains will be allowed to be placed under, around, or near trees or anywhere on Council land other than by agreement in a cemetery or churchyard.

6.16 Insurance Issues
Trees may cause damage to property either when root or branches come in physical contact with structures (direct damage) or by removing moisture from soils that may cause subsidence (indirect damage).

6.17 Direct Damage
Damage to the footways, kerbs, garden walls, and drives can occur as a result of pressure exerted by the growth of roots and damage most commonly occurs close to the base of

trees. Root growth can only exert a certain amount of pressure and therefore roots will usually distort around any significant obstructions. It is difficult to predict which trees will cause damage, or when, due to the unique nature of individual trees and sites. This type of damage can occur on any soil type.

6.18 Roots and Drains

It is recognised throughout the arboricultural and construction industries that physical damage to intact pipes by roots is rare. It is not uncommon for roots from trees and shrubs to invade pipes where there is an existing defect. Many older pipes are made of brick or salt-glazed clay and the joints are prone to cracking. As roots follow the water supply and the line of least resistance, these cracks are easily invaded. Roots will then proliferate inside the pipe causing blockages. The best solution is to replace the older constructed existing pipe with a modern alternative. Newer pipes have longer runs and fewer joints, and are generally flexible and watertight. This significantly reduces the occurrence of root encroachment. The flow of water within modern plastic pipes is also improved as there is less friction.

6.19 Indirect damage -subsidence related damage

This type of damage is associated with shrinkable clay soils. Damage can occur to properties from seasonal shrinking and swelling of the subsoil under parts of buildings. This in turn can cause differential movement, which can lead to structural damage. Trees and other significant vegetation are frequently viewed as exacerbating the drying process by extracting moisture through the rooting system.

6.20 Guidelines for dealing with damage issues

Highways direct damage

Areas of footway or highway may be damaged by tree roots. This may be due to the direct action of an adjacent tree root and the problem may not be overcome by ramping the tarmac over the surface of the footway to make it safe. The Highways officers will arrange to expose the area of damage, and a tree officer will visit and recommend removal of surface roots where appropriate so that reinstatement can take place based upon the following:

- Tree roots under 25mm in diameter may be removed without any further action to the tree
- If roots over 25mm in diameter have to be removed, remedial pruning on the tree's upper canopy will be recommended
- If the tree root is so large that it would be unacceptable to remove without seriously affecting the stability of the tree, the tree officer will arrange tree removal as per the guidelines in the Tree removal section. If this is the only option, the local Ward Councillors will be informed.

Third party claims

Discussions or correspondence will not be entered into with a third party claimant. The claimant will be asked to write to the Council's insurance team to initiate a claim.

Third party claims for direct damage

In instances where a third party is making a claim of direct damage (due to the actions of a tree root from a Council-owned tree) it will be dealt with it in accordance with the following procedure:

- A site visit will be made within two weeks of the formal claim being received to assess the claim.
- Site details will be taken, and a report will be submitted to the Insurance Team. The

report will include comments and recommended actions.
- The Insurance Service will deal with any compensation element of the claim in accordance with their procedures.

Third party claims for Indirect Damage
When dealing with claims, the Council officers from both the Insurance and the Tree Teams will assess whether or not the insurer has followed the Joint Mitigation Protocol. If not, a robust approach will be adopted when repudiating unwarranted claims by basing the arguments on any evidence (or lack of) presented. The Council Officer will normally be the designated claims handler in the Insurance Section with technical support from the Tree Officer.

The Council will scrutinise all evidence presented with claims. The level of evidence required will be based on the value estimated using the Capital Asset Valuation for Amenity Trees (CAVAT).

Within two weeks of a claim tree officers will produce an initial report for consideration by the Council's Insurance Team.

Where inadequacies or discrepancies occur in the technical reports presented on behalf of the claimant, these will be brought to the attention of the Insurers and the claim challenged. If the evidence presented is inconclusive or lacking particular relevant tests or reports, the Insurance Team will ask for further specific test results to assist in determining the actual cause of movement, and whether a Council owned tree is involved. Where the evidence clearly indicates another cause for movement, the claim will be repudiated and the insurer informed of the Council's position.

Policy T14
The Council will fulfil its duty of care by ensuring that Council trees are managed in such a way as to minimise the potential for damage

Policy T15
The Council will establish areas of higher risk in terms of shrinkable clay soils and subsidence potential to properties due to the actions of roots from Council owned trees and take appropriate action

Policy T16
The Council will follow the London Tree Officers Association's Risk Limitation Strategy for Tree Root Claims (3rd edition May 2007) and the Joint Mitigation Protocol with regard to claim investigation procedure

Both of these documents can be found at http://www.ltoa.org.uk/ or copies can be obtained from the Tree Team at 24 Denmark road, Carshalton, SM5 2JG)

6.21 Tree enquiry Guidelines

The Council receives on average 2,000 enquiries per year about trees on its land, which range from general questions about pruning and planting to reporting trees in a dangerous condition. Following any enquiry, officers will determine the level of response required following the guidelines below.

Level 1 - (within 24 hours)

- Where a tree or part of a tree is deemed to be an immediate threat to public safety, for example a tree that has died and become brittle and there is a high risk of tree failure
- Where a tree or part of a tree has failed and is causing a hazard, this could be due to adverse weather, extreme decay or an act of vandalism
- Where a tree or part of a tree is causing an extreme obstruction to a road, footpath or major right of way

Level 2 - (within 8 weeks)

- Where a tree or part of a tree is deemed by a qualified officer to be a possible threat to public safety, but it has not yet become a high risk
- A tree's upper canopy is physically touching a property
- Where a tree or part of a tree is impeding safe passage on a footway/highway
- Where it is necessary to carry out pruning to improve access or increase light infiltration where a resident is disabled or partially sighted
- Where required to prune or remove a tree that has been shown to be a major contributor to soil shrinkage and the cause of serious structural damage to buildings. Structural problems must always be carefully investigated particularly where there is the possibility of a potential claim against the Council. This subject is looked at in more detail in insurance issues section 6.4
- Where necessary to prune or fell a tree that may be preventing essential repairs to property and it is not possible to overcome the problem by any other means than removal
- Where necessary to prune or remove a tree that can be used to gain criminal access or may be obstructing essential police or Council-monitored CCTV surveillance and it is not possible to remove or minimise the problem by any other means such as removing or repositioning the camera/target
- Where necessary to conduct root pruning to improve safety on the footway and carriageway. This may also require compensatory crown pruning following as well

Level 3 (Council trees on a minimum of a four yearly cyclical programme and education site trees offered an annual inspection)

- Crown lifting to provide the legal clearance on public footway and carriageway
- Crown thinning to minimise general nuisance problems such as honeydew, shading, overhang to properties
- Hanging branches in a park or open space if in a low use area
- Pruning trees away from street furniture such as telephone lines and streetlights
- Tree stump removal

Policy T17
Provide a 24hr 365 days per year call out service to deal with tree emergencies

6.22 Impacts of climate change, pests and diseases

Trees can help us to adapt to a changing climate by providing shade, reducing wind speed by filtering the air, provide natural cooling by releasing moisture into the air through their

leaves and alleviating flooding by filtering rainfall and taking up water from the soil. However the conditions for our urban trees are changing due to climate change and we need to plan ahead to help them adapt and ensure a sustainable canopy cover for now and the future.

One important role of trees in the urban environment is to influence people's behaviour, by making it more appealing to walk or cycle for short journeys. This in turn reduces the contribution to greenhouse gas emissions and improves local air quality. It is not just Council trees that provide these benefits and encouraging people to plant more trees in their gardens and developers to include trees in their proposals is vital to ensuring Sutton has sufficient tree cover.

The Forestry Commission report - Trees and Climate change states that climate change is likely to bring:

- Increased carbon dioxide
- Reduced summer rainfall
- Increased winter rainfall
- Increased storm frequency
- Possible nutrient imbalances.

Trees have already been adversely affected by a changing climate and an additional concern is that the changes will cause a proliferation of both native or introduced pest and diseases. The negative effects include:

- If drought conditions become more severe and frequent – some tree species will no longer be suitable for commercial forestry.
- Stress caused by drought will make trees more susceptible to pests and diseases
- Tree mortality will increase – particularly street trees
- Increased mortality of fine roots could, In turn, worsen the effects of summer drought
- Infection by soil–borne diseases will be increased by fluctuating water tables
- Stability will be reduced causing more wind throw and greater damage during storms
- Leaves will appear earlier due to warmer temperatures which could leave trees vulnerable to frost damage
- Pests will be able to survive through winter increasing the potential for exotic pests to spread to the UK
- Species that rely on the timing of each other's life cycles could become out of synchronisation with each other – e.g. flowers and their pollinators
- Hotter summers will have an effect on soil drying on shrinkable clay soils, leading to an increase in claims for indirect damage
- Pests and diseases
    - Oak Processionary Moth
    - Hymenoscyphus fraxineus (Ash dieback)
    - Asian longhorn beetle
    - Splanchnonema platani - Massaria disease of Plane
    - Acute Oak decline
    - Xylella fastidiosa – Bacterial leaf scorch
    - Horse chestnut leaf miner
    - Horse Chestnut Bacterial canker
    - Horse Chestnut Leaf blotch
    - Dutch Elm Disease
    - Brown tail moth

The Council will follow the guidance documents produced by the London Tree Officers

Association and the Forestry Commission and respond appropriately to issues involving pest and diseases.

Policy T18
The Council will work towards mitigating the effects of identified pests and diseases on its trees and continue to liaise with the Forestry Commission on issues affecting trees such as Oak Processionary Moth.

6.23 Unsafe Trees on Private Property

Trees on privately owned land make up the majority of the urban tree population. The owners have the same responsibilities as the Council with regard to tree management and safety (see section 4).

Where privately owned trees pose a risk to persons (or their property) using the highway, local authorities (under the Highways Act 1980 Section 154) have powers to:

- Request that the person(s) responsible for the tree(s) take reasonable steps to reduce the risk with a 14 day date from notification or
- Local Authorities may take steps to satisfy themselves that the risk has been reduced to an acceptable level post 14 days and recover all costs reasonably incurred in doing so from the person(s) responsible for the tree

Local Authorities also have powers to deal with dangerous trees under the Local Government (Miscellaneous Provisions) Act 1976 Section 23 whereby the Local Authority has the discretionary power to intervene (following a 28 day notice) where:

- A tree(s) is likely to cause immediate harm to persons or property other than on the highway, i.e. neighbouring property

and

- When requested to do so by the property likely to be affected

and

- The person(s) responsible for the tree(s) is unable or unwilling to take steps to reduce the risks themselves
- In case of emergency where there is insufficient time to find or request that the person(s) responsible for the tree(s) the Council will intervene immediately to make the tree(s) safe.

In these cases, Council officers have powers of entry, and those responsible for tree(s) have rights of appeal to the County Court.

Guidelines
When it is reported to the Council that there is a dangerous tree(s) situated on private property, the Council's tree officers will take the following steps:

- Make a site visit to assess the situation and determine the level of risk, and complete a standardised risk assessment form
- If works required to make the tree(s) safe are deemed to be an emergency, the officers will instruct a contractor to make the tree(s) safe within 24 hours
- If works required to reduce the risk to an acceptable level are deemed to be urgent, rather than emergency, the Council will send a formal notification to the landowner

allowing 14 days (under the Highways Act 1980 Section 154) or 28 days (under the Local Government (Miscellaneous Provisions) Act 1976 Section 23) to make the tree safe (see appendix)
- If no action is taken by the person(s) responsible for the tree(s) within the time scale set by the formal notice, further notification will be sent to the person(s) responsible for the tree(s) stating a time and date when the Council will enter the land to make the tree(s) safe
- The Council may act (without notice when required) within 24hrs to reduce any risk posed by tree(s) to an acceptable level. This may include removal of the tree(s)
- The formal notifications will inform the person(s) responsible for the tree(s) of their rights of appeal to the County Court

An immediate threat is considered as being:
- Where a tree or part of a tree has died, become brittle or there is a high risk of failure
- Where a tree or part of a tree has failed and is causing a hazard, this could be due to adverse weather, extreme decay or an act of vandalism
- Where a tree or part of a tree is causing an obstruction to a road, footpath or right of way

Policy T19
The Council will ensure that, privately owned tree(s) likely to cause an immediate danger to persons or property using the highway, will be dealt with in a reasonable manner as set out in Section 23 of the Local Government (Miscellaneous Provisions) Act 1976. The Council's powers under the Act are discretionary and the Council will only will only use these powers as a last resort.

6.24 Damage to Council Owned Trees
On occasion, residents take it upon themselves to prune or fell Council owned trees without consent. Often this work is carried out without any regard to British Standard 3998, the safety of other residents and highway users and the amenity value of the tree.

The law regards this type of unauthorised action as criminal damage and the Council may take appropriate steps to prosecute offenders and recover compensation for the damage through court action. It is an offence to destroy or damage any property belonging to another without lawful excuse, either deliberately or recklessly under the Criminal Damage Act 1971. It is also an offence under Section 132 of the Highways Act 1980 to affix any poster or sign to a highways tree without the permission of the Local Authority.

The Authorised Council officer can approach any person(s) committing an offence involving damage to Council trees, and gather information under the Police and Criminal Evidence (PACE) Act 1984.

Guidelines
On receipt of information that an offence as occurred, the Tree Officer will make a site visit to assess the situation and obtain evidence. A judgment will be made on whether a criminal offence has taken place.

Offenders may be questioned under caution either on site or at the Council offices at a later date.

Following damage to a Council owned tree, the Tree Officer may instruct the term contractor to carry out any remedial works required to make the tree safe or issue any works required to restore the amenity value of the damaged tree.

Prosecution of offences takes place in a magistrate's court, most likely leading to a fine. Conviction of an offence depends on the circumstances, but can carry a maximum custodial sentence of 10 years.

The Council will seek reasonable compensation for any expenses incurred and/or for the loss and replacement of any tree that has to be felled due to damage.

6.25 Utility Companies working near Council trees

Tree Officers will liaise with the Highway and Street Works sections and, if possible, identify areas in advance where utility companies will be working in close proximity to Council owned trees. It is expected that any work within the vicinity of a Council owned tree is in accordance with the national joint utilities guidelines currently volume 4 (NJUG guidelines for the planning, installations and maintenance of utility apparatus in proximity to trees) a copy of this document can be found at ww.njug.org.uk or copies can be obtained from the Council.

Policy T20

The Council may seek to prosecute any person(s) (under Section 1 of the Criminal Damage Act 1971 and Section 132 of the Highways Act 1980) carrying out unauthorized work or causing damage to a Council owned tree(s). The Council will also seek to reclaim any such costs as the courts may award.

Policy T21

The Council will remove any sign or poster attached to a Council owned tree that has been attached without the permission of the Council.

7. Biodiversity Strategy

7.1 Introduction - What is biodiversity and why is it so important?

Biodiversity is a contraction of 'biological diversity' and is the variety of all known (and unknown) life on Earth, their processes and interactions. This encompasses the diversity of individual organisms as species, the genetic variability within their populations and the habitats, ecosystems and environments in which they live and interact.

A richly biodiverse environment is essential for supporting human life and our rising understanding and quantification of Ecosystem Services provides clear illustrations of economic and environmental benefits to humans from working with nature. For example, biodiversity ensures soils are healthy and fertile for agriculture, provides the sustainable harvesting of materials, crop pollination, natural flood defenses and water purification.

Worldwide, the current rate of species extinction, is estimated to be between 1,000 and 10,000 times greater than the background extinction rate, due to the impact of man. The main threat is massive human population growth, causing increasing land and resource use. Globally, human activities such as unsustainable forms of agriculture, industry, recreation

and international commerce are the main threats to biodiversity, exacerbating climate change and flooding and leading to the rapid loss and fragmentation of habitats, and elevated extinction rates of species and local populations.

The sheer number of species and individuals creates hyper-complex interactions that we have barely begun to understand, and we don't know what the consequences of each separate extinction may be. Habitat fragmentation leads to local extinctions and reduced genetic diversity, making populations less resilient and further local extinctions more likely.

Soil loss and a lack of suitable nutrient cycling, often by soil based microfauna, bacteria and fungi have direct impacts on the ability to utilise land productivity year after year, leading to increased costs for farmed produce.

During your life, species in the UK have dramatically reduced. Your children or grandchildren will not experience the natural world as you did and their offspring will not experience the world they did. This shift in perspective of what ‘normal’ is known as ‘shifting baselines; we get used to not seeing or hearing birds, walking in a woodland, seeing butterflies in a flower rich meadow and otherwise being part of the natural world.

Many of us, perhaps unthinkingly, let it pass us by. This is ‘death by a thousand cuts’, each loss not deemed significant in itself, but left unchecked the planet will become unable to support human life.

Halting biodiversity loss has an economic benefit in preventing the loss of potential food sources, medicines and treatments, new industrial products and enhances tourism opportunities. A healthy natural environment contributes to climate change mitigation, flood relief, water purification and soil fertility. Biodiversity enriches our lives through physical, educational and social interaction and aesthetic appreciation.

If biodiversity is lost, human life is lost.

However, we must always remember that the natural world does not exist to benefit humans and our lifestyles, it exists at the same time in and around, and also, independently of, us. That is, nature and life on Earth will carry on for hundreds of millions of years once we have gone; we need to concern ourselves with what we take into extinction with (and before) us, and how we live out the rest of our time on this planet.

7.2 The Strategy

Sutton’s Biodiversity Strategy is a plan of action for protecting, conserving and enhancing wildlife at a local level, using measurable targets.

The overarching aim is to ensure the conservation, protection, and enhancement of biodiversity in the London Borough of Sutton, for current and future generations.

The Council has chosen to deliver these aims through strategy rather than a new Biodiversity Action Plan (BAP), due to the lack of regional and national Biodiversity Action Plans.

The strategy is composed of the following Plans for high priority habitats:

- Chalk grassland (Appendix B1)
- Woodland and Scrub (Appendix B2)

- Rivers and Wetlands (Appendix B3)
- Parks and Green Spaces (Appendix B4)
- Green Infrastructure and Biodiversity Accounting (Appendix 5)

The selection of priority habitats and species for action is based upon robust ecological principles, and baseline information derived from national and regional guidance; such as habitats for which the UK has international obligations, habitats at risk, and areas important for key species.

Bats previously had a separate Species Action Plan (SAP) within the BAPs but have been removed from this strategy. This is not due to a change in importance or significant improvements in bat populations but mainly because the previous actions are no longer applicable with the resources available. Maintaining and creating high quality habitats is more important for this species (and all others), than the previous targets.

The Habitat Action Plan (HAP) for gardens has been removed although issues around the loss of gardens have not abated, but gardens and their possible loss through development is now covered under Green Infrastructure and Biodiversity Accounting.

Sutton's Biodiversity Strategy needs to be a working document to readily reflect the changes to the national scene through the exit from the EU. The recent announcement of the 25 Year Environment Plan and the necessary fleshing out of that document, which is required to deliver on the ground environmental protection and gains, may provide shifts to the way this strategy focuses or is to be delivered.

7.3 Biodiversity Strategy Policies

Policy Bd1
The Council through this Biodiversity Strategy will fulfil all agri-environmental scheme targets

Policy Bd2
The Council will deliver Planning Policy 26 on Biodiversity to maintain protection and up-to-date information for designated sites.

Policy Bd3
The Council will adopt Biodiversity Net Gain and seek defined compensation costs towards delivering aspirational habitat restoration as set out in Appendix B5.

Policy Bd4
The Council will engage and enthuse people of all ages in valuing wildlife and nature, through education and active participation.

Policy Bd5
The Council will protect, maintain and enhance habitat important for biodiversity by delivering the plans for high priority habitats as set out in Appendices B1, B2, B3 and B4.

7.4 Setting and monitoring targets

Integral to any strategy are measurable targets, set against clear timescales. When setting timescales, it is important to allow for programmed reviews and monitoring every five years.

The Higher Level Stewardship has a clear set of deliverable targets by 2023. However, the more 'aspirational' aspects of this strategy rely on additional funding, which may or may not be made available through Biodiversity Accounting.

Monitoring is an essential and integral part of establishing conservation success. The majority of the strategy will be monitored against the HLS targets set, whilst Biodiversity Accounting will be recorded separately as part of the Council's Annual Monitoring Report (AMR) and a new bespoke recording mechanism with Greenspace Information for Greater London.

7.5 Strategic planning and development

Habitats and species listed as priorities in this strategy are capable of being a material consideration in the preparation of local development documents, and the making of planning decisions.

Protected species (currently under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended)) are also material considerations within the planning process.

The Sutton Local Plan 2016 - 2031 contains Policy 26 on biodiversity, and broadly states:
1) the Council will undertake Biodiversity Accounting and,
2) the Council will support the creation of 'Various habitat enhancements identified through the Council's Biodiversity Action Plan [this Strategy] and the Catchment Plans for the River Wandle and Beverley Brook' (clause b).

The actions identified through this new Biodiversity Strategy aim to fulfil the Council's aspirations through the Local Plan to account for biodiversity on development sites and deliver wider environmental benefit (i.e. river restoration). Appendix B5 on Green Infrastructure and Biodiversity Accounting provides more detail.

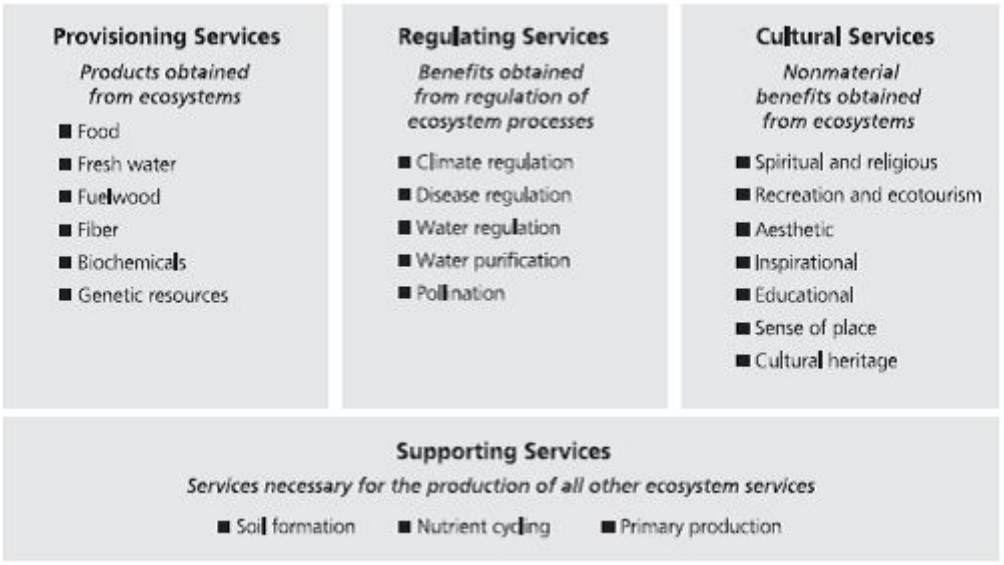
7.6 Ecosystem services

Ecosystem services are the four principles of natural resources required for human life on earth and are the sum total of benefits humans derive from the world, as shown on Table 1.

Biodiversity underpins the concept of ecosystem services i.e soil formation processes are part geological (physical and chemical reactions to break down bedrock) but are formed as recognisable and useful soils by biotic actions (being eaten and excreted by earthworms and other soil fauna and flora).

Table 1: Ecosystem Services (after the Millenium Ecosystem Assessment[5])

[5] https://www.millenniumassessment.org/documents/document.300.aspx.pdf



Climate regulation is achieved locally e.g. by land use cover and the Urban Heat Island Effect, and globally e.g through carbon sequestration or emissions by forests or peat bogs, oceanic algae photosynthesis etc., all of which are ultimately affected by the variety of life on earth.

This Biodiversity Strategy seeks to broadly incorporate Ecosystem Services in the delivery of its actions. For instance, using grazing animals to maintain and enhance special chalk grassland habitats for wildflowers, grasses and associated fauna is vital, as part of the UK's commitment to fulfilling our international duty for this rare habitat. Light (extensive) grazing, as undertaken in Sutton, increases the soils capacity to store carbon dioxide, compared to mowing[6]. Once they are on site, the grass is removed and converted into animal protein. The size of the animals, particularly with cattle creates localised bare areas, vital for seed dispersal and seed set. Their dung provides ready made compost for wildflowers and fungi, as well as food resources for numerous invertebrates, that in turn are food for birds and bats and larger insects. They break it down and recycle it into the soil, promoting soil health and productivity. Grazing, therefore, delivers a wide variety of ecosystem services, compared to the mowing of meadows. Grazing would, ideally be used on all wildflower meadows but there are areas of the borough where grazing can't be used, due to issues around livestock safety and public perception. Initial setup costs (fencing, water troughs and water supply, etc.) can also be prohibitive.

