



BUSHY PARK MANAGEMENT PLAN

The Royal Parks

**DRAFT
2014 - 2024**

**Bushy Park
Management Plan
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**Prepared
by The Royal Parks**

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Consultation Draft

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GLOSSARY

BAP – Biodiversity Action Plan

BARS- Biodiversity Action Reporting System

BSI - British Standards Institute

DCMS -Department of Culture Media and Sport

DEFRA – Department of Environment, Food and Rural Affairs

DPD – Development Plan Document

FBHP – Friends of Bushy & Home Parks

FSC – Field Studies Council

GiGL - Greenspace Information for Greater London

GIS – Geographical Information Systems

HAP – Habitat Action Plan

HLF – Heritage Lottery Fund

KPI - Key Performance Indicators

LBAP – Local Biodiversity Action Plan

LBRuT – London Borough of Richmond-upon-Thames

LDF – Local Development Framework

LM – Landscape Maintenance

MPS – Metropolitan Police Service

NERC- National Environments and Rural Communities

NNR – National Nature Reserve

NPL – National Physical Laboratory

NPPF – National Planning Policy Framework

NVC – National Vegetation Classification

OPAL - Open Air Laboratories Project

PPG - Planning Policy Guidance Notes

PPS - Planning Policy Statements

PSA – Public Service Agreement

RCHME - Royal Commission on Historic Monuments in England

RSPB – Royal Society for the Protection of Birds

RO OCU – The Royal Parks Operational Command Unit (Metropolitan Police)

SAC – Special Area for Conservation

SAM – Scheduled Ancient Monument

SHAEF – Supreme Headquarters Allied Expeditionary Force

SMI – Site of Metropolitan Importance

SSSI- Site of Special Scientific Interest
TRP – The Royal Parks
UDC – Urban District Council
UDP – Unitary Development Plan

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PART I: CONTEXT AND RESPONSIBILITIES

I.0 INTRODUCTION

Bushy Park

- 1.1 Bushy Park covers some 450 ha and is the second largest Royal Park in London. Lying within a loop of the River Thames, directly to the north of Hampton Court Palace, the history of the Park is inextricably linked to the Palace. The Park was originally enclosed during the fifteenth and sixteenth centuries as part of a large medieval deer park which, with Home Park, surrounded the Palace, and its landscape reveals the influence of successive monarchs who resided at the Palace. Up until 1989 Bushy Park was managed with Hampton Court when the management responsibility was split to the Royal Parks Agency (Bushy Park) and the Royal Palaces Agency (Hampton Court).
- 1.2 The landscape of Bushy Park is a unique historical resource. Its emparkment preserved the underlying medieval landscape of common arable farmland and today the large baulks and ridge and furrow can still be identified within the parkland. They are considered to represent a 'classic' medieval open field system which provide a very important archaeological resource in Greater London. Overlying the medieval farmland and parkland landscapes are the formal avenues and watercourses of the seventeenth and eighteenth century designed landscape, with the centrepiece being the Diana Fountain and the magnificent Chestnut Avenue. These elements make Bushy Park a nationally significant historic landscape, which is reflected in its listing at Grade I on English Heritage's Register of Historic Parks and Gardens of Special Historic Interest.
- 1.3 Bushy is also important within the context of London for its nature conservation interest, with its long established acid grassland, parkland trees, woodland and waterways. It is a Greater London Authority