7.7 Sutton's biodiversity

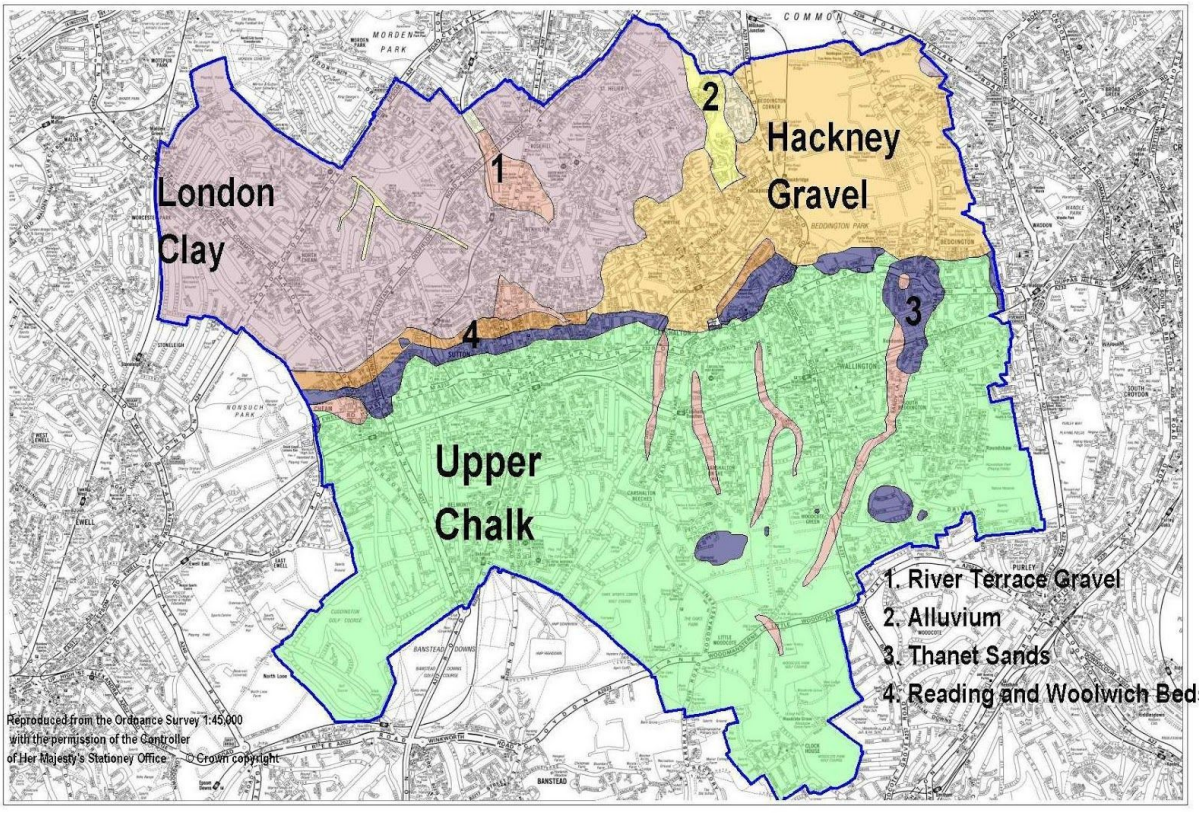
For a borough on the edge of London, Sutton contains a surprising array of wildlife. Nationally declining or rare species such as the small blue butterfly *Cupido minimus*, the flowering plant the greater yellow rattle *Rhinanthus angustifolius*, invertebrates such as the stag beetle *Lucanus cervus* and birds such as the skylark *Alauda arvensis* all live in Sutton. However, it is not just the rare or uncommon that we should protect. Common or familiar

6 https://www.researchgate.net/publication/265640765_Net_carbon_storage_measured_in_a_mowed_and_grazed_temperate_sown_grassland_shows_potential_for_carbon_sequestration_under_grazed_system?_sg=9dKxp_LKaW8-3D4WaHPWVBFgOYvb-g1XsJMbb-XPALTJ6_-SzHw1ju90EB6m6Lk-5EbCpPMNmf8U6Wbn4HSz6J4utdDoA404tg

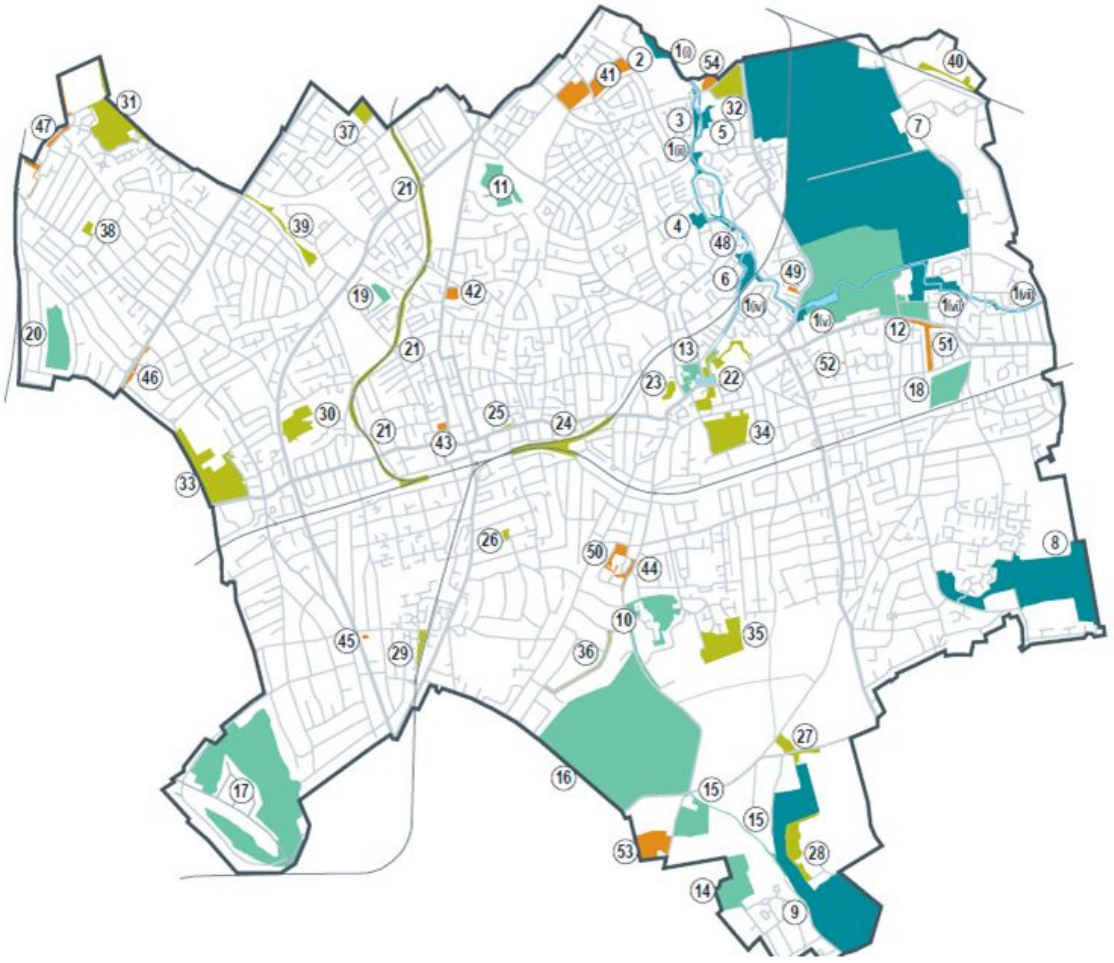
species such as blackbirds, robins and foxes, are all integral to UK biodiversity.

Sutton's natural character is influenced by its geology. In the southern half of the Borough, the underlying geology is chalk. Chalky soils are always alkaline and very free-draining, which restricts the type of plants that can grow on them. In the north east, river terrace gravels predominate. These gravels are important in the building industry and their extraction has had a huge impact on the landscape. Current proposals are to restore the 92 ha Viridor Landfill site, which covers a significant proportion of the river terrace gravels as a site of nature conservation by 2023 as part of a wider Wandle Valley Regional Park. The north west of the Borough is dominated by London clay, a heavy, neutral soil that holds a lot of water and is again colonised by characteristic plants. The chalk spring fed river Wandle, the Beverley Brook and Pyl Brook all support a rich diversity of invertebrate life and fish species. Chalk Rivers are national priority habitats, because of their characteristic plants and animals and threats to their vitality. The maps below shows the geology of Sutton and Sites of Importance for Nature Conservation as set out in the Council's Local Plan 2016-2031.

Map 1: Underlying geological strata in Sutton



Map 2: Sites of Importance for Nature Conservation (Local Plan 2016-2031)



Key to site numbers in Map 2.

SINC Number	Site Name	Grade
SINC 1 (i) - (vii)	The River Wandle	M
SINC 2	Poulter Park Riverside	M
SINC 3	Wandle Valley Wetland	M
SINC 4	Dale Park	M
SINC 5	Spencer Road Wetland	M
SINC 6	Wilderness Island	M
SINC 7	Beddington Farmlands	M
SINC 8	Roundshaw Downs	M

SINC 9	Woodcote Park Golf Course	M
SINC 10	Queen Mary's Woodland, Wellfield Plantation and Grasslands and Woodmansterne Road Woodland	B1
SINC 11	Greenshaw Wood and Rosehill Park East	B1
SINC 12	Beddington Park	B1
SINC 13	Sutton Ecology Centre	B1
SINC 14	Ruffett, Big Wood and adjacent Meadow	B1
SINC 15 (i-ii)	Carshalton Road Pastures and Grove Lane Hedge	B1
SINC 16	The Oaks Park and Golf Course	B1
SINC 17	Cuddington open Spaces and Golf Course	B1
SINC 18	Bandon Hill Cemetery	B1
SINC 19	Anton Crescent Wetland	B1
SINC 20	Cuddington Recreation Ground	B2
SINC 21 (i-iii)	Sutton to St. Helier Railway Line	B2
SINC 22	Carshalton Ponds, Grove Park and All Saints Churchyard	B2
SINC 23	St Philomena's Lake	B2
SINC 24	The Warren Railway Lands	B2
SINC 25	Water Gardens Bank	B2
SINC 26	Devonshire Avenue Nature Area	B2
SINC 27	Little Woodcote Wood	B2
SINC 28	Woodcote Grove Wood	B2
SINC 29	Belmont Pastures	B2
SINC 30	Perrett’s Fields and Sutton Water Works	B2
SINC 31	Mayflower Park	B2
SINC 32	Mill Green	B2
SINC 33	Cheam Park	B2
SINC 34	Carshalton Park	B2
SINC 35	Queen Mary's Park	B2
SINC 36	Pine Walk Roadside Island	B2

SINC 37	Sutton Common Paddock	B2
SINC 38	Cuddington Cemetery	B2
SINC 39	Pyl Brook	B2
SINC 40	Therapia Lane Rough	B2
SINC 41	Revesby Road Wood	L
SINC 42	All Saints Churchyard, Benhilton	L
SINC 43	St. Nicholas Churchyard, Sutton	L
SINC 44	Radcliffe Gardens Woodland	L
SINC 45	The Avenue Primary School Nature Garden	L
SINC 46	London Road Edge	L
SINC 47	Beverley Brook	L
SINC 48	The Spinney	L
SINC 49	Caraway Place Pond	L
SINC 50	Barrow Hedges Primary School	L
SINC 51	Queen Elizabeth Walk	L
SINC 52	St. Mary's Courtyard Wildflower Area, Bute Road	L
SINC 53	Lambert's Copse	L
SINC 54	Land North of Goat Road	L

M = Sites of Metropolitan Importance
B1 = Sites of Borough Importance, Grade I
B2 = Sites of Borough Importance, Grade II
L = Sites of Local Importance

8. Monitoring and Review of the Parks and open Spaces Strategy

In accordance with best practice guidance the Council proposes to carry out annual reviews of the Parks and open spaces action plan to measure progress and reflect changes in strategic priorities. The Council will also monitor overall performance in meeting the Vision and Objectives.

To ensure delivery of the strategy, the action plan identifies these who are responsible and sources of funding and other resources required for delivery.

Appendices

Appendix 1 - Planning Policy Context of new Open Space Strategy

National Planning Policy

National Planning Policy Framework

1.1 The revised National Planning Policy Framework (2018) (NPPF) defines opens space as all open space "*of public value, including not just land, but also areas of water (such as rivers, canals, lakes and reservoirs) which offer important opportunities for sport and recreation and can act as a visual amenity*". It identifies access to open space as a key component in achieving sustainable development.

1.2 The NPPF sets out the requirements for local plans with regard to open space, stating that planning policies should be based on robust and up-to-date assessment of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision. Assessments should then be used to determine what open space provision is needed, which local plans should then seek to accommodate.

1.3 Section 8 of the NPPF "Promoting healthy communities" (paragraphs 96 and 97) deals with how councils should address open space and sport and recreation provision in their local plans and how applications involving the potential loss of open space should be dealt with.

1.4 The NPPF states at paragraph 96 that: "*Access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities. Planning policies should be based on robust and up-to-date assessments of the need for open space, sports & recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision*". Further, paragraph 96 continues: "*Information gained from the assessments should be used to determine what open space, sports and recreational provision is needed, which plans should then seek to accommodate*". Paragraph 97 sets out criteria for councils to consider which applications involving the loss of open space might be acceptable.

1.5 Finally, paragraph 171 states that "*Plans should... take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure*".

National Planning Policy Guidance

1.6 The National Planning Practice Guidance (NPPG), originally published in March 2014, is a live web-based resource which brings together planning guidance on various topics. The NPPG has replaced the PPG17 Companion Guide "Assessing Needs and Opportunities" (September 2002).

1.7 The relevant section of the NPPG is entitled: "Open space, sports and recreation facilities, public rights of way and local green space". Section 1 "Open space, sports and recreation facilities" states that "*open space should be taken into account in planning for new development...It is for local planning authorities to assess the need for open space and opportunities for new provision in their areas*." In addition this section signposts authorities and developers to Sport England Guidance.

Regional Planning Policy

The London Plan

1.8 The London Plan (March 2016) contains a number of planning policies that are relevant to open space.

1.9 Policy 2.18 "Green Infrastructure: the multi-functional network of green and open spaces" seeks to protect, promote, expand and manage the extent and quality of, and access to, London's network of green infrastructure. With regard to local plan preparation, the policy states that local authorities should produce green infrastructure strategies, identifying priorities for addressing deficiencies and measures for the management of open space.

1.10 Policies 7.16 to 7.23 provide a detailed strategic framework to protect London's open and natural environment. This includes Policy 7.16 "Green Belt"; Policy 7.17 "Metropolitan Open Land" and Policy 7.18 "Protecting open space and addressing deficiency".

1.11 Policy 7.18 sets out the requirements for local authority plan preparation, stating that when assessing local open space needs local plans should:

- Include appropriate designations and policies for the protection of open space to address deficiencies;
- Identify areas of open space deficiency, using the London Plan open space categorisation as a benchmark for all the different types of open space;
- Ensure that future publicly accessible open space needs are planned for in areas with the potential for substantial change such as opportunity areas, regeneration areas, intensification areas and other local areas;
- Ensure open space needs are planned in accordance with green infrastructure strategies to deliver multiple benefits.

Green Infrastructure and Open Environments: The All London Green Grid (March 2012)

1.12 The All London Green Grid, linked to Policy 2.18 of the London Plan (2016) takes an integrated approach to managing, enhancing and extending London's green infrastructure. The Mayor considers that the Green Grid should be looked at as an asset, valued for the whole range of social, health, environmental, economic and educational benefits it brings to London. The Supplementary Planning Guidance (SPG) states that the Green Grid requires the same kind of protection, investment and innovation as other types of infrastructure.

1.13 The SPG identifies eleven Green Grid Areas and provides the basic framework from which policies and projects can be developed and delivered. The two areas that are covered by Sutton are GGA7 "London's Downloads" and GGA8 "Wandle Valley".

Open Space Strategies: Best Practice Guidance: A Joint Consultation between the Mayor of London and CABE (Campaign for the Built Environment)

1.14 This guidance document aims to provide clear, practical guidance on how to create an open space strategy. The guidance outlines a six stage process which should take between 12 and 18 months to complete:

- Stage 1 Prepare Brief/Scoping Study;
- Stage 2 Context Review
- Stage 3 Understand Supply
- Stage 4 Understand Demands/Needs
- Stage 5 Analyse and identify issues and objectives
- Stage 6 Prepare Strategy and action plan

Local Planning Policy

The Sutton Local Plan (2018)

1.15 The Sutton Local Plan, adopted in February 2018, sets out a spatial planning framework for the long-term development of the borough up to 2031. It provides the broad strategy for the scale and distribution of development and the

provision of supporting infrastructure, including green infrastructure. In addition it sets out the detailed planning policies that are used to determine planning applications and allocates sites that will be brought forward for all types of development.

1.16 Local Plan Policy 25 “Open Spaces” states that the council will seek to retain the existing level of open space in the borough and sets out the criteria the council will use when assessing proposals for development on open space. It states that the council will refuse development of all open space and play space in the borough unless it can be: (a) demonstrated that such development would preserve or enhance its open character, its function as a sport, leisure or recreational resource, and its contribution to visual amenity; or (b) the loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in the local area.

1.17 Policy 25 also sets out other requirements, including; seeking on-site provision of public open space; support improvements and enhancements to the quality and access of existing open spaces; supporting new high quality outdoor sports facilities; supporting proposals for new children's play space; and resisting development on allotments.

1.18 Other relevant Local Plan policies relating to open space include:

- Policy 24 “Green Belt and Metropolitan Open Land”, which deals with how applications affecting the Green Belt and MOL are dealt with
- Policy 26 “Biodiversity”, which sets out the council commitment to protecting and enhancing the borough’s biodiversity and includes criteria for how to deal with applications that affect sites of importance for nature conservation.
- Policy 27 “Agricultural Land and Diversity”, which sets out how the council will deal with applications that involve the loss of agricultural land and new agricultural/residential buildings on agricultural land.
- Policy 33 “Climate Change Adaptation”, which emphasises the importance of green space networks in minimising the urban heat island effect and urban cooling.

<u>Sutton Open Space Study (2016)</u>

1.19 The Open Space Study Update, published in 2016, was prepared alongside the Sutton Local Plan to ensure that the level of open space provision and improvements was provided were consistent with the projected level of growth over the Plan period up to 2031.

<u>Other Council Strategies and Plans</u>

1.20 The council has a number of other key documents and plans that are relevant to open spaces in the borough:

- Biodiversity Action Plan (2010)
- Borough Climate Change Adaptation Action Plan (2011)

- Green Belt and MOL Review (2015)
- Green Belt and MOL Review Update (2016)
- Sites of Importance for Nature Conservation Review (2016)
- Draft Sustainability Strategy (2018)

Appendix 2 (taken from the Sutton Local Plan 2016-2031)

SCHEDULE 5.I: OPEN SPACE ACCESS BY WARD

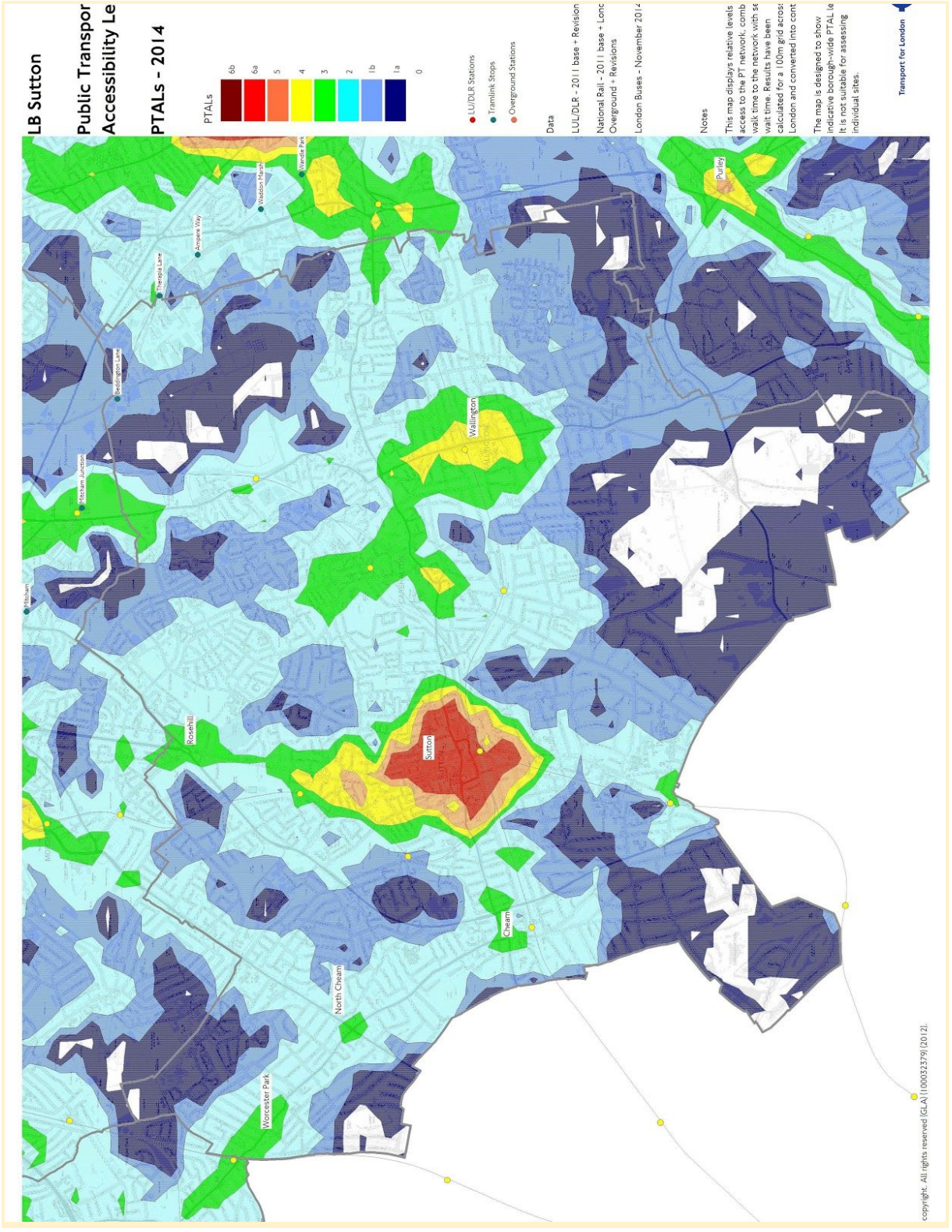
Table	Open Space By Ward
5.1	Open Space By Ward

TABLE 5.1: OPEN SPACE ACCESS BY WARD

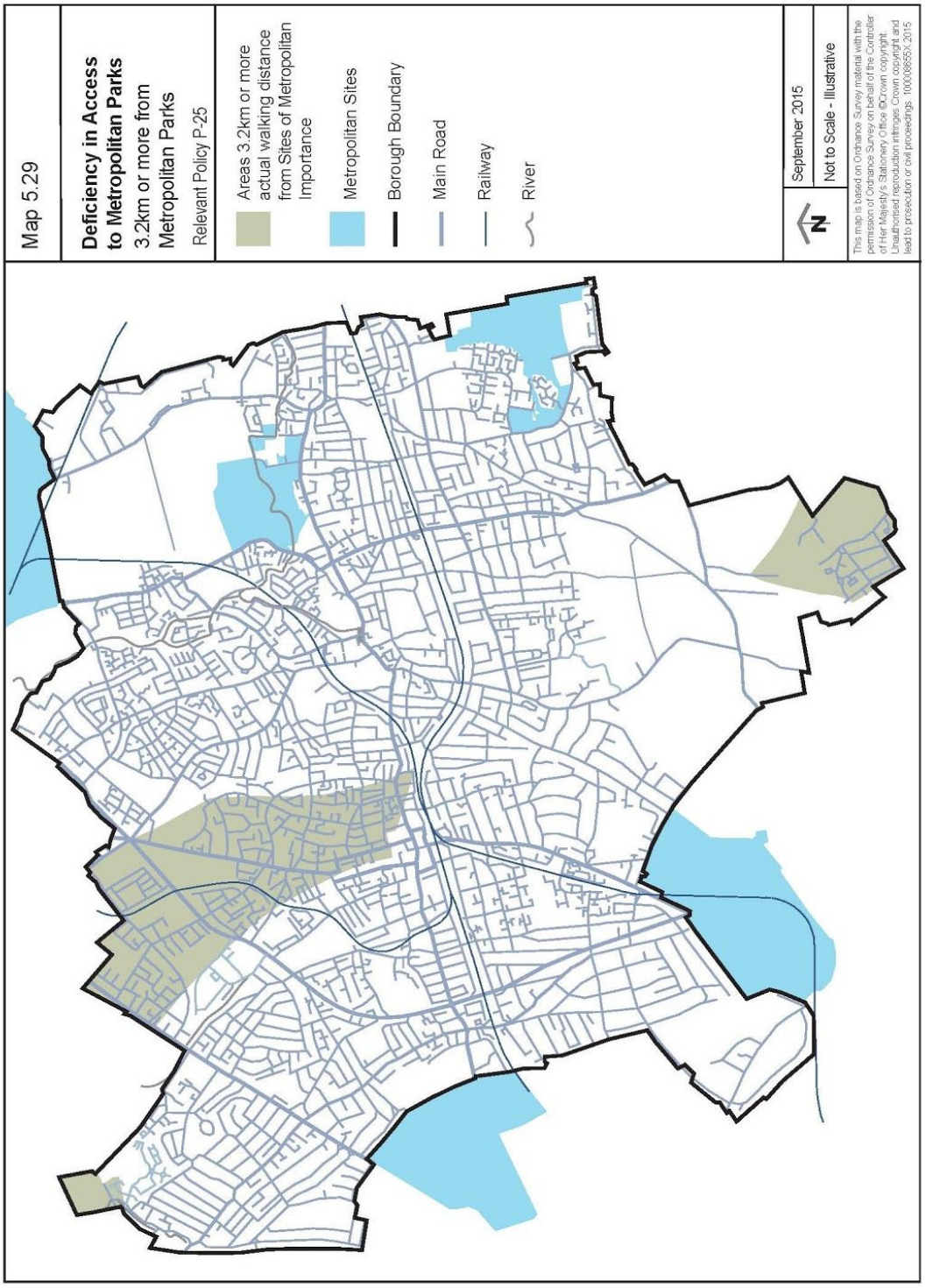
(As of February 2016)

Ward or Committee Area	Area of Unrestricted Open Space (ha)	Population (2011 Census)	Amount of Open Space per 1000 population	Amount of Open Space Above or Below Borough Average
Cheam North and Worcester Park Local Committee Total Area of Unrestricted Open Space: 63.2ha				
Worcester Park	17.84	11,655	1.53	**-1.20**
Stonecot	28.93	10,712	2.70	**-0.03**
Nonsuch	16.43	10,641	1.54	**-1.19**
Sutton South, Cheam and Belmont Local Committee Total Area of Unrestricted Open Space: 43.25ha				
Sutton South	1.55	9,599	0.16	**-2.57**
Cheam	27.59	10,285	2.68	**-0.05**
Belmont	14.11	10,048	1.40	**-1.33**
Sutton Local Committee Total Area of Unrestricted Open Space: 59ha				
Sutton North	31.54	10,355	3.05	**+0.32**
Sutton Central	8.97	10,993	0.82	**-1.91**
Sutton West	18.49	10,536	1.75	**-0.98**
St Helier, The Wrythe and Wandle Valley Local Committee Total Area of Unrestricted Open Space: 85.05ha				
St Helier	22.37	11,949	1.87	**-0.86**
The Wrythe	19.83	10,163	1.95	**-0.78**
Wandle Valley	42.85	11,630	3.68	**+0.95**
Carshalton and Clockhouse Local Committee Total Area of Unrestricted Open Space: 109.13ha				
Carshalton Central	28.96	10,039	2.88	**+0.15**
Carshalton South and Clockhouse	80.17	9,715	8.25	**+5.52**
Beddington and Wallington Local Committee Total Area of Unrestricted Open Space: 159.82ha				
Beddington North	80.53	10,309	7.81	**+5.08**
Beddington South	74.89	10,667	7.02	**+4.29**
Wallington North	3.07	10,650	0.29	**-2.44**
Wallington South	1.33	10,200	0.13	**-2.60**
Borough Total	**519.45**	**190,146**	**2.73**	

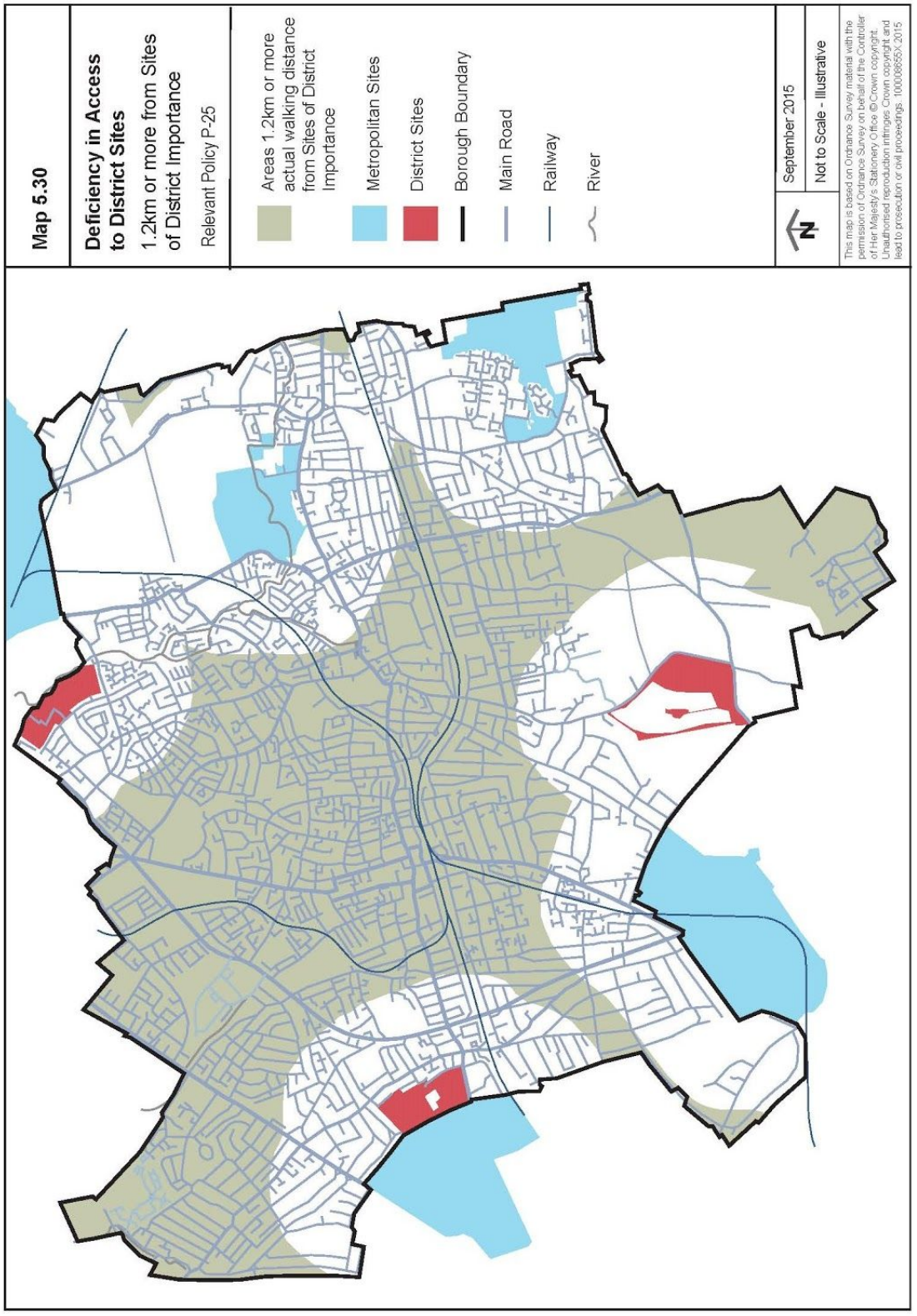
Appendix 3(taken from the Sutton Local Plan 2016-2031)



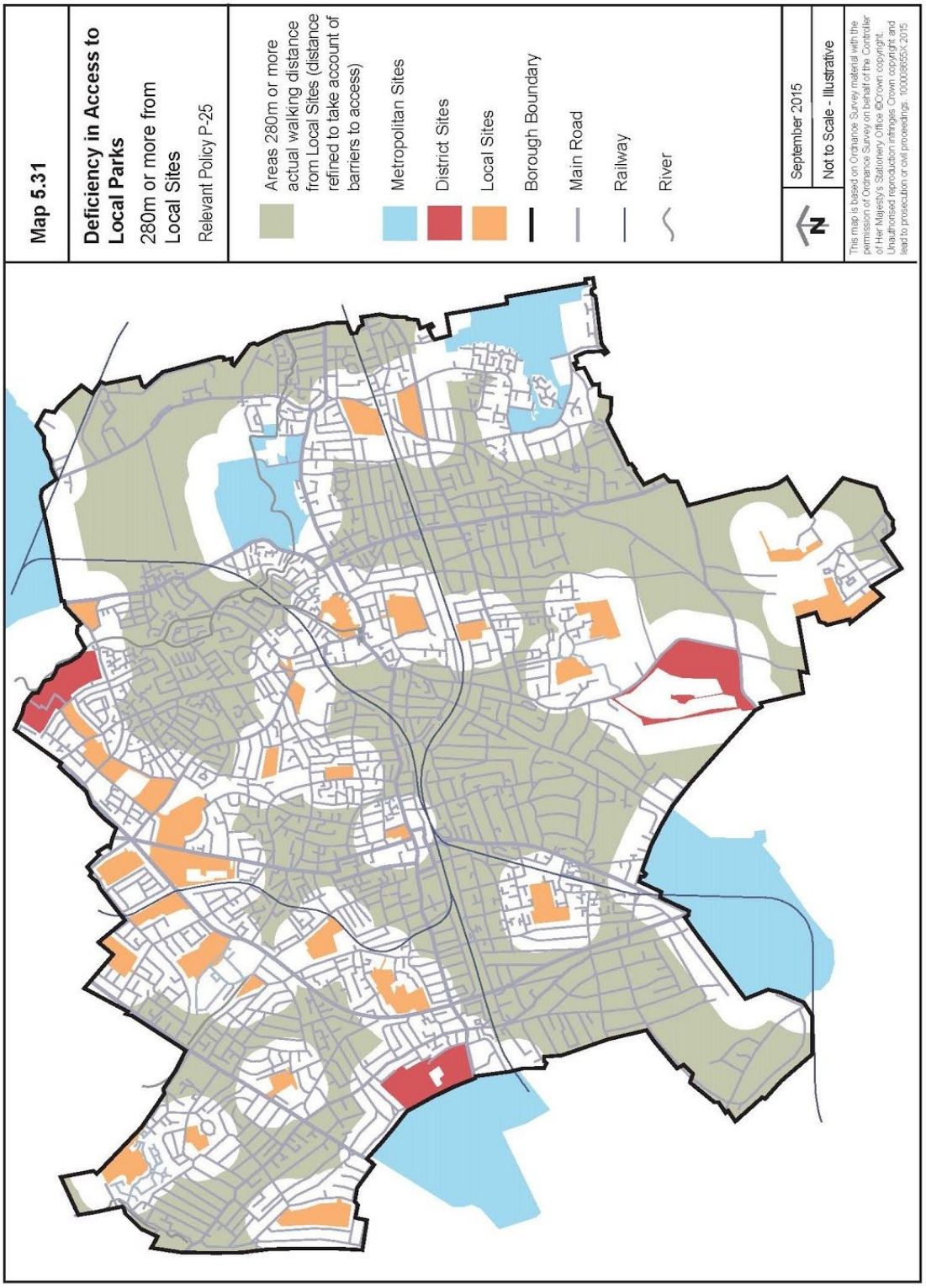
Appendix 4(taken from the Sutton Local Plan 2016-2031)



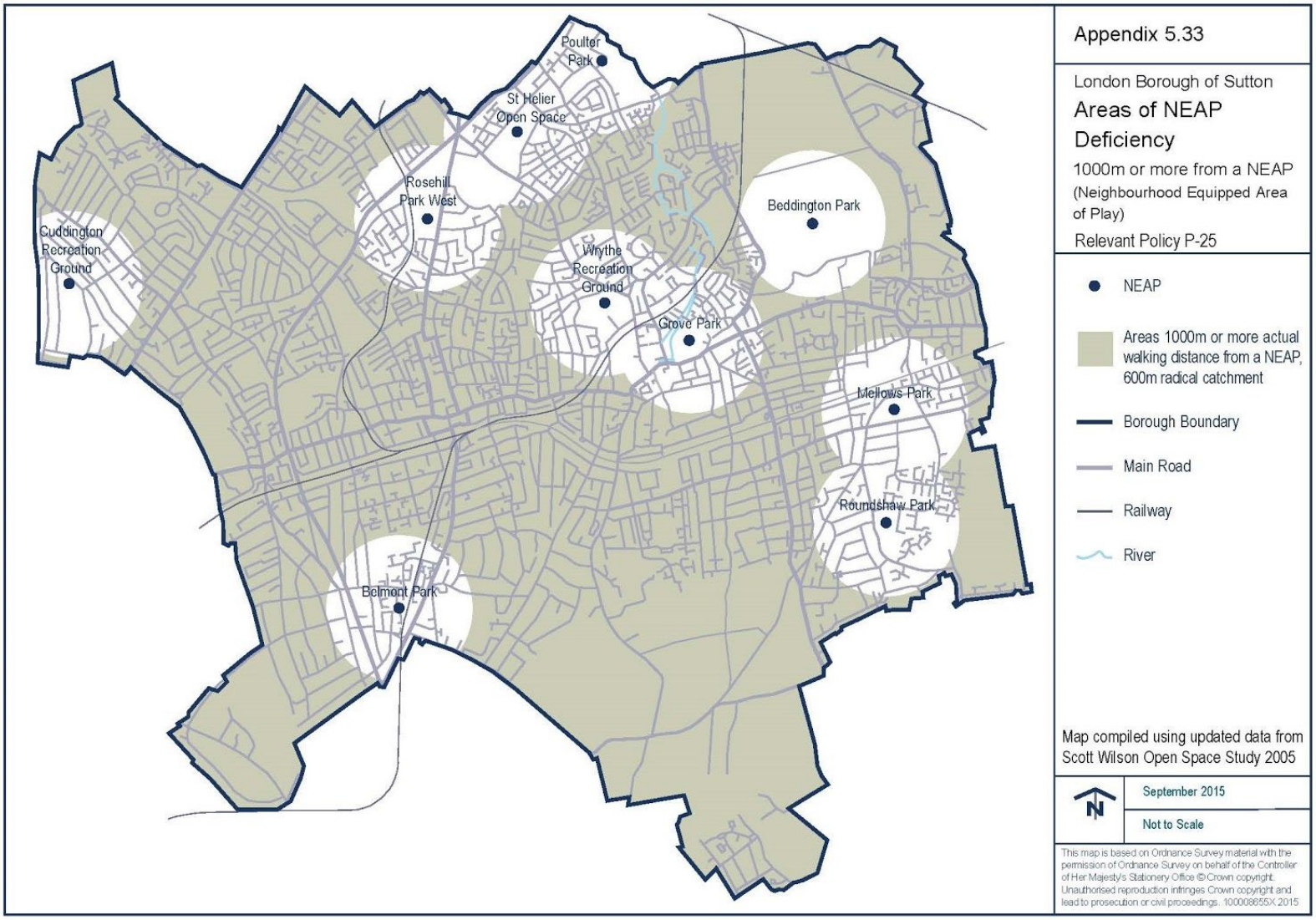
Appendix 5(taken from the Sutton Local Plan 2016-2031)



Appendix 6(taken from the Sutton Local Plan 2016-2031)



Appendix 7(taken from the Sutton Local Plan 2016-2031)


Poulter Park
St Helier Open Space
Rosehill Park West
Cuddington Recreation Ground
Wrythe Recreation Ground
Beddington Park
Grove Park
Mellows Park
Roundshaw Park
Belmont Park
Appendix 5.33
London Borough of Sutton
Areas of NEAP Deficiency
1000m or more from a NEAP (Neighbourhood Equipped Area of Play)
Relevant Policy P-25
NEAP
Areas 1000m or more actual walking distance from a NEAP, 600m radical catchment
Borough Boundary
Main Road
Railway
River
Map compiled using updated data from Scott Wilson Open Space Study 2005
N
September 2015
Not to Scale
This map is based on Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and lead to prosecution or civil proceedings. 100008655X 2015

Appendix 8 - **Support for friends groups**

1. Each friends group will be designated a member of the Parks Team as a contact point. The officer will attend at least one meeting for each friends group during the year, at the request of the group's Chair. Other officers may also attend to discuss their specialism, e.g. trees.

Officers will only attend if notice is given well in advance, an agenda is provided before the meeting, and the reason they are asked to attend is made clear.

2. The Parks Team will copy promotional flyers for friends groups. Up to 100 copies of flyers or leaflets will be produced on up to two occasions each year. Flyers / leaflets for copying must be delivered and collected from the Parks Team office. We cannot post items for groups, but items can be posted to us at 24 Denmark Road, Carshalton, Surrey SM5 2JG using the Council's internal mail system from libraries and Civic Offices.

3. The Parks Team request a copy of each friends groups constitution and ask each group to keep them up to date with changes in the group's personnel and contact points.

Groups are advised that if they want to be considered as full partners, their constitutions should reflect the Council's Core Values and aim to represent all sections of the community.

4. The Parks Team will organise occasional meetings for all the friends groups to meet together when there are issues of common interest and the groups request a meeting.

5. The Parks Team will provide materials, bulbs, trees and plants to support friends group's projects in parks, within the limits of the budget.

6. The Parks Team will support friends groups in applying for funding with external bodies, by searching for suitable funding sources, providing information and quotations for work and will where possible assist with completing forms.

7. The Parks Team will work with friends groups to promote membership. Details of friends groups will be published on the Council's website and provide links to friends group's websites on request.

8. Friends Groups are encouraged to apply for grants through the Local Committees if they need funding to pay for room bookings, promotion of the group and administration. Public realm funding is also available through Local Committees for park improvements and projects.

Appendix 9 - Allotment site list

No.	Allotment Site	Area (ha)	Committee area
1	Beddington Park	0.2	Beddington and Wallington
2	Belmont	2.1	Sutton South, Cheam and Belmont
3	Benhill	2.4	Sutton
4	Buckland Way	1.4	Cheam North and Worcester Park
5	Bushey Meadow	0.5	Sutton
6	Bute Road	1.6	Beddington and Walington
7	Central Road	0.3	Cheam North and Worcester Park
8	Cheam Court (includes Forge Lane)	0.3	Sutton South, Cheam and Belmont
9	Cheam Park Nursery	1.2	Sutton South, Cheam and Belmont
10	Cheam Park Paddock	0.3	Sutton South, Cheam and Belmont
11	Chaucer Road	0.6	Sutton
12	Clensham Lane	0.2	Sutton
13	Culvers Avenue	0.4	St Helier, Wrythe and wandle Valley
14	Demesne Road	4.1	Beddington and Wallington
15	Duke Street	0.3	Sutton
16	Fryston Avenue	0.3	Carshalton and Clockhouse
17	Gander Green Lane	3.6	Sutton
18	Goose Green	1.1	Beddington and Wallington
19	Green Wrythe Lane	1.9	St Helier, Wrythe and wandle Valley
20	Greenshaw Farm	1.4	Cheam North and Worcester Park
21	Lavender Road	0.3	Beddington and Wallington

22	Mill Green	0.5	St Helier, Wrythe and wandle Valley
23	Orchard Allotments -Bute Road	1.1	Beddington and Wallington
24	Perrets Field	0.9	Sutton
25	Priory Crescent	0.1	Cheam North and Worcester Park
26	Pylbrook Triangle	0.03	Sutton
27	Ridge Road	0.9	Cheam North and Worcester Park
28	Roundshaw	1.9	Beddington and Wallington
29	Spencer Road	1.0	St Helier, Wrythe and wandle Valley
30	Stanley Road	3.9	Carshalton and Clockhouse
31	Wandle Road	0.6	Beddington and Wallington
32	Wandle Side	0.2	Beddington and Wallington
33	The Warren	0.2	Carshalton and Clockhouse
34	Watson Avenue	0.4	Cheam North and Worcester Park
35	Westmead Road	3.6	Carshalton and Clockhouse
36	Wrights Row	0.2	Beddington and Wallington

Appendix B1:
Chalk Grasslands

Habitat Action Plan 2019 – 2024

Sussex cattle at Roundshaw Downs LNR, set against the backdrop of Croydon

"*Many eyes go through the meadow, but few see the flowers in it*"
Ralph Waldo Emerson

1. Aims

- To maintain the 2018 baseline for chalk grassland with SINC protection
- To enhance the condition of the chalk grassland entered into Higher Level Stewardship
- To create 2ha of chalk grassland
- To increase public appreciation of the flora and fauna of chalk grasslands

2. Introduction

High quality chalk grasslands have, arguably, the highest small scale species diversity of UK habitats (that is, they often have a high number of different species within a sampled unit area i.e. $1m^2$, whereas woodlands mave have a higher overall number but the species per sample are low). High quality chalk grasslands can have up to 40 to 50 different species of plant within a small sample area! In contrast, the same sized sample of amenity grassland would be lucky to find 4-5 species.

Because of the physical conditions imposed by chalk grasslands on flora (low nutrient levels, high pH of 6.5-8.5, low water content, often steep topography and a south facing aspect) high quality chalk grasslands have a wide range of stress tolerant species. This means that other species that may dominate grasslands struggle to compete and find a foothold, allowing more delicate and specialist species to thrive. In turn, these specialist species often support invertebrate species adapted to exploit the plants and physical conditions of chalk grasslands.

Chalk grasslands are likely to have existed since the retreat of the last glaciation c.12,000 years before present (BP). Large expanses were probably rare but patches of grassland would have been maintained by the action of large herbivores or been retained where natural succession to scrub or forest was halted through abiotic factors (i.e. high salinity levels on the coast, high wind speeds etc.).

The advent of pastoralism to the UK, c.6,000BP during the Neolithic period would have seen the primordial ‘wildwood’ felled for fuel, building material etc., with the aftermath habitat turned over to small scale grazing of domesticated animals, rather than being left to return to woodland (see Woodland & Scrub Habitat Action Plan for more detail on this). In those areas in the UK with chalk outcrops (North and South Downs, Chilterns, Yorkshire Wolds etc.), the soils are thin and water quickly percolates through the porous chalk, reducing its ability to be utilised for arable farming. The physical nature of most chalk grassland (i.e. raised ground, often with steep slopes) often precludes the use of a plough to till the soil (even today with modern agricultural machinery, the best chalk grasslands are often those too steep to plough).

As the deforestation on chalk areas progressed and the areas produced were of little use for anything other than grazing livestock on a low intensity basis (the lack of soil

nutrients doesn't promote enough growth for high intensity grazing), use of what became 'chalk downlands' essentially mimicked, for millennia, the natural low intensity grazing of wild herbivores, allowing specialist delicate species to expand in distribution as more land was cleared of woodland and converted to grasslands.

Over several millennia, the species naturally maintained prior to the introduction of pastoralism were enabled through low intensity grazing by humans to carry on building their specific communities of floral and faunal interactions, leading to a highly complex and diverse habitat.

Changes to this low intensity grazing management, primarily over the last 70 years or so, has resulted in a marked and rapid decline in the total area of chalk grassland, its distribution across the landscape (becoming more fragmented and smaller) and decline in habitat quality (see **3.2, 4.1** and **4.2** below).

Where high quality chalk grasslands have been retained or restored through targeted conservation, we can see an echo of the wonders that these special places provide, from singing skylarks to teeming butterflies, the chirrups of grasshoppers and bush-crickets to the myriad of pinks, purples and yellows provided by the suite of delicate flowers. Summer on a chalk downland is a truly magical experience.

3. Current Status

3.1 Area & Distribution

Sutton supports approximately 42ha[7] of chalk grassland, although there is significantly more grassland on chalk, such as golf courses, that is degraded, at around 196ha in total. In London, chalk grassland is restricted to its southern periphery, across the boroughs of Sutton, Croydon and Bromley on the North Downs, and to the extreme northwest, in the Borough of Hillingdon, where outliers of the Chiltern Hills just reach the capital. Around 390ha[1] are classified in London, and in this context, Sutton supports about 9% of the London resource.
Within the UK, chalk grassland is estimated to cover up to around 41,000ha[8], just under half of the world's chalk grassland resource.

It is worth noting that although this HAP references 'chalk grasslands', technically, Sutton only has small fragments of what is classified as chalk grassland (Rodwell *et al*, 1992[9]). This means that it fulfills specific criteria in regards the diversity of grass and wildflower species under the National Vegetation Classification (NVC). Under the NVC, chalk grasslands are given the epithet CG, with a classification number. In

[7] GiGL, 2006
[8] UK BAP, JNCC, 1998 http://jncc.defra.gov.uk/PDF/UKBAP_Tranche2-ActionPlans-Vol2-1998.pdf
[9] Rodwell, J. S. (ed.) 1992. *British Plant Communities. Volume 3. Grassland and montane communities*. Cambridge University Press.

Sutton, we would expect to have either CG3, CG4 or CG5 grasslands (or a mixture of all three across the landscape). CG3 grassland is dominated by upright brome *Bromopsis erecta*, CG4 is dominated by tor grass *Brachypodium pinnatum*, whilst CG5 is a mixture of upright brome and tor grass.

CG3 is recorded only in pockets on some sites; the majority of 'chalk grasslands' in Sutton are, in reality, a mixture of (Meadow Grassland) MG1 and MG1e plant communities with chalk indicator species. MG1e is the more species rich common knapweed *Centaurea nigra* sub-community of MG1 *Arrhenartherum elatius*, a species poor rank grassland community, which generally thrives on neutral soils. MG1 grasslands can invade other, more species rich, grasslands, generally when grazing is absent or has been removed.

As such, the baseline of actual chalk grasslands is taken to be the GiGL data of 42.41ha, managed 'chalk grassland' as 45.96ha and grassland on chalk having protection through the Local Plan, including golf courses, as c.196ha.

Within Sutton the underlying geology to the southern half of the borough is Upper Chalk / Clay with Flints. The vast majority of what would have been chalk downland in Sutton has been heavily modified, either through development or conversion to golf courses. There is an argument that the golf courses have provided some protection from more intensive development for chalk grassland species and features, particularly in the rougher areas. The Borough's substantial golf courses include Woodcote Park Golf Course (55 ha), Oaks Park and Golf Course (96 ha) and Cuddington Golf Course and Cuddington Hospital (62 ha) may still have some remnant chalk grassland flora. In particular, c. 8.2ha of Oaks Park is treated as meadow, undergoing an annual cut and haymaking, whilst 1.4ha of the old Cuddington Hospital (within the wider Cuddington Golf Course and Cuddington Hospital SINC) is managed as chalk grassland, through a combination of haymaking and grazing.

The largest extent of 'chalk grassland' under the direct influence of the Council managed for biodiversity is Roundshaw Downs Local Nature Reserve. At 38 ha, around 28ha is 'chalk grassland' (a mosaic of chalk and species rich neutral grasslands) and is managed through rotational haymaking (c.20ha) and grazing by cattle (8ha). Close to Oaks Park is Carshalton Road Pastures, around 6.6ha of chalk grassland, scrub and woodland edge, where the 'chalk grassland' (c.4.5ha) is managed through annual haymaking by the Biodiversity Team.

Aside from the above, the remaining sites in Sutton that are managed for nature conservation are small and highly fragmented. The Warren (0.53ha) is part of the wider Warren Park, Devonshire Avenue Nature Area (0.3ha) is adjacent to a school and the Queen Mary's Woodland, Wellfield Plantation and Grasslands SINC contains four small (0.5ha, 0.38ha, 0.22ha & 0.12ha, respectively) chalk grassland areas. Apart from those areas at Wellfield Grasslands that exclude public access, all

sites containing chalk grassland within Sutton are open access and have considerable pressures from informal recreation and amenity use.

Sutton's chalk grasslands support a number of rare, scarce or restricted species, including the nationally rare and legally protected greater yellow rattle *Rhinanthus angustifolius*, in addition to other species scarce around south London, such as knapweed broomrape *Orobanche elatior* and common centaury *Centaurium erythraea*. Orchids, including man orchid *Aceras anthropophorum* and pyramidal orchid *Anacamptis pyramidalis* have occasionally appeared but at very low rates. It is unclear why Sutton grasslands are generally bereft of orchid species. Characteristic indicator species, such as kidney-vetch *Anthyllis vulneraria*, marjoram *Origanum vulgare*, lady's bedstraw *Galium verum,* quaking grass *Briza media*, cowslips *Primula veris* and greater knapweed *Centaurea scabiosa* are all fairly frequently encountered on Sutton sites.

Key animals include the nationally scarce small blue butterfly *Cupido minimus* (NERC 2006 Section 41 Priority Species) and birds such as the skylark *Alauda arvensis* ('Red List' species of 'Birds of Conservation Concern' and NERC 2006 Section 41 Priority Species).

3.2 Trends

Chalk grassland (in line with other lowland grasslands and meadows) has suffered dramatic declines nationally over the last 70 years. This is a product of a combination of factors such as:

- 'agricultural improvement' by the addition of hydrocarbon fertilisers and re-seeding with high yield fodder grasses (rye grasses etc.) for intensive pasturing for sheep and dairy or beef farming
- conversion to arable land through nutrient enrichment
- conversion to housing as agricultural land lost its value relative to the need for housing a growing post-war population
- conversion to amenity spaces (golf courses, parks etc.)
- declines in widespread pasturing across the landscape as grazing became the province of fewer and fewer people as more and more people moved to cities
- myxomatosis in the mid-1950s heavily impacted on supplementary 'natural' grazing by rabbits and led to 'scrubbing up', as tree and shrub shoots and saplings were not eaten, leading to conversion of grassland to scrub and eventually light woodland
- lack of appropriate management, either through insufficient resources or lack of technical expertise for landholders.

Successful chalk grassland management for conservation is still an emerging 'art', due to the vagaries of individual sites and species and their responses to intervention, but broad themes are generally applicable:

- create structural diversity - often through extensive grazing by hardy native breed livestock
- increase species diversity - either through ‘green haying’ or seeding from local provenance species-rich grasslands to increase niche availability
- reduce nutrient levels - mainly through mowing and grazing to reduce grass growth but atmospheric enrichment is almost impossible to reduce
- appropriate retention and management of scrub - scrub increases structural diversity and niche availability but can’t be allowed to dominate the grassland

Because most of Sutton’s sites are small, scrub on them is usually confined to hedges and boundaries, rather than scattered across open grassland. However, some thorny saplings are allowed to persist, as these provide small ‘tussocks’ of grass where the thorny nature of the shrub resists grazing by sheep. These protected tussocks are then home to overwintering beetles, cocoons / pupae etc.

It is assumed, although difficult to demonstrate, that insufficient management pressures, particularly grazing, have been exerted on Sutton’s ‘chalk grasslands’ over many decades, leading to a decline in this priority habitat. The aim of this Habitat Action Plan is to modify the MG1 grasslands back towards a CG3 community.

4. Specific Factors Affecting the Habitat

4.1 Major factors

- Cessation / lack of extensive grazing by cattle and sheep, leading to change in grassland community or ‘scrubbing up’
- Fragmentation and isolation of sites
- Over-mowing in amenity areas, preventing growth and flowering of indicator species
- Under-mowing of other areas, leading to changes in the grassland community or ‘scrubbing up’
- Pressure for development / amenity space
- Increasing management costs

4.2 Supplementary factors

- Reduction in landscape scale genetics through habitat fragmentation
- Atmospheric pollution and nutrient enrichment
- Climatic changes
- Recreational pressures from people trampling areas (creating muddy paths and trampling vegetation), disturbance of species (in particular, ground nesting birds) and nutrient enrichment from dog faeces.
- Application of fertilisers / re-seeding

- Tree planting
- Inappropriate pesticide use
- Illegal incursion / activities i.e. Travellers, quad bikes / motocross, flytipping etc.
- Invasive non-native species, especially *Buddleja davidii.* and Canadian goldenrod *Solidago canadensis*.

It is clear that many of the major and supplementary factors affecting chalk grasslands do not occur in isolation; fragmentation and isolation of sites, pressure for development and reduction in landscape scale genetics are all intimately linked, for instance.

5. Current Action

5.1 Legal Status

Chalk grasslands are of international importance for their biodiversity. Chalk grasslands are considered a priority habitat under the NERC Act S41 (see Introduction, 3.2) . Numerous species strongly or solely associated with lowland calcareous grasslands are also Section 41 Priority Species and some even have legal protection through the Wildlife and Countryside Act (WCA) (1981, as amended) and the The Conservation of Habitats and Species Regulations 2010 (as amended).

Around 46ha of 'chalk grassland' are under Council ownership. All are managed primarily for nature conservation.

Three chalk grassland sites have been declared as Local Nature Reserves (Roundshaw Downs, Cuddington Meadows and Devonshire Avenue Nature Area) whilst a further site on chalk but not displaying chalky tendencies is also declared (Belmont Pastures). Local Nature Reserve is a statutory designation for protection of sites.

All chalk grassland sites or parcels of land owned and managed by the London Borough of Sutton have non-statutory protection through the planning system. This takes a tiered approach based on assessment of each site and relation to other sites at a local (borough) and regional (metropolitan) level, as outlined within the SINC Selection Advice Note 2013[10].

The highest tier of non-statutory protection is a Site of Metropolitan Importance (SMI). Sutton has two chalk grassland SMIs: Roundshaw Downs and Woodcote Park Golf Course. SMIs are those sites 'which contain the best examples of London's chalk habitats, sites which contain rare species, rare assemblages of species, important populations of species, or which are of particular importance within large areas of otherwise heavily built up London.'[1] Woodcote Park Golf Course

[10] https://www.london.gov.uk/sites/default/files/SINC%20Selection%20Process%20-%20update%20March%202013.pdf

has not been surveyed since 2006; it is therefore not clear whether the SMI designation for this site is still warranted.

The next tier of protection is that of sites of local importance i.e. of value at the Borough scale. These are Sites of Borough Importance, which are subdivided based on quality into Grade I or Grade II. Borough Grade 1 sites in Sutton include Carshalton Road Pastures, The Oaks Park and Golf Course, Cuddington Golf Course and Cuddington Hospital (Cuddington Meadows)

The remaining sites are classified as Borough Grade II and have protection under the Local Plan.

Within Sutton, two chalk grassland specialists are legally protected under the Wildlife and Countryside Act: greater yellow-rattle and the small blue butterfly. Greater yellow-rattle *Rhinanthus angustifolius* is a nationally rare (Red Data Book) plant given legal protection against picking, uprooting, destruction and sale (Schedule 8 species of the WCA 1981). It's national stronghold is the chalk downlands of Sutton and Croydon.
The small blue butterfly *Cupido minimus* is protected from trade actions (selling, offering for sale etc.) under Schedule 5, Section 9 (5).

5.2 Mechanisms affecting the Habitat Action Plan

5.2.1 Historical Management

The London Borough of Sutton, in partnership with organisations such as the Downlands Partnership (DP) and Sutton Nature Conservation Volunteers (SNCV), currently manages eleven of Sutton's chalk grassland sites. As noted previously, most management work centres on haymaking and scrub control undertaken by staff and volunteers, with low intensity grazing implemented where it can be. Hardy native breed sheep, provided through a Service Level Agreement (SLA) with the Downlands Partnership, enables Sutton to graze Wellfield North, South, East and West and the wood pasture within Queen Mary's Woodland, whilst around 1/3rd of Roundshaw Downs and all of Cuddington Meadows is grazed by Sussex cattle bullocks.

Over the last two iterations of Sutton's chalk grassland HAP, works have concentrated on removal of substantial areas of scrub and implementing grazing on Roundshaw Downs. We are now at a stage where we need to move from restoration of grassland *per se* to restoration of a more accurate chalk grassland community (i.e aiming towards CG3 communities).

5.2.2 Higher Level Stewardship

In December 2013, the London Borough of Sutton agreed a 10 year agri-environment scheme (Higher Level Stewardship - HLS) with Natural England. The bulk of the agreement relates to 10 'chalk grassland' land parcels where the target for each parcel is to improve the quality of the grassland such that a specified number of 'indicator species' are present at specified abundances (see **7.1.2** below).

Some sites also have targets in relation to kidney vetch *Anthyllis vulneraria*, the sole larval host plant for the caterpillars of the small blue butterfly. The targets set by HLS are therefore of utmost importance for the London Borough of Sutton and influence the aims and objectives of this HAP.

During summer 2014, each parcel was subject to a full suite of botanical surveys, specifically, a NVC survey to determine baseline plant communities, against which management successes can be judged most accurately. The NVC is also complemented by Chalk Grassland Rapid Assessment surveys, which have been undertaken annually since 2007 and the introduction of Natural England's G04 rapid assessment surveys. These later two surveys will continue to be undertaken annually, whereas NVC surveys are undertaken every four years, as they are more resource heavy, except on the paddocks of Roundshaw Downs, where these are undertaken every other year.

5.2.3 Environment Strategy

The old One Planet Sutton (OPS) is now superseded by Sutton's Environment Strategy, with the previous OPS targets being transposed to this HAP (**7.1.1** below).

5.2.4 Resource Availability

Historical and planned reductions, for the foreseeable future, in national public expenditure will deleteriously affect the ability of local authorities to undertake their statutory duties in regards biodiversity and nature conservation. Similarly, when faced with potential reductions in key services to residents (social services, street cleaning, refuse etc.), biodiversity is often one of the first services to be deemed a 'luxury' during austerity measures.

The delivery of this Biodiversity StrategyAction Plan requires that a suitably qualified and experienced team is retained to direct and implement it, in partnership with other organisations. Fortunately, external funding, such as the HLS scheme, is able to provide some medium term buffering to central grant reductions.

Although the HLS scheme runs until 2023 and the Government has promised to maintain all agri-environmental payments post-exit of the EU, there is no guarantee that HLS or a new scheme will provide the necessary monies to continue to manage these sites.

One of the aspirations of this Biodiversity Strategy is to utilise compensation monies delivered through Biodiversity Accounting to deliver the creation and enhancement of chalk grasslands within Sutton but this is at an early stage and requires further resource input.

6. Flagship Species

These species are indicators of higher quality environments and, often, are highly distinctive and recognisable, for even the untrained.

Common Name	Latin	Brief Description
Skylark	*Alauda arvensis*	A species in rapid decline nationally. It is generally found in open grassland habitats with little public disturbance.
Small blue butterfly	*Cupido minimus*	Kidney vetch, a plant restricted to bare chalk, is the only larval host plant of this nationally scarce and declining butterfly
Eyebrights	*Euphrasia* species	Delicate and beautiful hemiparasites of short warm turf
Marbled white	*Melanargia galathea*	An easily identified and attractive butterfly, often seen in large numbers in high summer.
Marjoram	*Origanum vulgare*	An aromatic late flowering herb, marjoram is a fantastic nectar resource for butterflies, moths and bees.
Common blue butterfly	*Polyommatus icarus*	The larval host plant, common bird's-foot trefoil, thrives on good quality chalk downlands

7. Objectives and Actions

Vision Statement: "By 2024, those areas of Sutton managed as chalk grassland by the Council and in partnership, will fulfil their Higher Level Stewardship targets, providing species rich calcareous grassland habitats that are protected for flora, fauna and public interaction."

Further opportunities to create new chalk grassland will be pursued through Biodiversity Accounting.

This action plan aims:

- To maintain the 2018 baseline for chalk grassland with SINC protection (Local Plan 2016-2031)
- To enhance the condition of the chalk grassland entered into the Higher Level Stewardship agreement
- To create 2ha of chalk grassland

- To increase public appreciation of the flora and fauna of chalk grasslands

7.1 Habitat Targets

7.1.1 Long Term Target

- Enhance the quality of 45.96ha chalk grassland habitat and create an additional 12 ha by 2050. (Baseline is 45.96[11] ha existing 'chalk' grassland habitats in 2014)

7.1.2 HLS Targets

HK7 Species rich grassland restoration to be undertaken at: Avenue Primary School nature area, Carshalton Road Pastures, Cuddington Meadows, Oaks Park meadow, Roundshaw Downs, The Warren, Wellfield 'C3', Wellfield East, Wellfield South and Wellfield West. Total size: 45.96ha

- Year 5: have 2 indicator species with frequent & 2 indicator species occasional abundance at each site (as judged through G04 surveys)
- Year 5: have kidney vetch frequent at Cuddington Meadows, Roundshaw Downs, Wellfield East & West (as judged through G04 surveys)
- Year 10: have 4 indicator species with frequent abundance at each parcel (as judged through G04 surveys)

7.2 Habitat Action Plan Targets:

7.2.1 Targets:

CG1 To maintain the current extent of 'chalk grassland' in Sutton covered under the Local Plan. Baseline c.170 ha, including golf courses.

CG2 To enhance the quality of calcareous grassland areas through participation within the Higher Level Stewardship scheme. Target: 45.96ha fulfilling HLS targets by 2023.

CG3 To create 2ha of chalk grassland

CG4 To promote the importance of chalk grasslands for biodiversity in the Borough

7.2.1 Actions

Code	Action	Lead
CG1	**To maintain the current extent of 'chalk grassland' in Sutton covered under the Local Plan. Baseline c.170 ha, including golf courses.**	

[11] The GiGL data from 2006 states 42.41ha due to the survey protocol undertaken at that time. This HAP utilises the sites under HLS to restore to chalk grassland per se.

CG 1.1	To implement Local Plan Policy 26 on protecting and enhancing sites, through the delivery of the BAP.	Senior Biodiversity Officer
CG 1.2	To survey sites not managed by the Biodiversity Team, to appraise their suitability for retention within the SINC designations for the next LP review **Target**: 3 sites by 2024[12].	Planning Manager / Senior Biodiversity Officer
CG2	**To enhance the quality of calcareous grassland areas through participation within the Higher Level Stewardship scheme. Target: 45.96ha fulfilling HLS targets**	
CG 2.1	Manage and enhance those sites within the HLS scheme under designation HK7 to achieve HLS targets. Oaks Park meadow requires conservation grazing to help meet the target.[13] **Target**: 10[14] sites with up-to-date management plans reflecting HLS targets and prescriptions and 4no. indicator species frequent across each site by 2023. **Target:** Install cattle grazing at Oaks Park meadow by 2021 (fencing and water provision require costing)	Senior Biodiversity Officer/ Friends of Oaks Park
CG 2.2	Undertake Chalk Grassland Rapid Assessment and G04 indicator species assessment surveys on chalk grassland sites under HLS. Record all data on Recorder database and share with GIGL. **Goal**: 10 sites per annum until 2023 (as per CG 2.1)	Senior Biodiversity Officer
CG 2.3	Undertake NVC botanical assessment surveys on all sites under HLS HK7 designation under the specification within each site's management plan. **Target**: Roundshaw grazing paddocks to be surveyed biennially from 2016 to 2023. All other sites to be surveyed at least 3 times before 2023, as per their management plans (sites as CG 2.1).	Senior Biodiversity Officer
CG 2.4	Create conditions suitable for small blue butterfly *Cupido minimus* in accord with HLS targets for	Senior Biodiversity

[12] Cuddington Golf Course; Oaks Park Golf Course; Woodcote Golf Course;

[13] Trend projections suggest that only 3 of 4 indicator species are likely to be 'frequent' by 2023

[14] Avenue Primary School; Carshalton Road Pastures; Cuddington Meadows; Oaks Park meadow; Roundshaw Downs; The Warren; Wellfield East, West, South & North

	Cuddington Meadows, Roundshaw Downs and Wellfield East and West. Increase the number of, or, create scrapes specifically for, kidney vetch at Cuddington Meadows, Roundshaw Downs, Carshalton Road Pastures and the Wellfield Complex. **Target**: Kidney vetch frequent at Cuddington Meadows, Roundshaw Downs and Wellfield East, South and West by 2023. **Target**: At least 1 scrape to be added to each of the sites noted above by 2020	Officer
CG 2.5	Increase kidney vetch in Oaks Park meadow through scrape creation **Target:** 5 scrapes in Oaks Park meadow by 2024	Senior Biodiversity Officer / Friends of Oaks Park
CG 2.6	Through implementing the HLS agreement, enhance chalk grassland. **Target**: 45.96ha enhanced by 2024	Senior Biodiversity Officer
CG3	**To create 2ha of chalk grassland**	
CG 3.1	Identify possible areas within the borough for chalk grassland creation **Target**: 2ha mapped by 2021	Senior Biodiversity Officer
CG 3.2	Cost out habitat creation and land purchase (if required) **Target**: 2ha costed by 2022	Senior Biodiversity Officer / Asset Management
CG 3.3	Acquire s106 compensation monies through developments delivering Net Loss **Target**: As necessary for creation and purchase costs by 2024	Senior Biodiversity Officer / DM
CG 3.4	Purchase the land (if necessary) **Target**: 2ha purchased by 2023	Asset Management
CG 3.5	Undertake habitat creation **Target**: 2ha created by 2024	Senior Biodiversity Officer
CG4	**To promote the importance of chalk grasslands for biodiversity in the Borough**	

CG 4.1	Engage volunteers and members of the public in chalk grassland flora and fauna through survey events, guided walks, training days etc. **Target**: 10 site surveys per annum until 2023 and 10 walks / training days for the public by 2024.	Senior Biodiversity Officer

Appendix B2:
Woodland and Scrub

Habitat Action Plan 2019 – 2024

Native bluebell at Ruffett & Bigwood LNR

"*It is not so much for its beauty that the forest makes a claim upon men's hearts, as for that subtle something, that quality of air, that emanation from old trees, that so wonderfully changes and renews a weary spirit.*" ~Robert Louis Stevenson, from "Forest Notes" (1875-1876)

1. Aims

- To maintain and improve the current areas of semi-natural woodland and scrub under Biodiversity Team management
- To increase the total extent of woodland and scrub from 96.3ha[34] to over 106ha within the Borough, through restoration of Beddington Farmlands and creation of new woodland
- To promote the importance of these habitats for biodiversity in the Borough and for citizens to contribute to data on veteran trees and woodland blocks

2. Introduction

The UK Woodland Assurance scheme definition of small woodland is an area 'up to 100 hectares (250 acres)'. However, it is accepted that woodlands can be considerably smaller; for example Little Woodcote Wood in Sutton is only 1.9 ha. Scrub includes all stages of succession, from scattered bushes and regenerating saplings to closed canopy vegetation. There is no technical definition for scrub but it is generally accepted that scrub is an area dominated by locally native (or non-native) shrubs and tree saplings, usually less than 5m tall, occasionally with a few scattered trees. It is the dominance of woody species that distinguishes woodland and scrub from grasslands and other communities (although these can hold significant amounts of scrub).

Woodlands are often, although not always, the 'climatic successional climax communities', that is: trees are 'tall', outcompete most other species and become dominant across areas and landscapes. How tall they are, how much they outcompete other species and how dominant they become are all based on numerous variables, including landform, topography, aspect, nutrient loading, bedrock & edaphic (soil) characteristics, latitude and altitude, amongst many others.

Suffice to say, woodlands are extremely variable. However, we are able to broadly group woodlands into the amount of 'interference' they have received over the millennia humans have been back in the UK.

2.1 Natural Woodlands

Our first group are what we might term 'natural woodlands' i.e. those that have never been subject to human interference. There *may* be some areas, particularly in remote corners of Scotland within the native Caledonian Pine Forest, that have never felt the boot of man, nor the thud of his axe but we have no evidence that this is the case.

2.2 Semi-natural woodlands - c.855,000ha

Our second group and the group of most concern, is semi-natural woodlands. These are, primarily, those woodlands that have been modified by man, often through long-term timber harvesting and rotational cutting. These semi-natural woodlands have provided fuel, timber, game and medicines to humans in the UK over the last c.10,000 years, from the Mesolithic onwards. However, it is likely that it was only with the advent of the 'Neolithic Revolution' some 6,000 years before present (BP), and the transition into a much more sedentary and pastoral lifestyle than that employed by Mesolithic humans, that serious modifications of UK woodlands are

likely to have occurred. Impacts included relatively large scale deforestation to provide timber for permanent structures (houses, villages and proto-towns) and engineering projects (construction of barrows and Stonehenge, for example), as well as more systematic harvesting of materials, such as coppice, for fuel, animal pens etc.

Such intervention, over several thousand years and often undertaken rotationally over a decade or more, created a wide range of structural and age variety for the native tree species, with corresponding responses by plants and animals over the millennia. Semi-natural woodlands are divided into three further categories:

2.2.1 Ancient woodland.

Ancient woodland covers around 326,000ha and is predominantly native species with intact canopies, which have not been replanted. Most ancient woodland is composed of broad-leaved species but around 18,000ha is composed of native Caledonian pinewoods in the Highlands of Scotland. Broadleaved ancient woodland is most heavily concentrated in the south of England (around 62%), with some counties with high proportions of their woodland being ancient in origin. Around 77% of the woodland in Kent, for example, is either ancient or PAWS (see **2.2.2**) .

Ancient woodlands have been heavily worked for many centuries and the type and intensity of the work has creating shifting patterns of species in response to the exploitation of the woodland. Ancient woodlands are the most biodiverse terrestrial habitats because of their wide variety of structural diversity ('spatial heterogeneity'), including: open areas (glades, meadows, rides (wide paths)); rivers, streams and ponds; high canopy; windthrows (trees blown over by strong winds); scrub edges and any management work, like coppicing, creating cyclical open areas.

Ancient woodlands are those that have been in continuous existence since 1600AD, as this coincides with significant mapping work in the UK. From 1600AD onwards, we can trace the presence (or not) of most woodlands.

2.2.2 Plantations on Ancient Woodland Sites

Plantations on Ancient Woodland Sites (PAWS) are areas where the original canopy was felled and often replaced with more commercial timber species, sometimes broad-leaved species but often quick growing pine or spruce species. PAWS cover around 224,000ha of Britain. Although many woodlands lost their main, native tree species, many of the associated species and soils remained relatively intact, allowing some natural regeneration of broad-leaved species (particularly in cleared areas where the conifers were extracted) and associated ground flora (bluebells, wood anemone, dog's mercury etc.).

2.2.3 Recent woodlands

Around 305,000ha are composed of 'recent semi-natural' woodlands, that is, as the result of natural succession on other habitats where management was abandoned. Previously open areas, like pasture, meadows and heaths, were of specific value to landowners and managers (whether it be taking a hay cut for winter feed, cropping young trees for fuel or feed, pasturing grazing animals, peat digging etc.) and management prevented these sites from fulfilling natural succession to woodland. With the cessation of these activities in many areas as they became less

economically viable, scrub and then woodland moved in. On the older 'recent sites', these woodlands can be several hundred years old and contain a high proportion of the characteristics of ancient woodland.

In the last 70 years, post World War II, as the agricultural landscape changed, many areas have undergone an amount of self-seeding, particularly of species like ash *Fraxinus excelsior* and the non-native sycamore *Acer pseudoplatanus*. These semi-natural but very young woodlands often have few features in common with ancient woodlands but can sometimes 'import' a couple of ancient woodland species, which have managed to survive in any nearby (old) hedgerows.

2.3 Plantation woodlands - c. 1,876,000ha

The vast majority of Britain's' wooded landscape is composed of recent plantations of large blocks of conifers. Around 29% of total woodland coverage in Great Britain is composed of a monoculture of Sitka spruce *Picea sitchensis*, naturally found on the NW coast of North America; it is notable that this is greater than the complete coverage of native broadleaf species. Scots pine *Pinus sylvestris* makes up around 10% coverage, much of that not within its 'native' range of Scotland and lodgepole pine *Pinus contorta* (another species of western North America) around 6%. Most of this planting (afforestation) occurred after the First World War as part of the 1919 Forestry Act.

Many sites for conifer afforestation were on cleared ancient woodland or other sites now deemed to be of high conservation value, such as lowland heath (Thetford Forest) and upland moor / blanket bog (Kielder Forest, for instance).

3. Current Status

3.1 Area & Distribution

In comparison with other European Countries, the UK has one of the lowest land areas covered by woodland, with all types of woodland contributing to around 13[15]% of the land surface. Our most comparable neighbours on the continent, France and Germany, have significantly higher coverage, around 27% land surface coverage for France and around 32% for Germany. Sweden and Finland have vastly more still, with Finland having around 74% coverage and Sweden with around 66%, although this is predominantly conifers (the 'boreal forest').

In Britain, of the c.12% total woodland cover, only around 12% of this is actually semi-natural ancient woodland (c.326,000ha), whilst around 69% (1,876,000ha) is covered by recent plantation. This has particularly important ecological ramifications, such that only around 1.5% of Great Britain's land surface is covered with semi-natural ancient woodland.

With such a massive decline in this resource (estimates suggest over 80% of Britain was covered in native woodland at the time of the 'Neolithic Revolution, some 6,000

[15] 3.17mha; England coverage is 10%, 15% in Wales, 19% coverage in Scotland and 8% in Northern Ireland

years ago), it is no wonder than many species now have significantly constricted distributions and reduced populations (see **3.3** below).

Within Britain, woodlands exhibit general patterns of species composition, depending on their relative altitude (either 'uplands' or lowlands') and with the various climatic zones (i.e. south-eastern England is a 'lowland' and has links with a southern continental climate and this is reflected in the various species, such as clematis, field maple, spurge laurel etc.).

3.2 Sutton's woodlands

Within Sutton, as we fulfill the general above description for a climatic zone with links to a southern continental climate, semi-natural woodlands would be expected to contain many of the generic species suitable for the area's geology, which shifts from upper chalk in the south of the borough to London clay and a suite of various alluvial sands and gravels to the north of the borough. Sutton's woodlands are composed of lapsed plantations and natural succession within these woodlands and other habitats.

Sutton is one of the least wooded of the London Boroughs, with only an estimated 1.5% cover of the land surface. However, by way of contrast, in relation to other London Boroughs, Sutton contains a high density street and garden trees of over 40 trees per hectare[16] (ha), compared to other London boroughs. Where woodland is present, it exists as small discrete blocks with low connectivity. This is a product of clearance of forest in medieval times for pasture in the south of the Borough, and for arable crops and parklands in the north.

The main remaining woodlands are to the south of the borough, associated with the rural-urban fringe.

Ruffett and Bigwood is the largest block of woodland in the borough at 7.01ha. It is a Local Nature Reserve and part of the Green Belt. It is owned by the Woodland Trust. It is composed of two rectangular woods joined at a corner:

- Bigwood is 4.5ha and is predominantly high canopy sycamore from the 1950s, with the remaining broadleaf species from the 1900s. These include Norway maple, ash, pedunculate oak and beech as canopy trees, with an understorey of elder, hawthorn and holly, with some hazel. Ancient woodland indicator ground flora includes some areas of bluebells, goldilocks buttercup, a couple of isolated patches of wood anemone and good numbers of dog's mercury. This site may lay claim to being the only native site for Martagon lily in Britain.

- Ruffett Wood is just over 2.5ha and is predominantly composed of high canopy sycamore, with some mature sycamore from the 1900s on the western boundary, as well as some mature oak and beech, some showing signs of 'veteranisation'. Ruffett Wood has more substantial stands of hazel, particularly bordering the circular path and these have been subject to rotational coppicing from the Biodiversity Team and Sutton Nature Conservation Volunteers for over a decade.

[16] https://www.forestry.gov.uk/pdf/ltwf_full.pdf/$FILE/ltwf_full.pdf

Roundshaw Woods is part of the wider Roundshaw Downs Site of Metropolitan Importance for Nature Conservation (SMI) and occupies around 4.5ha of predominantly self-seeded pedunculate oak. There are a number of mature grey poplars as canopy trees, whilst the understorey is predominantly hawthorn, field maple and holly. Native bluebells are an uncommon ancient woodland indicator in the ground flora, whilst hybrid bluebells are quite numerous and reflect the proximity to houses and gardens. Stinking iris is another ancient woodland indicator species present in these woods, albeit at low numbers.

The 'shaw' along Plough Lane at Roundshaw Downs is reputed to be the only possible area of ancient woodland within the borough. Ordnance Survey map 127 (1804) shows a line of woodland to the east of Plough Lane; the shaw along Plough Lane would be the remnants of this longer tract of woodland. It has some mature ash, with some hazel and a dense blackthorn thicket on the eastern edge. Wild cherry is also present but the site is heavily trampled and there is little to no evidence for the ancient woodland indicators noted in the early 1990s (moschatel, wood sedge and goldilocks buttercup).

Queen Mary's Woodland was transferred (2012) to the Council from Queen Mary's Hospital and Orchard Hill Hospital and is around 5ha. It forms a contiguous woodland habitat with Wellfield Plantation. By 1868, a rectangular plantation of mostly conifers is shown on the Ordnance Survey map, roughly where Wellfield Plantation is now. Wellfield Plantation predates Queen Mary's Woodland by around 40 years, as the woodland within the hospital seems to have been, at least partially, planted around 1910. A number of exotic species, such as cherry-laurel, cedar, larch and pine species denote the formal planted nature of the hospital woodland,as well as, for the latter three species, remnants of the commercial plantations. Structurally, both Queen Mary's Woodland and Wellfield Plantation are similar, with a preponderance of canopy sycamore, with some mature ash. These two are the primary regeneration species. Both woodlands have some mature hawthorn but are heavily shaded; ivy blankets large areas of the ground and cloaks many of the trees. As such, there is little in the way of ground flora, particularly within Wellfield Plantation. Around the circular path within Queen Mary's Woodland are some patches of common and early dog-violet, with the ancient woodland indicator spurge laurel present in two places.

Work undertaken by the Biodiversity Team and Sutton Nature Conservation Volunteers has opened up and replanted around the circular path, removed cherry laurel to create wood pasture and created sunny flower rich meadows.

Greenshaw Wood is about 5.6ha in size and has been in continuous existence from at least 1866. It is likely that this woodland is a partial replacement plantation of oak on a previously felled larger woodland. The ground flora is very sparse, dominated by brambles and the canopy is very full, meaning there is little structural and light variability. A tarmac path runs through the middle of the wood and other areas are heavily worn from public access.

The Oaks Park has some relatively substantial areas of secondary woodland, mainly the perimeter plantation and two linear plantations running north, totalling around 16ha. A footpath and bridleway run around the eastern edge of the park and

down the centre, adjacent to the golf course. Numerous trees (including mature beech) were lost in the storm of 1987, leaving remnant fallen and standing deadwood. The canopy has regenerated with quick growing species like ash and sycamore, as well as a replanting scheme composed of beech, wild cherry and birch. Ground flora of interest includes one patch of sanicle, one patch of wood anemone and several small patches of spurge laurel, as identified through a botanical survey undertaken by the Biodiversity Team in 2017.

Little Woodcote Wood is a small (1.9ha) area of sycamore with a few horse chestnuts and ash regeneration. Like most undermanaged woodlands in Sutton, the ground is blanketed in ivy, with only a few tenacious ruderal species able to survive, including nettles and brambles along the pathways. The Downlands Partnership has a management plan for the site and undertakes an amount of work, thinning sycamore, which is encouraging species such as sweet violets.

Beddington Farmlands is currently a working landfill site. The site is due to finish all landfill operation by the start of 2020. The site leaseholders, Viridor, are obligated to restore the site by 2023[17]. Part of the restoration works will include substantial woodland planting (c.5.71ha broad-leaved woodland, a fragment of wet woodland and c.4.5ha of scrub). This represents the best opportunity within the borough to increase total woodland cover, as other available spaces for such substantial planting are either restricted for amenity use, in private ownership or, provide valuable habitats in their own right (such as chalk downland).

3.3 Scrub

Scrub is a complex habitat of a variety of low, bushy shrubs, which may (or may not) be part way through a seral stage i.e. may be moving through primary or secondary succession towards woodland or, it may be stable in its own right. Scrub is often, but not always, associated with the cessation of specific management practices. On the North Downs, the cessation / heavy reduction of extensive pasturing / grazing has led, over the last 70 years or so, to a marked increase in scrub colonisation of chalk downland.

The majority of scrub within Sutton is predominantly hawthorn and blackthorn with bramble and is often constrained by management practices on the wider site i.e a chalk grassland site will almost certainly have a scrub fringe to provide increased habitat structure and diversity but will occupy, more or less, the same area year on year as mowing or grazing prevents expansion. Other species, mainly associated with scrub on chalk, include purging buckthorn, wild privet, spindle, and wayfaring tree provide additional edge and ‘in field’ structure.

Scrub is an extremely important habitat in its own right but is often undervalued, due to the perception of it occupying ‘unused’ or ‘abandoned’ areas. Whilst there may be an argument for this when scrub may impinge upon other priority habitats (chalk grassland, lowland heath etc.), if treated carefully, scrub provides significant gains for biodiversity on sites.

[17] https://viridor.co.uk/assets/REDESIGN/DEVELOPMENTS/BEDDINGTON-ERF/Bedding-compressed.pdf

Well managed scrub provides dense cover for breeding / nesting, escape from predators (and contrarily, opportunities for hunters!), nectar & pollen, berries & nuts and, perhaps most importantly, structural diversity.

Within Sutton, the Biodiversity Team primarily focus attention on scrub fringing our chalk grasslands. The scrub is cut on a rotational basis, creating 'structural heterogeneity', with around 50% retained as mature or overmature scrub and the rest as 'sub-seral succession' i.e. it regenerates after cutting but will be cut again before it becomes mature. The creation of a variety of age ranges and physical sizes within scrub mirrors that of the creation of structural heterogeneity within woodlands through coppicing and large herbivore grazing / browsing. Cutting and removing scrub from 'scallops' (usually semi-circular areas of around 20-30m^2) creates bare ground or leaves low vegetation (depending on what scrub has been removed). This creates thermal variation, as bare ground or low vegetation warms more quickly than taller vegetation, reduces humidity and increases 'edge effects' - the transitional habitats from bare ground / low vegetation through taller grass & flowers, tall ruderal species (nettles, rosebay willowherb etc.), through bramble and regenerating scrub species and any tree saplings that may have taken an opportunity to grow, ending with the mature and overmature canopy shrubs.

In addition, a number of species, particularly invertebrates, require specific age ranges of limited species of host food plant. Blackthorn of 2-3 years old is the almost exclusive foodplant for the caterpillars of the brown hairstreak butterfly. This species has suffered significant declines in its range across the UK, primarily driven by the wholesale loss of hedgerows and a reduction in traditional management techniques, which promote growth of the correct age through rotational cutting. Brown hairstreak is a target species for scrub within Sutton under the Higher Level Stewardship agreement HC16 (see **5.2.3** below).

Scrub also dominates railway line sites, although this is often composed of non-native species or is undermanaged for many years, before being severely cut back.

3.4 Trends

From 1919, the UK has seen a substantial increase in woodland cover, from an estimated 5% around the death of Queen Victoria in 1901, to about 13% today. The 7% increase is mainly attributable to commercial forestry with the planting of quick growing non-native conifers for timber (cf. **2.3** & **3.1**, above), although there have been recent expansion of native woodland planting.

A significant reduction in traditional management for the exploitation of woodland products, particularly in native woodlands, has led to widespread and alarming declines in range and populations of numerous animal and plant species.

The loss of butterflies such as the pearl-bordered fritillary from the south-east and the massive contraction in range of heath fritillary nationally are causally linked to the decline in coppicing, a traditional management technique for harvesting material for charcoal and building materials. The single-stemmed tree is cut to just above ground level but will (depending on species and age of individual) send up multiple new shoots. These are then harvested on a 10-15 year cyclical. The cyclical cutting

ensures that structural diversity, light availability and humidity levels are constantly varied around the woodland, creating niche availability for a diverse range of species. Freshly coppiced areas are (were!) necessary for creating warm areas with plenty of violets for pearl-bordered fritillary caterpillars (or cow wheat for heath fritillary caterpillars), whilst dense thickets of older coppice were used by nightingales and dormice. Without this intervention, woodlands become more shaded and humid.

Traditional woodland management techniques are being utilised more often, as evidence of their benefits for woodland health and that of species dependent on cyclical intervention becomes more understood and publicised. However, although sympathetic woodland management is increasing, it is primarily being undertaken by conservation charities; the vast tracts of non-native conifer forest are still commercially viable for mono-cultures of homogenous stands. Recent years have seen an upshift in the management of even these woodlands, with more consideration for their biodiversity, ecosystems services and restoration.

Some woodland species have not only weathered the lack of traditional management but have even improved in population or have expanded their range. The silver-washed fritillary is a large, graceful butterfly that likes shady woodlands and has increased its range over the last 40 years. This is likely to be a combination of increased availability of violets growing in dappled sunlight conditions (rather than the open conditions resulting from coppicing) and climate change. However, this butterfly also needs sunny and warm woodland rides (wide paths) with plentiful nectar sources (sunny bramble thickets are ideal), so some management is necessary to keep these rides open.

Recent natural processes, such as the great storm of 1987, have had a profound effect on the landscape. The storm caused the loss of hundreds of thousands of trees. The Oaks Park in the south of the Borough is thought to have lost in the region of 15,000 trees alone. Although replanting efforts were undertaken, the composition of the woodland has changed markedly, from mainly beech to sycamore and ash. As noted above, these two species characterise many undermanaged secondary woodlands in Sutton.

Most of the extant secondary woodland, nationally and in Sutton, is botanically poor. The absence of significant grazing and browsing by herbivores, as well as disturbance through felling and dragging timber, has favoured species such as holly and ivy. The evergreen nature and vigour of these species often leads to prevention of other species competing for light. Whilst both of high value for nature, providing cover, nectar and berry resources, they can be too prevalent. Coupled with issues from Invasive Non-Native Species (INNS), such as snowberry at the Spinney and Roundshaw Woods or cherry laurel shading out the native flora, our woodlands are far from being in peak condition.

‘Tidying’ and concerns about health and safety have led to dramatic declines in fallen and standing deadwood. An oak may spend over 300 years or more rotting down after dying and at every stage over those centuries plays host to a changing variety of different invertebrates and fungi. There is an increasing acceptance amongst land managers of retaining deadwood for biodiversity, as long as it is away

from paths and buildings. Cutting standing dead trees into ‘totem poles’ or ‘monoliths’ can make them safe and provide habitat value.

Finally, woodlands play an important part in human culture, from fairy-tales to play, mountain biking to walking and bird watching to simply relaxing. Woodlands make us feel small in a way that few other habitats can; we are dominated by massive life-forms all around us. We often can’t see further than a few meters in front of us but these are our ancestral homes; we should feel safe, relaxed and even, contented, to be amongst the trees.

The overuse of woodlands, particularly in heavily populated urban areas, can result in negative effects, such as soil compaction, disturbance to animals and plants (particularly ground-nesting birds), vandalism and even the perception that they are unsafe. These factors can result in unsympathetic vegetation clearance to improve sightlines, an impoverished ground flora and lack of structural diversity.

Nevertheless, demand for community woodlands remains high. The cultural perception of high wildlife value of woodlands (even if they are only a shadow of what they should be) means that they are held in high regard. This is apparent when tree felling or clearance takes place, as this can generate adverse public interest, even when the overall aim is sympathetic conservation management. The proposed ‘sell off’ of the nation’s woodland assets a few years ago prompted significant public outcry, even amongst those who may not normally identify themselves as ‘tree huggers’ - a slightly pejorative word synonymous with nature ‘do-gooders’. Note that it isn’t ‘centipede hugger’, ‘frog hugger’ or even ‘shrub hugger’, there is something within the mindset of most humans that equates trees / forest with nature and wilderness. This needs to be promoted and reinforced with careful messages about the value of woodlands to the human psyche, the economy and their own intrinsic worth for plants and animals.

Climate change is likely to cause a further shift in species composition. There may be an overall increase in average temperatures and an overall decrease in total rainfall over the coming decades, if the models are correct. We are likely to see greater perturbation of the weather we experience through an increase in storms, heavier rainfall and associated flash flooding, drought conditions and greater extremes of temperature, all of which will provide differing levels of stress on our native (and exotic) trees. Those that are currently economically viable may cease to be in 20 or 30 years (or less), whilst the composition of our climatic climax communities may change significantly around the UK, with typical southeast species like beech and hornbeam moving further north and Mediterranean species moving in to take their place.

Adding to the complexities of these habitats having to respond to climate change and differing / sub par management practices, are an increasing number of pests and pathogens. Ash dieback *Hymenoscyphus fraxineus* (the asexual stage of the fungus that was called *Chalara fraxinea* but has since been renamed in favour of the sexual stage *H. fraxineus*) is the latest ‘big name’ to provide a significant threat to our current woodlands but it by no means the least nor last. Several virulent *Phytophthera* fungal-like infections are already in UK tree stock, with some species being able to ‘jump’ from species to species. Pest species like oak processionary

moth *Thaumetopoea processionea* are now here to stay, whilst it is hoped pine processionary moth *T. pityocampa* will not make it across from continental Europe, where it is proving commercially harmful. It probably will though, as it is moving northwards through France. Emerald ash borer beetles *Agrilus planipennis* may be another nail in the coffin for ash if it establishes in the UK, whilst longhorn beetles from Asia (*Anoplophora glabripennis* and *A. chinensis*) may infect a number of broad-leaved species if they establish after accidental importation.

Planning tree replacement for the next 100 years plus, to ensure we have appropriate age ranges of tree cover, is extremely difficult, as climate change and pest species and pathogens may limit the suite of tree species suitable to fill structural roles (canopy, understorey etc.). Any such trees able to fulfil the role of ash as a pioneer species, if ash dieback proves catastrophic, for example, will not have the same wildlife value of ash. A number of the proposed 'replacement' trees for changing climatic conditions are now also linked to potentially severe pathogen infections, mainly through *Phytopthera* species.How then do we plan to provide suitable habitat for native species, if the current crop of tree species are likely to be severely impeded over the coming century or more by a changing climate and replacement trees may be at risk from diseases? There are no easy answers to planning for future woodlands.

Scrub has had a mixed fortune; the cessation of management on some other habitats has led to a substantial increase in scrub cover. However, without partial suppression and / or management, many of the benefits of scrub (structural diversity, thermal diversity etc.) are lessened or eliminated. The Duke of Burgundy butterfly is rare and severely declining. It favours old and partially shady cowslips when on downland sites but cessation of light autumn grazing and increased scrub growth shade out the cowslips. A reduction in traditional habitat management of hedgerows containing blackthorn scrub has adversely affected brown hairstreak, as noted above (**3.3**).

4. Specific Factors Affecting the Habitats

4.1 Major factors

- Afforestation of commercial tree species replacing native species
- Inappropriate management or neglect of ancient woodland, scrub and hedgerows, often due to a lack of money & resources to manage these habitats
- Fragmentation and isolation of sites
- Selling off woodland for development
- Climatic changes
- Loss of deadwood habitats
- Pests and pathogens

4.2 Supplementary factors

- Recreational pressures from people trampling areas (creating muddy paths and trampling vegetation), disturbance of species (in particular, ground nesting birds), dumping, vandalism and nutrient enrichment from dog faeces.
- Reinstatement of traditional management techniques (e.g. coppicing)
- Increases in deer browsing, reducing seedling growth / coppice regrowth
- Reduction of low intensity grazing creating more mosaic habitats
- Reduction in landscape scale genetics through habitat fragmentation
- Atmospheric pollution and nutrient enrichment
- Establishing woodland on other valuable habitat (e.g. grasslands)
- Successional processes (both positive and negative)
- Desire for new planting
- Health and safety requirements of unsafe trees
- Invasion of aggressive non-native species
- Recreational overuse
- Opportunities for complementary recreational use

It is clear that many of the major and supplementary factors affecting woodlands do not occur in isolation; fragmentation and isolation of sites, pressure for development and reduction in landscape scale genetics are all intimately linked, for instance.

5. Current Action

5.1 Legal Status

Lowland mixed deciduous woodlands are a Priority Habitat under the NERC Act 2006. Numerous species strongly or solely associated with lowland mixed deciduous woodlands are also Section 41 Priority Species and some have legal protection through the Wildlife and Countryside Act (WCA) (1981, as amended) and the The Conservation of Habitats and Species Regulations 2017. Protected species associated with woodlands include the stag beetle, badger and bats (all species). That considerable numbers of breeding birds and bats use trees to nest or roost in effectively means that those trees are protected from felling during the bird breeding season (mid-February to September) and the bat roosting season (ostensibly, April through to October but can vary depending on temperature).

There are a number of statutory designated Local Nature Reserves (LNRs) and non-statutory designated Sites of Importance for Nature Conservation (SINCs) within Sutton, which have a woodland or scrub component. This takes a tiered approach based on assessment of each site and relation to other sites at a local (borough) and regional (metropolitan) level, as outlined within the SINC Selection Advice Note 2013[18]. Many trees and hedgerows are protected by Tree Preservation Orders and are within Conservation Areas.

[18] https://www.london.gov.uk/sites/default/files/SINC%20Selection%20Process%20-%20update%20March%202013.pdf

5.2 Mechanisms targeting the habitat

5.2.1 Policies

Agreed in 2005, the Mayor of London, the Greater London Authority and the Forestry Commission are committed to maintaining and enhancing London's trees and woodlands through the London Tree & Woodland Framework, to meet the goal of no overall loss of habitat for wildlife and access to quality 'natural' space. The Framework provides guidance on the right place for the right tree, to help ensure that London remains green in the face of pressure from a growing population and economy. Unfortunately, no current Woodland Habitat Action Plan for London currently exists.

The Mayor of London's Biodiversity Strategy (2005) is currently being updated to reflect national policies such as the National Planning and Policy Framework (NPPF) (2012), the Natural Environment White Paper (2011) and Biodiversity 2020 (2011), amongst others. The Mayor's Biodiversity Strategy aims to set out '*what the strategy has achieved to date, and where the leadership and support of the Greater London Authority needs to focus in the future in order to support the collective endeavour of those organisations working to protect and manage London's natural environment.*'[19]

5.2.2 Historical Management

Within the Borough, practical woodland management is carried out at a number of sites, including Roundshaw Woods, Queen Mary's Woodland and Ruffett and Big Wood by the Biodiversity Team with strong assistance from Sutton Nature Conservation Volunteers (SNCV) and funding of works at Ruffett & Bigwood by the Woodland Trust. Other tracts of woodland within the borough receive little management, other than litter picking and tree health and safety assessments.

Scrub management is undertaken on a number of sites and aims to restrict scrub movement into other habitat types of value (wetlands, grasslands etc.) and to create a diverse structural composition of value to a wide range of animal and plant species.

5.2.3 Higher Level Stewardship

In December 2013, the London Borough of Sutton agreed a 10 year agri-environment scheme (Higher Level Stewardship - HLS) with Natural England. The bulk of the agreement relates to 10 'chalk grassland' land parcels where the target for each parcel is to improve the quality of the grassland. Three chalk grassland sites also contain actions in regards successional scrub (code HC16), in addition to two sites having an agreement for the management of a hedgerow (both sides - code HB11).

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19 http://www.london.gov.uk/LLDC/documents/s44476/05a%20Biodiversity%20Strategy%20Update%20-%20Appendix%201%20-%20Working%20Draft%20Document.pdf (pg.5 draft copy).

HC16 successional scrub actions are undertaken at Carshalton Road Pastures, Cuddington Meadows and Roundshaw Downs to provide suitable habitat for stag beetle and brown hairstreak butterfly (see **3.3** above), whilst hedgerows of very high environmental value (HB11) are managed at Roundshaw Downs and Anton Crescent Wetland.

Continued management of these two agreements is necessary to ensure continued funding from the Higher Level Stewardship scheme.

5.2.4 Sustainability Strategy

The Sustainability Strategy seeks to increase the tree canopy cover in Sutton by 10% by 2050.

5.2.5 Resource Availability

One of the aspirations of this Biodiversity Strategy is to utilise compensation monies delivered through Biodiversity Accounting to deliver the creation and enhancement of woodlands and scrub within Sutton but this is at an early stage and requires further resource input.

Longer term funding options are restricted. There is a possibility that woodland grants through Countryside Stewardship: woodland support[20] may provide some assistance in sympathetic management and dealing with diseased trees, through felling and restocking.

6. Flagship Species

These species are indicators of higher quality environments and, often, are highly distinctive and recognisable, for even the untrained.

Common Name	Latin	Brief Description
Silver-washed fritillary	*Argynnis paphia*	Majestic swooping butterfly of wide, sunny rides within woodlands, males have distinctive androconial (sex) brands on the upper wing
Great spotted woodpecker	*Dendrocopos major*	Familiar woodpecker, males make characteristic 'drumming' on dead hollow branches in spring to attract females
English bluebell	*Hyacinthoides non-scripta*	A classic species of woodland that has undergone some form of management, like coppicing, where bluebells

[20] https://www.gov.uk/government/collections/countryside-stewardship-woodland-support#funding-for-woodland-improvement

		thrive in the new bare areas. The English species is suffering from hybridisation with the imported Spanish bluebell
Stag beetle	*Lucanus cervus*	Adults males are the UK's largest terrestrial beetle, with massive 'antlers' used for wrestling other males for prime deadwood habitats to entice females to lay eggs into. The larvae spend up to 7 years underground feeding on rotten wood. South London is a hotspot for this species.
Wood melick	*Melica uniflora*	A delicate 'nodding' grass of woodlands and hedges banks, often growing on chalky soil and in association with ancient woodland indicator species, like bluebells
Purple hairstreak	*Neozephyrus quercus*	An elusive canopy dweller, usually only glimpsed through a flash of silvery underwings on a summer evening. Caterpillars have oaks as their larval host plants, whilst adults feed on honeydew (aphid excreta) at the top of sunny oaks.
Brown hairstreak	*Thecula betulae*	A butterfly of blackthorn scrub, this species has declined significantly. It naturally lives at a low population density and seeks out 'master' trees to engage in courtship.
Violets	*Viola reichenbachiana* & *V. riviniana*	Larval host plants for a variety of woodland butterfly species, including silver-washed fritillary, as well as species lost from the south east, such as pearl-bordered fritillary

7.0 Objectives and Actions

This action plan aims:

- To maintain and enhance the current areas of semi-natural woodland, scrub and trees which are under the management of the Biodiversity Team to maximise biodiversity
- To maintain and protect those trees granted protection through the planning system
- To enhance the condition of the successional scrub entered into the Higher Level Stewardship agreement
- To create new woodland
- To increase public appreciation of the flora and fauna of woodlands and scrub

Rationale:

There are 13 SINCs in Sutton that are primarily composed of woodland and scrub. 2 woodlands have been declared Local Nature Reserves. In addition, 395 individual trees are protected by Tree Protection Orders, and 3 trees with provisional orders.

7.1 Habitat Targets

7.1.1 Long Term Target

- To create 8ha new woodland, hedgerows and / or orchard areas and improve 7 ha of existing woodland areas for biodiversity by 2050.

7.1.2 HLS Targets

HB11 Species rich hedges (both sides) - Roundshaw Downs (410m), Anton Crescent Wetland (140m)

Indicators of success

- By year 5, hedges should be at least 2m in height and 0.75m in width (measured from the centre of the hedge), unless they have been laid or coppiced.
- Each year, there should be some uncut hedgerows on the holding

HC16 Successional scrub - Roundshaw Downs (2.8ha), Carshalton Road Pastures (0.7ha) and Cuddington Meadows (0.15ha)

Indicators of success

- Brown Hairstreak & Stag Beetle should be present or have a suitable habitat provided throughout the HLS agreement
- By year 5, cover of shrub species Juniper / Box / Hawthorn / Blackthorn etc should be between 50% and 85% of the area. The vegetation within 2m of the edge of the scrub should be taller than 30cm
- By year 5, shrub species should have a diverse age and height structure. No more than 50% of the scrub area should be mature, or over-mature
- By year 5, tree species (native species) should be present at irregular spacings, with an overall canopy of between 5 - 10% of the area
- By year 5, grasses and wildflowers including those found in the surrounding BAP habitat should be between 5cm and 15cm tall on 10% to 30% of the area cut into the scrub in “scallops” and in small open areas

- By year 3, the following undesirable species Ragwort / Creeping Thistle / Dock should be no more than occasional
- Archaeological /historic Airfield in 8189 (Roundshaw) has suffered no further degradation

7.2 Habitat Action Plan Targets:

7.2.1 Targets:

WS1 To increase upon the current extent of woodland and scrub within LB Sutton. Baseline 65.6ha (GIGL data 2006). Target 76ha

WS2 To enhance the quality of woodland and scrub areas through the Higher Level Stewardship scheme and any external funding programmes

WS3 To create 1ha of new woodland

WS3 To protect the current and future extent of woodland from development and to protect and maintain veteran trees through the planning process

WS4 To promote the importance of woodland and scrub for biodiversity in the Borough

7.2.1 Actions

Code	Action	Lead
WS1	**To increase upon the current extent of woodland and scrub within LB Sutton. Baseline 65.6ha (GIGL data 2006). Target 76ha**	
WS 1.1	To ensure that proposed scrub and woodland planting at Beddington Farmlands, as part of agreed upon restoration, is undertaken to best practice, as laid out in RMP v9.1. **Target:** create 0.21ha wet woodland; 5.71ha broadleaf woodland; 4.58ha scrub & 4453m of hedgerow by 2023 (10.5ha total + hedges)	Viridor / CAMC / Senior Biodiversity Officer
WS2	**To enhance the quality of woodland and scrub areas through the Higher Level Stewardship scheme and any external funding programmes.**	
WS 2.1	Manage and enhance those sites within the HLS scheme under designation HC16 to achieve HLS targets. **Target**: 3 sites[21] with up-to-date management	Senior Biodiversity Officer

[21] Carshalton Road Pastures; Cuddington Meadows ; Roundshaw Downs

	plans reflecting HLS targets and prescriptions and with indicators of success achieved by 2023.	
WS 2.2	Manage and enhance those sites within the HLS scheme under designation HB11 to achieve HLS targets. **Target**: 2 sites[22] with up-to-date management plans reflecting HLS targets and prescriptions and with indicators of success achieved by 2023.	Senior Biodiversity Officer
WS 2.3	Undertake annual Phase 1 and woodland condition surveys on woodland sites under Biodiversity Team management. Record all data on recorder and share with GIGL. **Target**: 2 sites[23] per annum until 2024.	Senior Biodiversity Officer
WS 2.4	Investigate and apply for, if applicable, Countryside Stewardship for woodlands managed by the Biodiversity Team. **Target**: Queen Mary's Woodland & Roundshaw Woods under CS woodland management grants by 2019 (if applicable).	Senior Biodiversity Officer
WS 2.5	Undertake appropriate enhancement works to Queen Mary's Woodland and Roundshaw Woods to maximise biodiversity, including selective thinning **Target**: 2ha improved by 2024	Senior Biodiversity Officer
WS3	**Create 1ha new woodland**	
WS 3.1	Identify possible areas within the borough for woodland creation **Target**: 1ha mapped by 2021	Senior Biodiversity Officer
WS 3.2	Cost out habitat creation and land purchase (if required) **Target**: 1ha costed by 2022	Senior Biodiversity Officer / Asset Management
WS 3.3	Acquire s106 compensation monies through developments delivering Net Loss **Target**: As necessary for creation and purchase costs by 2024	Senior Biodiversity Officer / DM
WS 3.4	Purchase the land (if necessary) **Target**: 1ha purchased by 2023	Asset Management

[22] Anton Crescent Wetland; Roundshaw Downs
[23] Queen Mary's Woodland & Roundshaw Woods

WS 3.5	Undertake habitat creation **Target**: 1ha created by 2024	Senior Biodiversity Officer
WS4	**To protect the current and future extent of woodland from development and to protect and maintain veteran trees through the planning process**	
WS 4.1	To implement Local Plan Policy 26 on protecting and enhancing sites, through delivery of the BAP	Senior Biodiversity Officer / Principal Tree Officer
WS 4.2	To survey designated woodland sites not managed by the Biodiversity Team to appraise their suitability for retention within the current SINC designations. **Target**: 4 sites[24] by 2020.	Strategic Planning / Senior Arboricultura Officer / Senior Biodiversity Officer
WS 4.3	Utilise citizen science to map veteran(ised) trees and woodland blocks within the Borough by 2017. **Target**: 100% veteran trees mapped and described by 2020; 3 new woodland blocks added to the system	Senior Arboriculture Officer
WS5	**To promote the importance of woodland and scrub for biodiversity in the Borough**	
WS 5.1	Engage volunteers and members of the public in woodland flora and fauna through survey events, guided walks, training days etc. **Target**: Annual Phase 1 survey with volunteers of Queen Mary's Woodland and Roundshaw Woods until 2023 and 20 walks / training days / events for the public on any designated woodland SINC by 2024.	Senior Biodiversity Officer / SNCV

[24] Revesby Wood; Greenshaw Wood; Oaks Park woodland; Woodmansterne Road edge woodland

Appendix B3:
Rivers & Wetlands

Habitat Action Plan 2019 – 2024

Male banded demoiselle damselfly on the River Wandle

'*Parents wonder why the streams are bitter, when they themselves have poisoned the fountain.*'

John Locke

V1.2 March 2019

1. Aims

- To maintain and enhance rivers and streams for biodiversity throughout the Borough, through implementing the Catchment Plans for the River Wandle and Beverley Brook, to naturalise river channels and processes

- To maintain and enhance existing areas of wetlands for biodiversity through implementing good practice and completing Higher Level Stewardship targets

- To monitor rivers and wetlands to evaluate their ecological status

- To promote the importance of rivers and wetlands for biodiversity and low impact recreation and relaxation

- To implement and increase the number of functional SuDS schemes

2. Introduction

Geologically, Sutton is a borough of two halves, the southern half is elevated as the most northerly aspect of the North Downs chalk ridge, whilst the northern half of the borough is, predominantly, lowland floodplain from the River Wandle, which emerges from a spring line where the chalk ends, running east to west through Carshalton village.

The lower, flatter north of the borough is composed of alluvial sands and gravels, as well as London clay. These geological beds provide suitable substrate for the formation of wetlands adjacent to the Wandle. The historical quality of Wandle water and the suitability of water retentive substrate provided ideal conditions for wetland areas, both natural and manmade, such as extensive watercress beds and calico fields.

This Habitat Action Plan considers a broad range of riverine and wetland habitats, including flowing water in rivers and streams, ponds and lakes, reedbeds, swamps and marshes, as well as associated wet grassland. Many of these habitats interdigitate to form complex habitat mosaics of significant value to wildlife. All have a supply of water, be it through capture and storage of rain, a high groundwater level, spring fed or as flood attenuation areas or a combination of all four.

2.1 Rivers and Streams

As noted above, the permeable chalk to the south of the borough captures and filters rain falling on the North Downs. This, over time, percolates through the chalk until it hits an impermeable layer, which forces the water out of the ground and into a river or stream. The main body of water within the London Borough of Sutton is the River Wandle, one of the tributaries for the River Thames.

The Wandle has two arms, one rising from springs in Wandle Park in Croydon, the other rising from a spring line in Carshalton around St. Philomena's school, Sutton Ecology Centre and The Grotto in Carshalton Park. Due to water abstraction over the years, the groundwater level has dropped, reducing and virtually eliminating flow from this spring line in all but the wettest periods. The Carshalton Arm of the Wandle is supplemented through back-pumping water upstream from Watermead Lane, to Carshalton Ponds by Honeywood Museum. During the winter of 2013/14, the groundwater rose and flowed from The Grotto (see Photo 1 below) as it did from when it was first built in 1724 and periodically until 1976, as well as by Carshalton Ponds and St. Philomena's school.

The Wandle is a chalk stream, one that was extremely well regarded for trout fishing, as well as historically being very industrious, with watercress beds and calico works, as well as a large number of mills along its length. The Wandle has quite a marked drop from source to mouth and coupled with a relatively short length (some 9 miles, 14km), made it ideal for running water mills.

Over time, the industrial usage of the Wandle led to its wildlife habitats being deleteriously impacted, though pollution from the various gunpowder, paper and dye mills, raw sewage from housing, runoff from farming on the banks and general despoiling. With a reduction in water quality, the trout and most other creatures left, leaving a fairly sterile river. The creation of Beddington Sewage Works in 1902 and improvements in household sanitation helped reduce the amount of raw sewage entering the river but this was replaced with other problems, compounded in the early and mid 20th Century through canalisation and straightening of the river, reduction in remaining riparian (riverside) habitats and trees, surface water runoff from roads adding pollutants and heavy metals, increased nitrogen and phosphorous from farm runoff (although this is likely to be relatively small) and point pollution from misconnections to waste pipes.

Two other smaller running water bodies are within Sutton: the Pyl Brook and the Beverley Brook. The Beverley Brook rises near Nonsuch Park and is culverted underground for the first part of its life, emerging in Cuddington Recreation Ground and running for a short length through the Rec, before being culverted underground through Worcester Park, emerging again at Green Lane, before being culverted underground out of the borough just past the old Worcester Park Sewage Works (now The Hamptons and Mayflower Park).

The main channel of the Pyl Brook rises above ground just to the east of Anton Crescent Wetland, just to the northwest of Sutton town centre and runs roughly west, flowing past Anton Crescent Wetland (which is used as a Flood Storage Wash for the Pyl), under the A217, out again behind Tesco's and then past Hamilton Recreation Ground, where a meander and backwater were created in 2009. From there, the brook is heavily canalised, running past Kimpton Balancing Pond (which discharges into the brook) and under the A24 out of the borough to eventually join up with the Beverley Brook.

The east channel of the Pyl Brook emerges above ground near Sutton Common railway station and flows north past Rosehill Recreation Ground before turning west at the borough boundary just north of Rutland Drive, near Sutton Common and then

out of the borough under the A24 and through Morden Park, where it rejoins the main channel in the sports ground north of North East Surrey Crematorium.

A variety of legislation has been passed, most notably the Rivers (Prevention of Pollution) Act 1961, the Water Resources Act of 1991 and the Water Framework Directive 2000, all seeking to improve the quality of water in rivers, reduce pollution and latterly, restore, as far as is practicable in many cases, the natural flow and processes of the river.

Water quality has improved markedly due to the above (and other) legislation, allowing the partial return of brown trout and the invertebrates this species, and others, require.

2.2 Standing Water

Standing water ranges from small garden ponds to large lakes and is predominantly still or very slow flowing. The edges are often highly modified, particularly in parks, gardens and other open spaces, whereas standing water areas within nature reserves have a much more naturalistic edge and are often heavily vegetated with common reedmace *Typha latifolia* (also known as bulrush), great willowherb *Epilobium hirsutum* and sometimes, a thin fringe of common reed *Phragmites australis*. Denser stands of reed are classified as reed bed (see **2.3**) below.

Standing water provides a wide range of conditions for various aquatic plants, which in turn create varied structural diversity within the water column, as well as above water and around the fringes. At the bottom of the pond, we find a variety of 'submerged aquatics', such as rigid hornwort *Ceratophyllum demersum*, mare's-tail *Hippurus vulgaris* and water milfoil species *Myriophyllum* spp. In shallower waters, all of these species can produce an aerial flowering spike. There are numerous species which have at least part of the plant sat on the surface of the water. These are 'floating aquatics', including the familiar white and yellow water lilies *Nymphaea alba* and *Nuphar lutea*, respectively, various species of water-crowfoot *Ranunculus* spp., starworts *Callitriche* spp. and pondweeds *Potamogeton* spp. Moving into shallower water, we find emergents, including species such as flowering rush *Butomus umbellatus*, various sedge and rush species *Carex* spp. & *Juncus* spp., reedmace and common reed, as well as reed-like grasses, such as sweet-grass *Glyceria* spp. In the driest parts of the pond, are the marginals, which include purple-loosestrife *Lythrum salicaria*, flag iris *Iris pseudacorus* and marsh marigold *Caltha palustris*.

In general, more species are adapted or able to utilise standing water in comparison to running water but this depends enormously on the range of conditions found within standing versus running water, nutrient levels and niche availability.

Familiar species, such as frogs, toads and newts are integral parts of urban standing water sites, for at least part of their lifecycle, as are some common and widespread invertebrates, including dragon- and damselflies (Odonata), pond skaters *Gerris* spp. and the less desirable, including midges (sub-order Nematocera) and mosquitoes *Pulex* & *Anopheles* spp.

2.3 Reedbeds

Common reed *Phragmites australis* dominates reedbeds, making this an unusual habitat, in that it is usually the case that the greater the botanical species diversity within an area, the greater the chances for increased animal and fungal species diversity. However, having a 'monoculture' of reed can provide very high animal diversity, although very limited botanical diversity. In particular, a number of bird and insect species (primarily beetles, flies and moths) are reed bed specialists.

Bird species strongly associated or dependent on reedbeds include reed warbler *Acrocephalus scirpaceus,* sedge warbler *A. schoenobaenus*, reed bunting *Emberiza schoeniclus*, bearded reedling *Panurus biamicus* and bittern *Botaurus stellaris*. Invertebrates strongly associated with reedbeds include Fenn's wainscot moth *Chortodes brevilinea,* reed leopard moth *Phragmataecia castaneae*, the spider *Clubiona phragmitis*, the fly *Parochthiphila spectabilis* and a large variety of other species. Recent invertebrate surveys have confirmed some 40 UK species are reedbed specialists, whilst over 600 are wetland specialists.

Reedbeds have traditionally been used for the commercial harvesting of reed for use in thatching. The decline of this commercial industry has led to most reedbeds being managed primarily for conservation, with the cutting of reedbed compartments undertaken on rotation to provide structural diversity, from fresh new growth to old growth and litter layers, with a small amount of scrub.

2.4 Wet grassland

Wet grassland is a scarce UK habitat, heavily reduced in area and quality since the introduction of hydrocarbon fertilisers, improved drainage and intensive agriculture. The vast majority of seasonally damp or inundated grasslands, including water meadows, have disappeared and with them, the wide range of flora and fauna they supported.

Numerous bird species are strongly associated with wet grasslands, including breeding lapwing *Vanellus vanellus*, snipe *Gallinago gallinago,* redshank *Tringa totanus* and yellow wagtail *Motacilla flava*, whilst flowers in decline include greater bird's-foot trefoil *Lotus pedunculatus*, sneezewort *Achillea ptarmica*, snake's-head fritillary *Fritillaria meleagris*, devil's-bit scabious *Succisa pratensis* and various orchids, such as southern marsh orchid *Dactylorhiza praetermissa*.

2.5 Sustainable Urban Drainage Systems

Sustainable Urban Drainage Systems or Sustainable Drainage Systems (both shorted to SuDS) are an approach to manage drainage in or around developments in a more natural way, linking water capture (attenuation), transport (conveyance), water quality and biodiversity.

SuDS can utilise balancing ponds, water tanks, soakaways, green roofs, filter strips, swales and permeable paving to reduce the amount of water entering surface

run-off drains, helping to reduce downstream flooding. The SuDS hierarchy[25] should always be utilised.

3. Current Status

3.1 Area & Distribution

3.1.1 Rivers & streams

As noted above, the main river in Sutton is the River Wandle, a groundwater fed chalk stream. Of its total 9 miles (14 km) length, a little less than 4 miles (5.9km) comprises the Sutton extent. Recent works on the river within Sutton, led by the Wandle Trust (part of the South East Rivers Trust SERT) have improved inriver and marginal habitats, by removing toe-boarding and concrete banks, reducing channel width, increasing flow rates and natural scouring, creating slack water areas and reducing tree shading. Key examples of improvements are shown at Hackbridge and along Mill Lane in Carshalton (Figure 2)

3.1.2 Standing Water

Lakes are generally defined as areas of water greater than 2 ha. There are a number of artificial lakes and ponds of varying sizes throughout the Borough. The larger lakes are a result of gravel extraction.

Artificial lakes have been created at Worcester Park and Beddington Farmlands. The lakes and islands at Beddington Farmlands have been created to benefit key bird species, such as little ringed plover *Charadrius dubius* and redshank, although their current use for breeding pairs of these species is severely constrained, due, in part, to the amount of gull activity on the working landfill site. With the recent reduction in landfill and full cessation of landfill in late 2019, gull numbers should reduce substantially, thereby improving breeding chances for wading birds using bare ground / light cover.

There is no accepted definition of a pond but these are generally recognised as small water bodies, less than 2ha. Ornamental ponds can be found at Beddington Park and Carshalton Ponds, providing roosting and nesting habitat for familiar species of waterfowl, such as tufted duck *Aythya fuligula*, Canada geese *Branta canadensis*, mute swans *Cygnus olor*, mallard *Anas platyrhynchos*, coot *Fulica atra* and moorhen *Gallinula chloropus*.

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

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25 https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan/london-plan-chapter-five-londons-response/pol-12

Works by the Environment Agency in early 2017 at Anton Crescent Wetland have significantly altered the wetland aspects of the site, through removal of reed bed and willow carr and the de-silting and reprofiling the pond area. It is hoped that these works and extensive replanting of native, local species will markedly enhance the open water on site.

3.1.3 Reedbeds

Reedbeds in Sutton are all less than 1 ha in size but can provide important habitat for breeding birds. Spencer Road Wetlands is a naturally occurring reedbed of about 0.75ha, whilst artificially planted reed beds exist at a number of sites; c.0.1 ha at Anton Crescent Wetland (it is planned to expand this through re-stocking), a tiny area at Sutton Ecology Centre and a developing reedbed at Beddington Farmlands. Once the creation of this habitat is complete, there should be around 2ha of reedbed in the southern lake, whilst reed fringing the lakes, channels and ditches within the wet grassland may increase this by another 2 to 4ha.

3.1.4 Wet grassland

Wet grassland within Sutton is very rare, the main current stand being around 0.5ha in Beddington Park. This small area contains a number of borough and London scarcities, including southern marsh orchid *Dactylorhiza praetermissa*, great burnet *Sanguisorba officinalis*, water pepper *Polygonum hydropiper* and marsh arrowgrass *Triglochin palustris*.

A tiny area of wet grassland occurs at Kimpton Balancing pond, containing species such as sneezewort, greater bird's-foot trefoil, meadowsweet *Filipendula ulmaria* and the grass marsh foxtail *Alopecurus geniculatus*.

Sutton Common Paddock is a seasonally damp, poorly draining area of about 1.66ha. Recent attempts have been made to improve the site for wildflowers, specifically lowland wet grassland species but have not had much impact, in the main, likely due to the dominance of the vigorous grass species creeping bent *Agrostis stolonifera*. Further attempts are being made to reduce the dominance of creeping bent, to fulfil the Higher Level Stewardship targets.

As part of the restoration of Beddington Farmlands, over 14ha of wet grassland will be created, primarily for breeding waders such as snipe and lapwing.

3.1.5 Sustainable Urban Drainage Systems

There are numerous examples of SuDS in usage but few with specific biodiversity gains. Kimpton Balancing Pond and Caraway Place Pond are both examples of SuDS for developments that promote a modest amount of biodiversity but more could be done to provide wildlife and aesthetic gains, whilst dealing with flooding issues.

3.2 Trends

3.2.1 Rivers and streams

Sutton is fortunate in having a substantial stretch of one of the very few chalk rivers

in the capital. The Carshalton Arm has recently been awarded the status of ‘Good Ecological Potential’ under the classification used by the Water Framework Directive (WFD). This is the highest award that can be given to water bodies that have been heavily degraded and for which significant changes (due to water abstraction and public pressure), are unlikely to be achieved, particularly in a very urban environment. The award is heavily based on improvement works undertaken by the Wandle Trust.

There is a substantial amount still to do in improving the Carshalton Arm, including dealing with point pollution (misconnected pipes etc.), undertaking more improvement works including removing barriers to fish migration, improving flow conditions and dealing with nutrient levels, some of which is highly likely to be linked to the huge amount of bread put into Carshalton Ponds to ‘feed the ducks’. Future challenges will also include dealing with low flow conditions from continued and increased demands on water supply which, when combined with the predicted climate change of drier summers, will almost certainly increase pressure on the River.

The Croydon arm of the Wandle has not had a great deal of improvement so far but this is set to change, at least in part, over the next few years. The lake in Beddington Park has been de-silted and will be planted with a number of aquatic plants but a fish pass was not installed through the HLF project, due to prohibitive costs.

The Stock Pond has also been de-silted, regraded and replanted. Some willow and alder felling has taken place, whilst water levels can be controlled through provision of a groundwater tapping borehole, which will provide clean water to the pond, as and when required.

Improvements like these and those along the Carshalton arm will go some way to restoring some of the productivity of the river, in being able to support a variety of flora and fauna. Spring fed chalk rivers, such as the Wandle, are categorised as among the most biologically rich and productive of all habitats. This is a product of clear water, moderate nutrient levels and a gravel substrate, providing ideal conditions for a diverse community of submerged and waterside plants to become established. This in turn supports a rich and diverse range of invertebrates and fish species. Water cress *Nasturtium aquaticium*, fool’s watercress *Apium nodiflorum* and lesser water parsnip *Berula erecta* can be found forming extensive beds, whilst stream water crowfoot *Ranunculus pencillatus* ssp. *pseudofluitans* is apparently increasing in distribution. Planted species such as royal fern *Osmunda regalis*, a London rarity, in the Grange, add to the biodiversity of the watercourses.

Recent releases of captive bred brown (river) trout *Salmo trutta* and salmon *Salmo* spp. by the Environment Agency and the Wandle Trust have been undertaken, to augment the existing fish population. Trout appear to be breeding in numbers within the river.

Until recently, urban development right up to the waterside, had altered the structure of the natural course of rivers and streams. This decrease in the amount of available floodplain, reduced floodplain connectivity and increased canalisation, has had

detrimental impacts by removing valuable habitat for biodiversity. However, even in low flow rivers like the Wandle, the potential of flooding is leading to a significantly more cautious approach being applied, with re-naturalised water courses being significant contributors to reducing flooding.

Insensitive in-channel management, 'tidying' the river banks and vandalism to the river, including dumping of rubbish, all contribute to continuing problems along the river, reducing the ability of species to move freely between high quality habitats. Over the last 2 decades or so, invasive non-native species (INNS), such as floating pennywort *Hydrocotyle ranunculoides* and parrot's feather *Myroiphyllum aquaticum* cause problems in-channel and bankside species such as Himalayan balsam *Impatiens grandiflora* and Japanese knotweed *Fallopia japonica* have all contributed towards a degraded system. The Wandle Trust / South East Rivers Trust has recently started tackling all of the above species in a systematic manner.

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

Indicators of a cleaner Wandle are the established breeding populations of declining bird species, such as kingfisher *Alcedo atthis* and grey wagtail *Motacilla cinerea*, a species in moderate decline. Damselfly species associated with rivers of this type, including banded demoiselle *Calopteryx splendens* and beautiful demoiselle *C. virgo* (Figure 3) appear to be expanding their ranges up- and down-stream, possibly connected to climate change but most likely due to improved river conditions, in terms of water quality, flow and bankside vegetation.

For all of the improvements to the Wandle, the Pyl Brook and Beverley Brook are still heavily degraded and canalised, with little practical work so far to change stretches of the river. The Beverley Brook catchment plan will attempt to deal with some of these issues and, out of borough, improvements have already started, such as at Richmond Park and near Tolworth.

3.2.2 Lakes and ponds

There is a number of permanent and ephemeral water bodies located throughout the Borough.

Problems experienced by lakes and ponds have not significantly changed over the last 70 years or so, with poor water quality (including increased nutrient loads of nitrogen and phosphorous), under-management for habitats and over-management in regards 'tidying', INNS and a loss of ponds in general, all reduced the variety and suitability of ponds and lakes for wildlife, with commensurate declines in diversity and abundance of flora and fauna.

In 2016, a new pond (c.160m^2) was created at Queen Mary's Woodland, whilst the ponds at Mayflower Park have matured and provide habitat for breeding reed warbler and reed bunting.

3.2.3 Reedbed

As noted above, new reedbed is being created as part of the restoration of Beddington Farmlands. Once established, this will be the largest block within Sutton and will require specialist management to create the structural diversity required to provide habitats for specialist invertebrates, reedbed birds and possibly, over wintering bittern.

The reedbed at Anton Crescent Wetland expanded within 2016, due to the removal of willow carr from the site, although in 2017, the reedbed was also removed, as the Environment Agency desilted the pond, to improve storage capacity in flood conditions. The desilted area was reprofiled in areas to try to create 'splashy' areas to be used by overwintering waders like snipe and green sandpiper and the reedbed will be allowed to grow back but will require replanting. This will create, in the longer run, a wetter reedbed, which will, hopefully, improve the chances of species like reed warbler breeding on site.

3.2.4 Wet grassland

As noted in **2.4** above, wet grassland has undergone significant declines over the years, with commensurate losses in flora and fauna associated with this habitat type.

The wet grassland at Beddington Park will continue to be managed sensitively, hopefully utilising heavy horses and ambitions to expand or create new wet grassland at Beddington Park will be pursued.

Works are ongoing at Kimpton Balancing Pond to increase species richness and restoration of Back Green by the Beverley Brook will also be pursued.

Works at Sutton Common Paddock will involve the eradication of around 1ha of the grass species creeping bent *Agroastis stolonifera* and seeding with wildflowers and fine grasses.

The first stage in wet grassland creation at Beddington Farmlands is due to be completed in 2019, aiming to create about 3ha of suitable topography (seasonally wet grassland with numerous ditches, providing habitat and protection for ground nesting birds from foxes), which will then be seeded with fine grasses and wildflowers suitable for the conditions. Later tranches of wet grassland creation will be undertaken over the next few years, to the north of the pylons (which define the northern boundary of the initial area) and around the Energy Reclamation Facility (ERF) to the east of the site.

4. Specific Factors Affecting the Habitats

4.1 Major factors

- Abstraction, leading to low flow levels / lower groundwater levels

- Invasive species, leading to loss of native species and habitats
- Pollution
- Damage to riparian species and habitats by weed-cutting and bank clearance
- Impact of pressure of development leading to habitat loss including trend to have paths along both banks
- Historical modification of the river course leading to reduction in diversity of physical habitat features of value to wildlife
- Removal of in-channel debris, reducing channel 'roughness' and leading to more rapid through flow of water, leading to increased chances of flooding
- Flood control measures
- Urbanisation and associated increase in hard surfaces leading to high runoff rates, and flashy flows and influxes of associated pollutants.

4.2 Supplementary factors

- Increased sediment build up as overland flow strips soil (more of an issue in rural areas where good soil management is not undertaken)
- Loss of current-loving species and equally, lake of slack water for spawning
- Disturbance of species
- Rubbish deposition and accumulation
- Development within the floodplain
- Successional processes

It is clear that many of the major and supplementary factors affecting river, streams and wetlands do not occur in isolation; fragmentation and isolation of sites, pressure for development and reduction in landscape scale genetics are all intimately linked, for instance.

5. Current Action

5.1 Legal Status

The overarching driver for river restoration is what is known as the Water Framework Directive (WFD)[26] (technically: Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy). This aims to provide, in summation, an integrated river basin management system for Europe, crossing, if necessary, national boundaries. Key objectives for the WFD include ecological protection, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water. Not all objectives will apply to all water bodies but ecological protection is mandatory: '*the central requirement of the Treaty is that the environment be protected to a high level in its entirety*.'[27]. The UK government therefore has a responsibility, under the Directive, to achieve the targets set.

[26] http://ec.europa.eu/environment/water/water-framework/index_en.html
[27] http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm

There are numerous river and wetlands habitat action plans, statements and many species action plans relevant to wetland habitats, which used to be contained within the UK Biodiversity Action Plan. The UK BAP was effectively succeeded by the 'Post 2010 Biodiversity Framework'[28], with the individual HAP and SAPs (Species Action Plans) being effectively 'mothballed'. They '*remain, however, important and valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats*'[29], as required under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. In this guise, rivers and some wetland habitats (ponds, reedbeds, coastal and floodplain grazing marsh etc.) are termed Priority Habitats. Numerous species strongly or solely associated with rivers and wetlands are also Section 41 Priority Species and some have legal protection through the Wildlife and Countryside Act (WCA) (1981, as amended) and The Conservation of Habitats and Species Regulations 2010 (as amended). Protected and priority species include bats (all species), great crested newt, common toad, yellow wagtail, bittern and lapwing. That considerable numbers of breeding birds use wetlands to nest effectively means that those areas are essentially protected from disturbance during the bird breeding season (mid-February to September).

There are a number of statutory designated Local Nature Reserves (LNRs) and non-statutory designated Sites of Importance for Nature Conservation (SINCs) within Sutton, which have a river or wetland component. This takes a tiered approach based on assessment of each site and relation to other sites at a local (borough) and regional (metropolitan) level, as outlined within the SINC Selection Advice Note 2013[30].

Statutory protection has been applied at five Local Nature Reserves with wetland elements within the Borough: at Wandle Valley Wetland, Sutton Ecology Centre, Spencer Road Wetland, Anton Crescent Wetland and Wilderness Island. In addition, Sutton has afforded strong protection to rivers and wetlands against the adverse effects of built development, through non-statutory nature conservation designations, including Sites of Metropolitan Importance (the River Wandle) and Borough Importance (Anton Crescent Wetland, Caraway Place pond, Beddington Park etc.) through the Local Plan.

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

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

[28] http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf
[29] http://jncc.defra.gov.uk/page-5705
[30] https://www.london.gov.uk/sites/default/files/SINC%20Selection%20Process%20-%20update%20March%202013.pdf

5.2 Mechanisms targeting the habitat

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

The majority of areas of reed beds are subject to programmed management. The largest privately owned land usage at Beddington Farmlands is subject to a Conservation Management Scheme and Restoration Management Plan. The reedbed at Anton Crescent Wetland is under the Higher Level Stewardship scheme.

Future implications for water resources require a holistic approach to catchment management, with land use practices that reduce rapid runoff and peak flood flows, enhance aquifer recharge and restore the natural function and connectivity of rivers and their floodplains. The Water Framework Directive required all inland and coastal waters to reach "good status" by 2015. The UK fell short of this target.

Catchment plans for the River Wandle and Beverley Brook have been created and are being actioned.

5.2.1 Policies

~~Nationally, Biodiversity 2020 is the driving force for nature conservation in England[31] and meshes with the European Commission's EU Biodiversity Strategy[32]. Both consider the role of rivers and wetlands on biodiversity. Biodiversity 2020 says that, for Water Management – '*We will protect water ecosystems, including habitats and species, through a river basin planning approach. We will also promote approaches to flood and erosion management which conserve the natural environment and improve biodiversity.*' (pg.6) and this is effectively mirrored in the EU Biodiversity Strategy. Both of these then work towards international 'Aichi' targets, agreed at Nagoya in 2010.~~

~~The current government has published its 25 Year Environment Plan[33] and aims to make more use of Natural Flood Management, increase SuDS usage and improve flood resilience for properties, as well as reforming water abstraction and incentivising greater water efficiency. Details on how these will all be delivered are still being developed.~~

31 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf

32 http://ec.europa.eu/environment/nature/info/pubs/docs/brochures/2020%20Biod%20brochure%20final%20lowres.pdf

33 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf

5.2.2 Historical and Current Management

Within the Borough, practical river and wetland management is carried out at a number of sites, including Anton Crescent Wetland, Caraway Place Pond, Kimpton Balancing Pond, Sutton Ecology Centre and Wandle Valley Wetland by the Biodiversity Team, with strong assistance from Sutton Nature Conservation Volunteers (SNCV), whilst Wilderness Island and Spencer Road Wetland are managed under licence by the London Wildlife Trust. The wetlands at Mayflower Park are under a management agreement with the site's contractors, whilst Beddington Farmlands has planning conditions to fulfil to create and enhance the river and wetland habitats on site or to be created as part of the restoration. The Wandle Trust / South East Rivers Trust undertake river clean up events, removing dumped materials, as well as management on the recent improvement sites.

5.2.3 Higher Level Stewardship

HLS includes targets for open water (HQ2) and reedbed management (HQ3). Both of these are based at Anton Crescent Wetland

Continued management of these two agreements is necessary to ensure continued funding from the Higher Level Stewardship scheme.

5.2.4 Sustainability Strategy

The old One Planet Sutton (OPS) is now superseded by Sutton's Sustainability Strategy, with the previous OPS targets being transposed to this HAP (**7.1.1** below).

5.2.5 Resource Availability

Historical and severe planned reductions in national public expenditure will deleteriously affect the ability of local authorities to undertake their statutory duties in regards biodiversity and nature conservation. Similarly, when faced with potential reductions in key services to residents (social services, street cleaning, refuse etc.), biodiversity is often one of the first services to be deemed a 'luxury' during austerity measures.

Although the HLS scheme runs until 2023 and the Government has promised to maintain all agri-environmental payments post-exit of the EU, there is no guarantee that HLS or a new scheme will provide the necessary monies to continue to manage these sites.

One of the aspirations of this Biodiversity Strategy is to utilise compensation monies delivered through Biodiversity Accounting to deliver the restoration, creation and enhancement of rivers and wetlands within Sutton but this is at an early stage and requires further resource input.

6. Flagship Species

These species are indicators of higher quality environments and, often, highly distinctive and recognisable, for even the untrained.

Common Name	Latin	Brief Description
Brown trout	*Salmo trutta*	A distinctive light brown fish with silvery sides and pronounced black spots on the back. An indicator species of the unpolluted nature of the River Wandle.
Grey wagtail	*Motacilla cinerea*	Often seen along the Wandle and more colourful than its name suggests, with a distinctive yellow breast and under-tail
Water-cress	*Nasturtium aquaticum*	A native species, watercress was grown commercially alongside the Wandle well into the last century. It provides substantial habitat along the river edge for invertebrates and young fish
Kingfisher	*Alcedo athis*	Historical population declines seriously affected kingfishers throughout urban areas but populations are now recovering. Any impact on water quality which affects fish numbers, as well as removing soft earth banks negatively impacts this iconic species.
Water vole	*Arvicola amphibius*	The water vole is unlikely to be present anywhere on the River Wandle or other streams or wetlands within Sutton. A long-standing ambition for several organisations seeks to reintroduce this charismatic mammal to selected restored sites.
Stream water-crowfoot	*Ranunculus pencillatus pseudofluitans*	An important and characteristic in-channel species, providing oxygen, submerged habitat and, in flower, nectar and pollen sources
Demoiselles	*Calopteryx splendens* & *C. virgo*	Iridescent bluey greeny males and green females, these large damselflies are characteristic of quick flowing streams with plenty of

		bankside vegetation. Numbers appear to be increasing.

7.0 Objectives and Actions

The London Borough Sutton contains the River Wandle, Pyl Brook and Beverley Brook, as well as the associated wetland habitats.

This Action plan aims:

- To maintain and enhance rivers and streams for biodiversity throughout the Borough, through implementing the Catchment Plans for the River Wandle and Beverley Brook, to naturalise river channels and processes

- To maintain and enhance existing areas of wetlands for biodiversity through implementing good practice and completing Higher Level Stewardship targets

- To monitor rivers and wetlands to evaluate their ecological status

- To promote the importance of rivers and wetlands for biodiversity and low impact recreation and relaxation

- To implement and increase the number of functional SUDs schemes

Rationale:

The River Wandle is a Site of Metropolitan Importance (SMI) along its length. There are numerous restrictions to fish passage, natural processes and appropriate natural habitat, whilst pollution, misconnections and surface run-off add to the issues affecting the Wandle (and other waterways). Along the Wandle within Sutton, three sites are designated Local Nature Reserves (Wilderness Island, Wandle Valley Wetland and Spencer Road Wetland) and the Wandle runs through Beddington Park (Borough Grade II SINC and Beddington Farmlands SMI).

Several intervention projects have recently been completed, including works at Hackbridge White Bridge, by Three-Arch Bridge and Mill Lane in Carshalton, naturalising the river banks, improving in-river processes and increasing biodiversity through appropriate planting. Further works at Corbet Close and Goat BRidge are imminent or underway but to fulfil the long term target (**7.1.1**) that all waterways in Sutton are passable for fish by 2050, significant further works need to be undertaken, removing weirs and creating appropriate habitat.

The provision of buffering effects through re-engineering the river channel and banks to affect flooding and water attenuation may have wider implications on mitigating some of the predicted effects of climate change and more extreme weather, through providing greater system resilience (Natural Flood Management) and / or habitat and niche availability.

The Water Framework Directive is a European integrated river basin management system, transposed into law, of which the UK has to comply. The UK had to meet environmental objectives by 2015, which, according to Environment Agency figures, had not been met[34].

7.1 Habitat Targets

7.1.1 Long Term Target

- All waterways in Sutton (5.1km) passable for fish by 2050.

7.1.2 HLS Targets

HQ2 Ponds (>100m^2) - Anton Crescent Wetland

Indicators of success

- There should be no obvious signs of pollution, such as a film of fuel oil, total cover with green algae or rubbish
- By year 3, undesirable species should cover less than 5%
- The combined cover of both submerged and floating aquatic plants, excluding undesirable species, should be between 25% and 75%
- Percentage cover of marginal vegetation (marginal and emergent species), should be between 25% and 100% in the period May to mid-September

HQ3 Reedbeds - Anton Crescent Wetland

Indicators of success

- The vegetation should include at least 60% Common Reed
- There should be at least 150 Common Reed stems per square metre within the area of dominant Reed
- Cover of scrub within the reedbed should be less than 10%.
- Cover of undesirable species non native invasives should be less than 5%
- The height of the Common Reed prior to cutting should be at least 100cm
- Between April and October, 50% to 95% of the reedbed should be covered by surface water, which should be between 10cm and 30cm deep. 5% and 10% of the area should be allowed to remain dry
- Between November and March, 50% to 95% of the reedbed should be covered by surface water, which should be between 10 and 30cm deep. 5% to 10% of the area should be allowed to remain dry
- Area of open water should be between 10% and 30% of the entire site

7.2 Habitat Action Plan Targets:

7.2.1 Targets:

RW 1 For the River Wandle and Beverley Brook to Meet 'Good Ecological Potential' by 2025, as defined by the Water Framework Directive

34

http://www.rspb.org.uk/community/getinvolved/b/specialplaces/archive/2015/03/31/confusion-reigns-over-water-quality-figures.aspx

RW 2 To improve the condition of rivers and wetlands for nature conservation.
Target: Maintain area of and enhance the quality of all rivers and wetlands in the borough

RW 3 To promote the importance of rivers and wetlands in the Borough for biodiversity and the need for protection

RW 4 To promote habitat creation, restoration and water quality enhancement through the planning process as part of SUDS creation

7.2.2 Actions:

Code	Action	Lead
RW1	**For the River Wandle and Beverley Brook to Meet 'Good Ecological Potential' by 2025, as defined by the Water Framework Directive**	
RW 1.1	Implement the Catchment Plans for the River Wandle and Beverley Brook by 2025.	Wandle Trust / SERT
RW 1.2	Carry out monthly riverfly monitoring at 5 sites (Poulter Park, Beddington Park and 3-Arch Bridge, Restmor Way and Hackbridge). **Target**: 50 surveys per annum.	Senior Biodiversity Officer / Wandle Trust / SERT / Wandle Piscators / Living Wandle
RW 1.3	To implement Local Plan Policy 26 on protecting and enhancing sites, through delivery of the BAP.	Senior Biodiversity Officer
RW2	**To improve the condition of rivers and wetlands for nature conservation. Target: Maintain area and enhance the quality of all rivers and wetlands in the borough**	
RW 2.1	Ensure that river and wetland SINCs managed by the Biodiversity Team have up-to-date Management Plans in place by 2020. **Target**: 6 sites[35]	Senior Biodiversity Officer
RW 2.2	Undertake Phase 1 and condition assessment botanical surveys of river and wetland SINCs **Target**: 6 sites (as above for RW 2.1)	Senior Biodiversity Officer

[35] Anton Crescent Wetland; Caraway Place; Carew Manor Wetland; Kimpton Balancing Pond; Wandle Edge, Wandle Valley Wetland

RW 2.3	Undertake and fulfil, by 2023, Higher Level Stewardship targets and prescriptions at Anton Crescent Wetland. **Target**: reached targets as outlined in HLS agreement for the open water and reedbed	Senior Biodiversity Officer
RW 2.4	Ensure the Carshalton Arm of the Wandle maintains Good Ecological Potential and does not deteriorate **Target:** ?	Environment Agency / Wandle Trust / LBS
RW 2.5	Maintain and enhance the lake and stock pond at Beddington Park **Targets**: 1) monitor and restock, as necessary, aquatic plants in the stock pond; 2) create valuable aquatic and riparian wildlife habitat in the lake through aquatic planting and floating 'bio-islands'.	Volunteer Coordinator Officer / Senior Biodiversity Officer
RW 2.6	Undertake restoration and improvement works at Richmond Green and Wandle Bank by 2025. **Target**: secure fish passage,restore natural processes and create valuable aquatic and riparian wildlife habitat.	Wandle Trust / Senior Biodiversity Officer
RW 2.7	Undertake restoration and improvement works at Shepley Mill by 2025. **Target**: secure fish passage,restore natural processes and create valuable aquatic and riparian wildlife habitat.	Wandle Trust / Developer
RW 2.8	Undertake restoration and improvement works at Durand Close by 2025. **Target**: restore natural processes and create valuable aquatic and riparian wildlife habitat.	Wandle Trust
RW 2.9	Undertake restoration and improvement works at Corbet Close by 2021. **Target**: secure fish passage,restore natural processes and create valuable aquatic and riparian wildlife habitat.	Wandle Trust / Rydons
RW 2.10	Undertake restoration and improvement works at Goat Bridge by 2023. **Target**: secure fish passage,restore natural processes and create valuable aquatic and riparian wildlife habitat.	Wandle Trust / Environment Agency
RW 2.11	Investigate the possibility of increasing biodiversity around Carshalton Ponds, should desilting works be proposed	Neighbourhood Services / Senior Biodiversity

		Officer
RW 2.12	Undertake works at Sutton Common Paddock to improve this area as lowland wet grassland and fulfil Higher Level Stewardship targets by 2023. **Target**: 1ha of amenity grassland restored to species rich grassland by 2023	Senior Biodiversity Officer
RW 2.13	Undertake enhancement work at Wandle Trading Estate to recreate Mill Pond and provide enhancements to Mill Green Stream in line with submitted Condition details by 2020 **Target**: create valuable aquatic and riparian wildlife habitat.	Red Row Homes. Additional partners: London Wildlife Trust / Wandle Trust / Senior Biodiversity Officer
RW 2.14	Ensure that the habitat restoration and limited public access at Beddington Farmlands proceeds as per the RMP v9.1, including reedbed, lowland wet grassland and wet woodland. **Target**: Each habitat parcel within the RMP restored in full by 2023	Viridor / CAMC / Senior Biodiversity Officer
RW3	**To promote the importance of rivers and wetlands in the Borough for biodiversity and the need for protection**	
RW 3.1	Promote the value of rivers & wetlands for wildlife through talks, guided walks, practical volunteering opportunities, events and social media. **Target**: Run 50 events and promote 18 citizen science surveys to raise awareness of river and wetland habitats by 2025.	Wandle Trust / Senior Biodiversity Officer / Volunteer Coordinator Officer
RW4	**To promote habitat creation, restoration and water quality enhancement through the planning process as part of SUDS creation**	
RW 4.1	To promote habitat creation, restoration and water quality enhancement through the planning process by incorporating SuDS into design. **Target**: 10 functional SUDS by 2025.	LLFA Officer / Wandle Trust

Appendix B4:
Parks & Green Spaces

Habitat Action Plan 2019 – 2024

Lady's smock at Beddington Park wet meadow

"The nation behaves well if it treats its natural resources as assets which it must turn over to the next generation increased, and not impaired, in value."

Theodore Roosevelt

V1.2 March 2019

1. Aims

- To diversify and increase the extent and quality of wildlife habitats within Parks and Green Spaces, including churchyards and allotments
- To implement good conservation practice to enhance parks and green spaces for nature

- To raise awareness of the importance of Parks and Green Spaces in the conservation of Sutton's biodiversity.

2. Introduction

As a 'catch-all' plan for those aspects of nature that might otherwise fall between the gaps of more strictly defined Habitat Action Plans, this plan has several links and certainly, a modicum of repetition, with targets in the other Habitat Action Plans, for which forbearance is sought. As such, this document is, in part, subservient to those targets and habitats more fully covered within their specific HAPs, whilst retaining its own specific targets.

This habitat action plan covers varying habitats over differing geology, including grasslands, wetlands, scrub and amenity grasslands. They mostly have high levels of public usage and do not sit neatly within targets set for the other habitat action plans. This 'habitat' action plan covers parks, open access gardens, cemeteries and churchyards, local nature reserves and allotments; anywhere where the public is normally or permissively allowed to go to experience 'the outdoors' (including parts of Beddington Farmlands, when that is made accessible).

Most parkland has gone through a series of transformations over many centuries to establish what we understand as a park today. In general, parkland is perceived as wide-open spaces with scattered trees, either singly or in blocks, typified by the 18th century English landscape park. However, urban parkland may be much smaller in scale, and can include open access gardens and churchyards with formally planted areas.

Churchyards are a relatively minor resource in terms of land cover but within large cities, such as London and Bristol, cemeteries can be of significant importance for semi-natural habitats, such as grassland or native woodland, they can act as links in green chains and provide relatively undisturbed areas for wildlife.

Outside of private gardens, parks and other publicly accessible green spaces are often where the majority of people have first-hand experiences of nature, albeit in a reduced package.

Parks can offer a wide range of breeding, foraging and refuge opportunities for wildlife, and they can provide suitable links between existing wildlife sites. Today,

the aim of many parks is to deliver a multi-functional area, delivering recreational, social and environmental roles, in various quantities. In seeking to achieve this multi-functionality, some areas are set aside or managed sympathetically to establish wildlife-friendly areas within parks and other green spaces.

3. Current Status

3.1 Area & Distribution

Sutton currently has 518ha of open space, although GiGL data[36] states that 397.87ha are composed of amenity grassland, as part of the comprehensive survey of the borough. Compared with other habitats within this Biodiversity Strategy, (woodland & scrub, rivers and wetlands, chalk grassland etc.), amenity grassland comprises more than 2.5 times all of those other habitats combined. Amenity grassland is very poor for biodiversity.

Sutton has over 90 parks and open spaces plus 37 allotment sites and 8 cemeteries and churchyards.

With regard to parks and green spaces with some consideration for nature conservation and ecology, 14 have been designated as a Site of Importance for Nature Conservation (SINC). In addition, 5 churchyards are designated (or included within a wider site designation) as SINCs.

A number of Sutton's parks have strong ecological components, such as the chalk grassland meadow and replanted woodland at Oaks Park or the chalk river, wet grassland, wetland and woodland features at Beddington Park, which provides and amount of high quality wildlife habitat with some species scarce within London.

Parkland and green spaces are present throughout the Borough, although they vary markedly in ecological quality, as well as public accessibility and social interaction (i.e 'Friends of' groups). Most parks and green spaces often, as a bare minimum, provide some nectar, berries and pollen opportunities, as well as some nesting opportunities in dense shrubs and mature trees, even if these are not composed of native species.

3.2 Trends

Much of Sutton's parkland was formerly part of large aristocratic estates, traditionally managed for deer or other grazing, such as Beddington Park and Oaks Park. The areas of these estates has been reduced over the centuries, with some features becoming dilapidated or disappearing, whilst natural succession has occurred on some areas, altering the habitats / features markedly, sometimes detrimentally.

[36] GiGL, 2006

These days, typical parks are mainly composed of short-mown amenity grass and ornamental trees with shrub beds, such as the Grove Park and Manor Park. Tastes for parkland features have fluctuated widely over the centuries but most of our parks strongly follow the Victorian mould.

There has been a mild shift away from these high maintenance landscapes over the last 20+ years, which has created some additional opportunities for wildlife in parklands, as management input and maintenance costs for nature conservation are relatively low, although restoration costs can be moderate to high. When undertaken with sympathy and understanding, we can create, or allow to revert, areas within parkland that are much more suitable for local wildlife and natural processes.

There are four broad approaches that are applicable to parkland management for the benefit of wildlife. These are:

i) Habitat Restoration; trying to re-establish the species / habitats which might have occupied the site in the past

ii) Habitat Creation; creating new wildlife landscapes using species that are suited to the environmental conditions that exist on the site

iii) Naturalistic vegetation; in essence attempts to replicate the structure of natural plant communities, but does not have to use exclusively native species.

iv) 'Letting go': allowing natural succession to occur, which may then be controlled by some form of management (grazing, mowing, felling etc.). This very much depends on the starting conditions; much of modern parkland is so depauperate in species that what may form from 'letting go' is of little value.

The majority of vegetation in parks is comprised of non-native species in shrub beds with varying numbers of introduced tree species, species poor amenity grassland and often, some neglected areas around the 'back' or edges of the park that are species poor stands of ruderal species (brambles, docks, thistles, nettles etc.).

Formal landscaping can have *some* wildlife value. These are areas where the flora may be almost entirely non-native but may (depending on species and structure) provide some shelter, breeding opportunities or foraging opportunities. Ornamental shrub beds may be visited by berry-feeding birds like blackbirds *Turdus merula* or other thrushes, whilst mature non-native trees can provide opportunities for woodpeckers *Dendrocopus* spp. and nuthatch *Sitta europea*. Football / sports pitches can be valuable, particularly over the winter months for gull species, like blackheaded gull *Chroicocephalus ridibundus*, herring gull *Larus argentus* and common gull *L. canus*, and wintering thrushes, such as fieldfare *Turdus pilaris*, seeking grubs in the soil disturbed through football boots.

Parks often have a good number of old and sometimes, veteran(ised), trees and these are of high biodiversity value. Old(er) trees provide important opportunities for

lichen and fungal species, as well as nesting or roosting opportunities for birds and bats. Some species of butterfly live in the canopy of mature trees, particularly native oaks and ash trees, feeding on the excreta of aphids, the pleasant sounding 'honeydew'!

Edge habitats are often at a premium in parks and publicly accessible green spaces; the close mown amenity grassland is often right up to the woodland / scrub edge, reducing the availability of taller grasses and plants to grade into the shorter amenity grassland. These habitat transition areas (short growth into tall) are 'ecotones' and of high value, as they provide a wide variety of microclimatic and species diversity. Within these transitional areas, one would expect to find common amphibians, like frogs and toads *Rana temporaria* and *Bufo bufo*, maybe reptiles such as slow worm *Anguis fragilis* or common lizard *Zootoca vivipara*, small mammals like hedgehogs *Erinaceus europeaus* or woodmice *Apodemus sylvaticus* and a whole variety of invertebrates. Leaving 'buffer strips' uncut is one of the easiest ways to increase whole site biodiversity (i.e. point iv 'Letting go' above).

Where there are water bodies, such as ponds and lakes, the usual assortment of wildfowl can be found, including Canada geese *Branta canadensis*, mallards *Anas platyrynchus*, moorhen *Gallinula chloropus* and coot *Fulica atra*. Other species of 'more interest' may include little grebe *Tachybaptus ruficola*, grey heron *Ardea cinerea*, kingfisher *Alcedo athis* or tufted duck *Athya fuligula*.

Where the water quality is reasonable to good in ponds, lakes and rivers **and** where marginal and submerged vegetation is allowed to grow, dragonflies and damselflies may be found, such as southern hawker *Aeshna cyanea*, migrant hawker *Aeshna mixta* and blue-tailed damselfly *Ischnura elegans*. Various other invertebrates with aquatic larval stages may also proliferate, providing food for larger predatory invertebrates, fish, birds and bats.

Allotments may have areas left aside deliberately for wildlife, or may create them by accident, such as fallen fruit, compost piles, small ponds etc. Because each allotment owner may have very different ideas on what their allotment is for and the balance they take between wildlife and food cultivation, it is very difficult to make any overall assessment of how good allotments actually are; the variation on a very small scale (i.e. between each allotment plot, for instance) can be huge.

Churchyards and cemeteries may have undisturbed areas that contain relict habitats (such as veteran trees, hedgerows, unimproved grassland etc.), as well as more formal and ornamental planting. Management intensity can vary enormously, from areas being left as non-intervention to close cropped grass between graves or from graves being overrun with vegetation to pristine headstones. The general lack of disturbance and high people pressure often means that some areas within cemeteries and churchyards can provide havens for common species to breed and increase population numbers that are depleted at other sites i.e. population sinks.

Population sinks are where the habitat is just suitable for a species to exist in that area but is not suitable enough for a self sustaining population. The continued existence of the species in this area can only be maintained by a continued influx of new individuals from external donor populations but the overall trend is that of continuing loss to the wider population of that species. Individuals from a stable donor population move to a ‘new’ area to start a new population but that population becomes extinct after X number of years. Sometime later, a new set of individuals from the same donor population may recolonise the site but again, become extinct. Rather than growing the wider population by finding new sites on which to thrive (i.e become donor populations in turn), this site may just continually act as a trap to individuals.

In more natural systems, these fluctuating populations are maintained by a number of healthy donor populations dotted about the landscape. With our highly modified landscapes, particularly in the urban and peri-urban setting, there may only be one site that can act as a donor population, all other sites acting as population sinks. The numbers of individuals of that species can, therefore, never increase beyond what the donor site can maintain.

In the urban landscape, we face a very real danger of having sites that are population sinks and detrimental to the overall population of many species. The only ways to combat this effect are to increase the quality of all spaces for nature and to increase the total areas of habitat availability

4. Specific Factors Affecting the Habitat(s)

4.1 Major Factors

- Negative public response of ‘untidy’ appearance of natural areas
- Financial constraints on parks / accessible area management
- Inappropriate management or neglect
- Conflicting recreational & social pressures
- Health & safety requirements of unsafe trees, water bodies etc.
- Loss of deadwood habitats
- Skills and desires of staff - often linked to constraints of contract specification or job role / wider policies

4.2 Supplementary Factors

- History of low intensity management in churchyards
- Increasing recognition of biodiversity value of parks
- Voluntary sector involvement, including ‘Friends of’ groups
- Damaging pesticide & herbicide usage
- Invasion of aggressive non-native species
- Disturbance to wildlife by dogs & enrichment by their faeces & urine
- Atmospheric nitrogen enrichment, particularly to water bodies
- Vandalism, illegal dumping & litter

Obviously, these are some, but not all, of the positive and negative factors that parks may face; some parks may have very few of these factors, others may be blighted or enhanced by issues not on this list.

4. Current Action

5.1 Legal Status

Many parks and green spaces are designated as SINCs; some have listed historic park protection, or Metropolitan Open Land and Greenbelt designations. They are thus protected by planning designations and policies contained in the Local Plan.

The caveat is that, although many of the sites in Sutton have planning designations as Sites of Importance for Nature Conservation, the management of the site is not always in line with why the site was designated. A wholesale reevaluation of the management of parks and green spaces would be required to manage each designated site in line with its citation, to provide greater biodiversity value, which is highly likely to be outside the scope and influence of this plan.

Certain trees and hedgerows within parks and green spaces are protected by Tree Preservation Orders but there are very few, if any, within parks.

Current statutory legislation provides protection to breeding birds, reptiles and amphibians (with varying levels of protection), stag beetle (deadwood habitats) and all bats species, including their roosts.

Although it does not confer legal status, Wood Pasture and Parkland were a priority habitat under the UK Biodiversity Habitat Action Plan. The UK BAP was succeeded by the 'Post 2010 Biodiversity Framework'[37], with the individual HAP and SAPs (Species Action Plans) being effectively 'mothballed'. They '*remain, however, important and valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats*'[38], as required under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. Wood Pasture and Parkland therefore remain a Priority Habitat. This ensures that conservation of this habitat type is encouraged through national and local policy and action.

5.2 Mechanisms targeting the habitat

5.2.1 Historical Management

Most management within Sutton Parks and Green Spaces has been amenity focussed, whether repeated cutting of amenity grassland or for health and safety or 'tidying' reasons.

[37] http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf
[38] http://jncc.defra.gov.uk/page-5705

Sutton Council maintains some semi-natural areas for nature conservation within parks, such as the chalk grassland meadow at Oaks Park. However, this area is effectively in a very slow decline or, at best, stable, as the management has not changed sufficiently to improve the state of this area. It is likely that significant time and resources are required to improve this area, to meet Higher Level Stewardship targets (see Chalk Grassland Target 2.1).

Natural plant communities probably survive within urban parks in Sutton to a greater extent than in boroughs in central London. These are, obviously, a priority for protection. In some cases this interest may be latent e.g. where wild flowers get mown before they have a chance to flower. This has been demonstrated by leaving a wildflower meadow to regenerate on former amenity grassland at Oaks Park. Releasing further amenity grassland from repeated mowing at the Oaks would provide more 'chalk grassland' but future management would be a key issue and grazing would be essential.

However, large areas of grassland within parks are cut for amenity use with little consideration for biodiversity. These areas are maintained using public money and under often intense public scrutiny. If they are left to grow, they are likely to be a species poor habitat (as more delicate species have been lost and replaced with more tolerant, highly competitive species) and there is often the perception that they are unmanaged and of less value.

Some 'Friends of' groups actively manage, and lobby for, 'wildlife areas' in their parks, although these can sometimes be at odds with what may be of particular value i.e. pictorial meadows are now fairly regular features within many parks but of limited biodiversity value, whereas a more natural meadow or sunny bramble edge, for instance, may be of greater value but underappreciated or removed for something 'more acceptable'.

Some deadwood habitats are left to decay in many parks, where this does not conflict with health and safety requirements but the amount within woodlands in parks is still low.

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

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

5.2.2 Higher Level Stewardship

In December 2013, the London Borough of Sutton agreed a 10 year agri-environment scheme (Higher Level Stewardship - HLS) with Natural England. Within this Habitat Action Plan, HLS agreements relate to two neutral meadows and the provision of a sacrificial crop for birds (see **7.1.1** below). The targets set by HLS are therefore of utmost importance for the London Borough of Sutton and influence the aims and objectives of this HAP.

During summer 2014, each meadow was subject to a full suite of botanical surveys, specifically, a National Vegetation Classification (NVC) survey to determine baseline plant communities, against which management successes can be judged most accurately. NVC surveys are undertaken every four years, as they are resource heavy, so 2014, 2018 and 2022.

The sacrificial crop is reset annually after the 15th March each year with a specific seed mix of value to seed eating birds.

6. Flagship Species

These species are indicators of higher quality environments and, often, highly distinctive and recognisable for even the untrained.

Common Name	Latin	Brief Description
Veteran(ised) trees	*Various species*	Provide important landscape and aesthetic values, as well as habitat. Includes the sweet chestnuts in Carshalton Park, hornbeams at Cuddington Rec. and the London Plane at Sutton Ecology Centre.
Hedgehog	*Erinaceus europaeus*	Found in green spaces where woodland edges, hedgerows and suburban habitats provide plenty of food,but have declined markedly in the last 25 years
Serotine bat / noctule bat	*Eptesicus serotinus* / *Nyctalis noctula*	Serotines and noctules are recorded in Sutton's Parks in small numbers
Spleenworts	*Aspleniaceae*	Old buildings and walls support these small fern-like plants growing in crevices and joints between the stones.

Lichens	for example *Caloplaca decipiens*	Lichens are a combination of two organisms, a fungus and an alga, living together. Churches and Churchyards are important for lichen conservation, particularly where there are no natural exposed rock surfaces but many species also grow on trees.

7. Objectives and Actions

Vision Statement: " By 2025, Sutton's Parks and Green Spaces will be protected through the planning process, valued and accessible, where applicable, to the local community and provide a variety of species rich landscapes and areas within the Borough."

Rationale:
Sutton has over 90 parks and green spaces, many are publicly accessible but significant amounts of amenity grassland. Improvements to habitats within parks and green spaces, including the removal of some amenity grassland, will be sought through Biodiversity Accounting.

The aim of this action plan is:

- To diversify and increase the extent and quality of wildlife habitats within Parks and Green Spaces
- To implement good conservation practice to enhance parks and green spaces for nature
- To raise awareness of the importance of parks and green spaces in the conservation of Sutton's biodiversity.
- To create new areas of wildlife habitat within Parks and Green Spaces

7.1 Habitat Targets

7.1.1 HLS Targets

HK16 Restoration of Grassland for Target Features: Belmonts Pastures and Sutton Common Paddock. Total size: 2.25ha

- Year 5: have 2 indicator species with occasional abundance at each site (as judged through G06 surveys)
- Year 10: have 2 indicator species with frequent abundance at each parcel and 2 occasional (as judged through G04 surveys)

HF12NR Enhanced wild bird seed mix plots (non rotational): Beddington Park. Total size 0.5ha

- At full crop establishment, there should be between 75% and 100% cover of the sown species
- At full crop establishment, cover of bare ground should be between 5% and 25% of the plot
- At full crop establishment, there should be no more than 5% cover of undesirable species
- The plots should provide sustained seed supply throughout the winter until 15 March
- The target bird species: Tree Sparrow should use the plots regularly

7.2 Habitat Action Plan Targets:

7.2.1 Targets:

PGS1	To maintain the extent & current management and implement enhancements to meadows and species rich grassland
PGS2	To promote the importance of Parks and Green Spaces for biodiversity in the borough
PGS3	To enhance and diversify the wildlife habitat in Parks and Green Spaces, in line with their SINC designations.
PGS4	To create new areas of wildlife habitat within Parks and Green Spaces

7.2.2 Actions:

Code	Action	Lead
PGS1	**To maintain the extent, current management & implement enhancement to existing meadows and species rich grassland**	
PGS 1.1	Existing wildflower meadows within Parks to have annual haycut to maintain extent and condition **Target:** 8 sites[39] annually	Idverde / Senior Biodiversity Officer
PGS 1.2	To instigate and maintain a low impact management regime to enhance damp grassland sites utilising heavy horses for hay cutting and removal **Target**: 4 sites[40] annually	Senior Biodiversity Officer / Idverde

[39] Beddington Park - 'tall grass area' & wet meadow; Cheam Rec, Cuddington Rec; Perrett's Field House Sparrow area; Queen Mary's Park, Rosehill Park East & Sutton Common Paddock
[40] Beddington Park - 'tall grass area' & wet meadow; Back Green & Sutton Common Paddock

PGS 1.3	Existing species rich grassland in other green spaces to maintain existing management and avoid areas of flowers when in bud **Target:** 2 sites[41] with at least 25% of the grassland in flower at any one time between April and September annually	Idverde
PGS 1.4	Undertake annual Phase 1 and condition surveys to ensure meadow quality is maintained and share data with GiGL **Target**: 4 sites[5] annually	Senior Biodiversity Officer
PGS 1.5	Undertake Phase 1 surveys every 5 years to ensure data relating to the SINC citation is up-to-date and share data with GiGL **Target**: 26 sites[42] by 2024	Senior Biodiversity Officer
PGS 1.6	To implement Local Plan Policy 26 on protecting and enhancing sites, through delivery of the BAP.	Senior Biodiversity Officer
PGS2	**To promote the importance of Parks and Green Spaces for biodiversity in the borough**	
PGS 2.1	Run events (such as a guided walk, talk or practical event) in any Parks or Green Space **Target:** 10 events by 2024	Senior Biodiversity Officer / Volunteer Coordination Officer / SNCV
PGS 2.2	To engage and train at least 8 active volunteer Tree Wardens for Beddington Park to help survey and monitor trees as well as lead planting and young tree maintenance sessions **Target:** 10 wardens engaged by 2024	Volunteer Coordination Officer
PGS 2.3	To run at least 2 community tree planting events a year to develop and restore woodland areas in Beddington Park. **Target**: 4 events by 2020	Volunteer Coordination Officer

[41] Bandon Hill Cemetery & Cuddington Cemetery

[42] All Saints Churchyard Benhill; Bandon Hill Cemetery; Beverley Brook; Buckland Way Rec; Caraway Place; Carshalton Park; Carshalton Ponds; Cheam Park; Cheam Rec; Cuddington Cemetery; Cuddington Rec; Dale Park; Greenshaw Woods & Rosehill Park East; Lambert's Copse; Little Woodcote Wood; London Road Edge; Mill Green; Perret's Field & Sutton Waterworks; Pine Walk; Poulter Park Riverside; Queen Mary's Park; Queen Elizabeth Walk; Revesby Road Woods; Radcliffe Gardens Woodland; St. Nicholas Churchyard; The Grove

PGS 2.4	Volunteer events to develop and improve areas of Beddington Park – e.g scrub clearance, habitat development, invasive species clearance, waterway and pond enhancements. **Target:** 4 events annually until at least 2020	Volunteer Coordination Officer
PGS 2.5	Increase pollen and nectar source resource availability through spring bulb and wildflower planting in appropriate areas of Beddington Park **Target**: 0.3ha by 2020	Volunteer Coordination Officer
PGS 2.6	Manage and maintain the community orchard. **Target:** 0.3 hectares managed by 2020	Volunteer Coordination Officer
PGS 2.7	Install 3 new interpretation boards explaining wildlife and / or habitats at SINCs[43]	Head of Parks and Open Spaces
PGS3	**To maintain, enhance and diversify the wildlife habitat in Parks and Green Spaces, in line with their SINC designations**	
PGS 3.1	Improve the northern woodland area at Beddington Park through selective thinning, underplanting and coppicing (links to Woodland and Scrub HAP) Target: 0.3 ha enhanced by 2020	Technical Services Manager / Volunteer Coordination Officer / Idverde
PGS 3.2	Maintain sustainable practices in day-to-day maintenance of parks and open spaces, through understanding the requirements of wild flora and fauna (breeding birds, bats etc.); composting, eliminating peat compost usage, reducing usage of pesticides, sourcing appropriate seed mixes and enhancing habitats where possible **Target**: creation and dissemination of an Environmental Sustainability policy by 2020	Idverde / Parks
PGS 3.4	Maintain the sacrificial crop at Beddington Park to fulfil HLS objectives **Target**: 0.5ha correctly managed each year until 2023	Senior Biodiversity Officer / Idverde

[43] Cheam Rec?; Queen Mary's Park?; Bandon Hill Cemetery?; Rosehill East & Greenshaw?; Revesby Wood?

PGS 3.5	Survey blackthorn at Queen Mary's Park for brown hairstreak and undertake scalloping, if suitable, for promotion of brown hairstreak habitat. **Target**: survey by 2019 **Target (if suitable)**: 50% growth under 10 years old by 2024	Senior Biodiversity Officer
PGS 3.6	Expand existing wildflower meadow in Cuddington Rec **Target:** 1.0ha by 2024	Senior Biodiversity Officer / Idverde / Friends of
PGS 3.7	Expand existing wildflower meadow in Perrett's Field **Target**: 0.6ha by 2024	Senior Biodiversity Officer / Idverde
PGS 3.8	Expand / rejuvenate meadow at Queen Mary's Park **Target**: 0.5ha enhanced from scrub / ruderal by 2024	Idverde / Friends of
PGS 3.9	Enhance 'hedgerow' / shaw in the Grove through additional tree planting **Target**: 200 new whips and standards by 2024	Idverde / Friends of
PGS4	**To create new areas of wildlife habitat within Parks and Green Spaces**	
PGS 4.1	Create new wildflower meadow in Guy Road Rec (Beddington Park) **Target**: 0.2ha by 2020	Volunteer Coordination Officer / Idverde
PGS 4.2	Create new wildflower meadow at the back of Beddington Park Almshouses **Target**: 0.3ha by 2020	Volunteer Coordination Officer / Idverde
PGS 4.3	Create new wet meadow in Beddington Park **Target**: 0.5ha by 2024	Senior Biodiversity Officer
PGS 4.4	Create new wildflower meadow / wood pasture in Carshalton Park **Target**: 0.8ha by 2024	Senior Biodiversity Officer / Idverde

Appendix B5:
Green Infrastructure & Biodiversity Accounting

Habitat Action Plan 2019 – 2024

Eversheds, Wood Street - Hybrid sedum roof, with dead wood feature, looking to St. Paul's Cathedral

"*The greatest threat to our planet is the belief that someone else will save it*." Robert Swan

1. Aims

- To promote the addition and management of Green Infrastructure within developments
- To provide a mechanism for the delivery of No Net Loss and Net Gain within Policy 26 Biodiversity of the Local Plan 2016-2031
- To quantify losses and gains of habitats through the planning process

2. Introduction

2.1. Biodiversity Accounting

Biodiversity Accounting is a metric based mechanism for attempting to quantify the 'biodiversity units' of a specified area of land. The UK metric was initially developed by DEFRA for the Biodiversity Offsetting Pilot in England[44], running from 2012 to 2014.

As part of the Biodiversity Offsetting Pilot in England, six regions were chosen to trial the UK's first national attempt at biodiversity offsetting. Of these areas, only the Warwickshire, Coventry and Solihull sub-region made biodiversity offsetting mandatory and the have further refined the process to make it more specific to their locale and have developed a Biodiversity Impact Calculator.

Biodiversity Offsetting proposed that if there would be a net loss to biodiversity from development of a specific area and the loss could not be mitigated in full on-site, then off-site compensation should be utilised to provided comparable biodiversity outcomes.

Biodiversity Offsetting requires a significant amount of set up, to map 'opportunity areas', where new habitat could go and result in an improvement in the extent or quality of the existing ecological network.

The DEFRA national metric is a multiple-attribute metric, utilising 'habitat distinctiveness' and 'habitat condition' multiplied by habitat type area, to provide a baseline of 'biodiversity units', which can be compared across habitats or compared against future usage.

Metrics are surrogates for complete measurements of total biodiversity found within a specific area and are a tool that can be used to provide greater consideration of the biodiversity value of a given area.

Metrics and Biodiversity Accounting can never provide full consideration of the biodiversity in any given area but can provide an indication of equivalency.

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44 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69531/pb13745-bio-technical-paper.pdf

Sutton has modified the DEFRA habitat distinctiveness values, to attempt to make them more relevant to the borough and may incorporate DEFRA's updates, if they are likely to provide better outcomes.

One of the major aims for Biodiversity Accounting is to establish within planning a 'No Net Loss' approach to biodiversity through development and move towards providing quantifiable net gains.

Biodiversity Accounting is one tool that the Council will use when considering a planning application and provides a framework for considering impacts in a consistent and transparent way.

The Technical Guidance Note: Building a Sustainable Sutton[45] was adopted by the Council in June 2018 and sets out how and where Biodiversity Accounting will be implemented.

Due to the restricted space within the London Borough of Sutton and the suburban nature of the borough,there is limited scope for off-site mitigation that results in improving the extent or quality of the existing ecological network.

The Council will utilise Biodiversity Accounting to maximise on-site mitigation and enhancement for biodiversity. Any residual net loss that can't be accounted for on-site will be charged for at a specified rate, depending on the amount and quality of loss, to be stored as a commuted sum, utilised by the Council's Biodiversity Team to maintain, create or enhance biodiversity within the borough to fulfil goals within Local Plan Policy 26 or within this Biodiversity Strategy.

2.1.2 Policy Compliance

No Net Loss and Net Gain are provided for through the National Planning Policy Framework (2018):

- '*encourage multiple benefits from both urban and rural land, including through mixed use schemes and taking opportunities to achieve environmental net gains - such as development that would enable new habitat creation...*' (para. 118a)
- '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*' (para. 170d, pg. 49)
- '*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*' (para. 174b, pg. 50)
- '*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvement in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*' (para. 175d, pg. 51)

45 https://moderngov.sutton.gov.uk/documents/s59852/9%20Local%20Plan%20Technical%20Guidance%20Note%20-%20Appendix%20A.pdf

The London Borough of Sutton adopted its Local Plan 2016-2031 in February 2018. Policy 26 states:

(a) '*Major new development should result in no net loss in biodiversity value, as assessed against the DEFRA Biodiversity Offsetting Metric, Environment Bank Biodiversity Impact Calculator or any metric which the Council subsequently adopts formally. New development should incorporate opportunities to enhance biodiversity, wherever possible*'

(b) '*The council will grant permission for developments that create, conserve or enhance biodiversity and improve access to nature, subject to other policies in the plan. In particular, the council will support the creation of:*

(i) *1 hectare of new woodland.*

(ii) *2 hectares of new chalk grassland at suitable locations.*

(iii) *Various habitat enhancements identified through the council's Biodiversity Action Plan and the Catchment Plans for the River Wandle and Beverley Brook.*

(c) *The council will not grant planning permission within or adjacent to a SINC where there would be a damaging impact on the nature conservation value or integrity of the site, unless:*

(i) *the need for and the benefits of the development clearly outweigh the harm.*

(ii) *where there are no reasonable alternative sites that would result in less harm.*

(iii) *where development can demonstrate no net loss for biodiversity and, where possible, net gains for biodiversity by providing mitigation and/or compensation measures.*'

To determine and quantify the difference between mitigation for on-site development and what are actually enhancements to provide a net gain, the Biodiversity Accounting metric will be utilised for all developments that are judged by the Biodiversity Team to result in a net loss, or, could provide a quantifiable net gain. This is further elaborated on in the Validation Checklist: Validation Information for Biodiversity[46].

2.1.3 National Compliance

Government policy on no net loss and net gains for biodiversity are laid out in The Natural Environment White Paper - *The Natural Choice: Securing the Value of Nature*[47], *Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network*[48] and the newly released *A Green Future: Our 25 Year Plan to Improve the Environment*[49].

[46] Add link to planning pages when up and running

[47] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228842/8082.pdf

[48] http://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

[49] http://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

Further, the construction industry and developers are also driving No Net Loss outcomes, as laid out in *Biodiversity Net Gain: Good Practice Principles for Development*[50].

In the Government's Spring Statement[51] (March 2019) it decreed that Biodiversity Net Gain (BNG) will be mandated to all Local Planning Authorities. Sutton will need to reflect on how this will be implemented and whether it will supersede the adopted Technical Guidance Note.

2.2 Green Infrastructure

Green Infrastructure (GI) is a term now widely applied to include any area or process that will contribute to Ecosystems Services integrated into spatial planning. GI aims to enhance nature's ability to deliver multiple valuable ecosystem goods and services, potentially providing a wide range of environmental, social, climate change adaptation and mitigation, and biodiversity benefits.

3. Current Status

3.1 Area & Distribution

It is not possible to quantify the area or distribution of Green Infrastructure within Sutton at the time of writing, as no mechanism for recording it has been utilised by the borough. Biodiversity Accounting and the related Green Space Factor[52] are the proposed mechanisms for recording the type, quality and area of Green Infrastructure / habitat created through developments.

3.2 Sutton's Green Infrastructure

Green Infrastructure in Sutton comprises a variety of modified habitat types. The four main types are 'living roofs', 'green walls', soft landscaping and SuDS:

3.2.1 Living Roofs

Living roofs are known by a number of epithets. They can be 'sky gardens', 'green', 'brown' or even 'blue' roofs, depending on the proposed function.

Living roofs, however they are known, are categorised by the depth of substrate utilised and the vegetation cover the substrate will support. In order of substrate depth, these are *extensive systems*, *semi-intensive systems* and *intensive systems*.

- **Extensive systems** = shallow substrate: Generally, substrate depths are between 60 and 200mm, with weights of 60-150kg/m^2. Extensive systems are those that generally provide a greater biodiversity value and are composed of several subdivisions:

[50] https://www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf
[51] https://www.gov.uk/government/news/spring-statement-2019-what-you-need-to-know
[52] https://moderngov.sutton.gov.uk/documents/s59852/9%20Local%20Plan%20Technical%20Guidance%20Note%20-%20Appendix%20A.pdf

- *Sedum roofs* - the commonest 'off-the -shelf' solution and often the cheapest. Sedum roofs are lightweight, with very shallow substrate (50-70mm) depths. Sedum species are wind and drought resistant and provide a 'green carpet' but provide very little value for local biodiversity.
- *Hybrid sedum* - utilising slightly deeper substrate that pure sedum roofs, hybrid sedum systems can incorporate a number of seeds or plug plants of wildflowers. These systems can provide an increase in nectar, pollen and larval host plants over pure sedum roofs, as well as increased structure through differing plant heights
- *'Green' / 'brown'* - These 'classic' roofs utilise a deeper substrate (usually, between 80-150mm across the roof) to create wildflower rich dry grassland or replicate 'open mosaic habitats' of brownfield sites. They utilise about 80% commercial crushed brick or other high quality reclaimed materials, with 20% organic matter mixed in. They can be left with substantial amount of bare ground for species such as black redstart ('brown roofs) or more heavily seeded and planted as dry meadows ('green roofs'). These are now starting to be known as **Extensive Biodiverse Roofs** and are the preferred option for the London Borough of Sutton to create high quality habitat[53] within the urban environment.
- *'Biosolar'* - the combination of an extensive biodiverse roof with photovoltaic solar panels. The varying shade, water availability and humidity levels affect the species and vigour of vegetation, possibly creating increased niche availability for species, whilst the vegetation reduces temperature fluctuations, enabling the PV panels to operate with greater efficacy, through being stabilised at around 25^0C for longer periods.
- *'Blue' and 'blue/green'* - these roofs are now seeking to incorporate increased water retention on roofs, not just through slowing and reducing water by substrate and vegetation storage and evapotranspiration but through the creation of wetlands on roofs. Most of these, currently, are designed to be ephemeral but semi-intensive and intensive options are the next logical step. As with the creation of ponds at ground level, 'blue/green' options are likely to provide high quality habitat in a short space of time.

- **Semi-Intensive systems** = medium substrate: Substrate depths are between 120-250mm and weights are between 120-200kg/m^2. Most semi-intensive roofs replicate garden borders, with flower and shrub planting and are often used mainly for aesthetic purposes. However, increasing native species is highly likely to increase the biodiversity value of semi-intensive and intensive systems.
- **Intensive systems** = deep substrate: Substrate depths are usually between 150-400mm and weights are between 180-500kg/m^2. Intensive roofs form formal rooftop parks and gardens, with tree and shrub planting, although can also be utilised for urban agriculture.

53 https://www.buglife.org.uk/sites/default/files/Creating%20Green%20Roofs%20for%20Invertebrates_Best%20practice%20guidance.pdf

3.2.2 ‘Green’ Walls

‘Green’ or ‘living’ walls are vertical structures of vegetation. The simplest and least expensive forms are *direct greening* solutions. These employ self attaching climbing plants growing directly up the building / vertical structures substrate, as ivy does, from ground level or a suspended suitable ledge or container with soil.

The next simplest form is *indirect greening*, which uses a support system of a trellis or wires to train climbers growing up the support system, leaving an air gap between the vegetation and the building fabric. This can incorporate an increased variety of species, such as *Clematis*, *Jasminum*, *Rosa* etc. but is limited in the height able to be achieved, depending on the species.

Living wall systems are engineered solutions that provide irrigated planting modules attached to a wider supporting frame. These systems can dramatically increase the species of plants available, as they do not need to be climbers but do require increased watering and maintenance.

Many *living wall systems* contain very few, if any, native species, concentrating more on continuous year round vegetation cover .

3.2.3. Soft landscaping

Soft landscaping is an integral part of many planning applications but often seeks to provide ‘single benefits’ to the development. These are often an aesthetic value with year round ‘interest’, coupled with low management requirements. The majority of soft landscaping schemes submitted through planning applications contain very low percentages of native species, if any. Most soft landscaping is likely to have minor benefits for biodiversity, in regards some pollen and / or nectar availability and habitat structure but can be significantly improved.

Basic ecological principles can be employed to improve soft landscaping:

- **Physical structure** - providing a greater range of vegetation types increases niche availability. All soft landscaping should aim to have canopy trees, understory trees and / or shrubs, tall grass areas, field layers (up to about 2’ high) and ground cover layers / short grass. Bare substrate is also often important, as are water sources. By creating structural heterogeneity, abiotic conditions are modified, including shelter areas, changing humidity levels, thermal inculcation levels etc. Each of these variables increases the opportunity for species to exploit the available resources. The BUGS 1 & 2 projects[54] suggest that mature trees and vegetation ‘*in urban gardens could be the best way of enhancing abundance in the widest possible range of taxa*’ [55]. Density of planting is also of significant importance in encouraging species.
- **Native species** - Native vs. non-native species arguments have been raging for years between various parties. Most UK gardens contain in the region of

[54] http://www.bugs.group.shef.ac.uk/BUGS1/bugs1-index.html
[55] http://www.bugs.group.shef.ac.uk/BUGS1/sources/bugs-reprint8.pdf

70% non-native species and has been demonstrated[56], an 'average' UK garden can contain large numbers of species. Further work, including the recent RHS Plants for Bugs[57] project, recommends a preponderance of native species, with the ability to include a mix of northern hemisphere and southern hemisphere species, to increase niche availability and to increase resource opportunity times (particularly late flowering southern hemisphere species). Given that UK invertebrates are adapted to UK plant species, particularly around larval host plants, this should not come as a surprise but has not previously been fully quantified.

Many soft landscaping schemes presented as part of planning application propose the same restricted suite of plant species i.e. there appears to be a generic palette utilised by landscape architects, with little consideration for site specific conditions or multifunctional benefits.

As such, under this Habitat Action Plan, soft landscaping schemes within Sutton will be encouraged to plant a wide range of native plant species that provide multiple benefits for animal species (nuts, fruit, nectar, pollen, larval host plants etc.), to plant as much mature vegetation as possible and to use a preponderance of native species, with some exotics to broaden the resource opportunities.

These principles are also to be applied to Green Infrastructure, particularly Extensive Biodiverse Roofs, where the creation of drought tolerant dry grassland or Open Mosaic Habitats and associated hardy species can provide significant benefits to invertebrates and birds, in particular.

3.2.4 Sustainable Urban Drainage Systems (SuDS) are another form of GI that can provide biodiversity benefits and are mainly covered under the Rivers and Wetlands HAP.

3.4 Trends

Numerous policies and guidelines now exist around the use of GI. Internationally, the benefits of GI are being more and more quantified, with positive impacts on air quality, Urban Heat Island Effect (UHIE) & urban cooling, flood prevention, pollution control & reduction and urban biodiversity. As such, GI measures are being incorporated into more and more developments, following the provided guidelines and policies, although the London Borough of Sutton does not, as yet, have information on how many have actually been delivered.

However, there is still an amount of resistance on the part of some developers to fully embracing the benefits of GI. The main arguments tend to be around the cost of implementing GI and the space available for GI.

Given the possible impacts of Biodiversity Accounting and the Green Space Factor on planning applications, on site mitigation, through GI, needs to be fully explored

[56] http://www.wlgf.org/Jennifer%20Owens%20studies.pdf
[57] https://www.rhs.org.uk/science/conservation-biodiversity/plants-for-bugs

during the planning development process. Otherwise, offsetting is likely to apply and may incur a substantial financial impact.

4. Specific Factors Affecting the Habitats

4.1 Major factors

- Type of GI installed
- Cost of delivery
- Ongoing maintenance / Access for maintenance / Monitoring
- Isolation of sites
- Climatic changes

4.2 Supplementary factors

- Atmospheric pollution and nutrient enrichment
- Health and safety requirements for management
- Invasion of aggressive non-native species
- Opportunities for complementary recreational use

5. Current Action

5.1 Legal Status

'Open Mosaic Habitats on Previously Developed Land' (aka 'Brownfield Land') is a Priority Habitat under Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006. Therefore, creating replica Open Mosaic Habitats through the creation of extensive biodiverse roofs ('brown' roofs) can be considered as working towards the creation of a Priority Habitat.

Through Biodiversity Accounting, extensive biodiverse roofs are weighted as 'moderate distinctiveness' (value of 4) to account for this replication of Priority Habitat, even though they are not remotely semi-natural habitats.

Other Green Infrastructure, although not remotely semi-natural habitats, are also weighted higher than 'standard landscaping / amenity planting', to encourage the use of these items to address multifunctional issues, as outlined previously and in more detail it the Technical Guidance Note.

Through the NPPF, No Net Loss and Net Gain are already enshrined in development and the Government has stated that Biodiversity Net Gain be mandated.

Given the likely time lag in delivering a national roll out of Biodiversity Net Gain, Sutton will continue to deliver on the Technical Guidance Note until such time as this is required to change to comply with a national mandate.

5.2 Mechanisms targeting the habitat

5.2.1 Historical Management

No details are available as to work that has been undertaken in regards to the creation and management of installed green infrastructure. One of the aims through this HAP is to create a database of what is currently in place (and will be created), so that checks can be made to ensure these not only fulfil the planning conditions / obligations but also are fit for purpose and deliver No Net Loss and the Green Space Factor.

5.2.2 Resource Availability

Through the Technical Guidance Note and Local Plan Policy 26, major developments and those likely to cause impact on local biodiversity will be subject to Biodiversity Accounting and No Net Loss and be required, through s106 obligations to deliver No Net Loss and Net Gain for the life of the development / in perpetuity. Therefore, the provision of habitats will be resourced by the developer.

In regards assessment of planning applications and the requirement to cost up projects for delivery, should compensation monies be made available, these sit within the Biodiversity Team but require further resourcing, particularly in regards to the detailed costing up of projects, Habitat Opportunity Mapping and post-completion checks of habitats. It is hoped that some compensation monies can be found to employ an officer specifically to deal with the delivery of Biodiversity Accounting and No Net Loss.

6. Flagship Species

These species are indicators of higher quality environments and, often, are highly distinctive and recognisable, for even the untrained.

Common Name	Latin	Brief Description
Black redstart	*Phoenicurus ochruros*	A distinctive species of industrial urban landscapes and a target species for 'Open Mosaic Habitats' at both ground and roof level
Chives	*Allium schoenoprasum*	Familiar woodpecker, males make characteristic 'drumming' on dead hollow branches in spring to attract females
Thrift	*Armeria maritima*	A classic cliff-top coastal species that can thrive in the dry and windy conditions of biodiverse roofs. It is a cushion forming species with

		bright pink flowers, great for pollinators
Common rockrose	*Helianthemum nummularium*	A typical species of short turf chalk downland and the erstwhile main food plant for the brown argus butterfly, the bright yellow flowers of common rockrose provide nectar and pollen to invertebrates at roof level in replicated grassland or in rockeries at ground level
Bumblebees	*Bombus* spp.	Busy buzzing bundles of hair, event scarce bumblebee species have been recorded on flower rich extensive biodiverse roofs

7.0 Objectives and Actions

This action plan aims:

- To promote the addition and management of Green Infrastructure within developments
- To provide a mechanism for the delivery of habitat creation within Policy 26 Biodiversity of the Local Plan 2016-2031
- To quantify losses and gains of habitats through the planning process

Rationale:

The urban fabric has previously been dominated by 'grey infrastructure', man made structures, with consequential losses of semi-natural habitats through urban expansion and the reuse of previously developed land, which may have had biodiversity value ('open mosaic habitats', also known as brownfield sites).

This plan seeks to increase the amount of GI associated with appropriate development sites to such an extent that No Net Loss and Net Gain can be quantified and delivered, in situ. In the circumstances where on site mitigation to deliver No Net Loss cannot be achieved, Sutton will seek compensation monies to enable offsite habitat creation and restoration within the borough, in accordance with actions outlined within this Strategy.

7.1 Offsetting / Compensation Costs

Offsetting / compensation costs are highly variable. Sutton has calculated the general costs of habitat creation (including the application of risk factors) across 5 habitat types to determine a baseline cost per hectare of habitat to be created[58].

[58] See Biodiversity Accounting Costs [document location to be determined]

The approach taken is that of Full Cost Recovery. This differs from costs applied by Warwickshire County Council, in that they apply costs derived from agri-environment schemes (Higher Level Stewardship etc.). Agri-environment scheme costs are 'incentives' for farmers / land managers to undertake specific works.

Agri-environment schemes generally assume that farmers / land managers have access to the necessary machinery to undertake habitat management and creation work. If one has to contract work, as is often the case for an urban area or Local Authority, the prices are significantly higher.

For instance, the London Borough of Sutton receives £200 per hectare of land entered under HK7 Restoration of Species Rich Semi-natural Grassland through the Higher Level Stewardship (HLS) scheme. The actual cost to LBS to pay a contractor for undertaking one hay cut (the minimum prescribed action required) is about £350 per hectare.

The above example is an incentive for specific *management*. The same applies to habitat *creation*. HLS will provide £280 per hectare for HK8 Creation of Species Rich Semi-natural Grasslands. To purchase suitable commercially available seed to cover 1ha of prepared ground, suitable for a species rich grassland, is in the region of £1,800. Ground preparation costs to ensure the seed will take correctly cost between £650 and £40,000 per hectare. Soil evaluations to determine if the site is suitable for species rich grassland are about £200. If the site requires grazing, then fencing, water connections, troughs etc. all need installing. In total, the mean cost for creation of 1 ha of species rich grassland within Sutton, under full cost recovery, is likely to be between £10,000 and £50,000.

Therefore, the London Borough of Sutton has to implement a Full Cost Recovery pricing policy, if delivery of No Net Loss is to be achieved and the Borough is not subsidising development.

Compensation costs will be based on the habitats impacted. If none of the broad habitats which have had costs calculated are to be affected, a mean value per 'biodiversity unit' will be applied, to allow for flexibility in delivering habitat creation or restoration projects, as identified within this document.

7.2 Habitat Action Plan Targets:

GI1 To implement No Net Loss and Net Gain within all developments subject to the Technical Guidance Note

GI2 To create new high quality habitats

7.2.1 Actions

Code	Action	Lead
GI1	**To implement No Net Loss and Net Gain within all developments subject to the Technical Guidance Note**	
GI 1.1	To create a recording mechanism for all recommended GI within planning applications **Target:** 100% of planning recommendations captured per reporting year by 2020	Strategic Planning/ Senior Biodiversity Officer
GI 1.2	To undertake spot checks on GI to check for compliance with planning conditions **Target:** 10 green infrastructure planning conditions per annum until 2024	Planning Enforcement / Senior Biodiversity Officer
GI 1.3	To create a green infrastructure 'condition' assessment for rapid checking of green infrastructure performance and care **Target:** Condition assessment created by 2021	Senior Biodiversity Officer / Planning Enforcement
GI2	**To create new high quality habitats.**	
GI 2.1	To utilise Habitat Opportunity Mapping to determine the best locations for new habitat (either as extensions to existing habitat or as corridors or stepping stones). **Target: HOM for the borough completed by 2021**	GiGL / Strategic Planning / Senior Biodiversity Officer
GI 2.2	To create 1ha of woodland in a suitable location (see WS3) **Target:** 1ha by 2024	Strategic Planning / Senior Biodiversity Officer / Senior Arboricultural Officer
GI 2.3	To create 2ha of chalk grassland in a suitable location(s) (see CG3) **Target:** 2ha by 2024	Strategic Planning / Senior Biodiversity Officer /

GI 2.4	To undertake river restoration and wet grassland creation projects (see Rivers and Wetlands)	Senior Biodiversity Officer / Neighbourhood Services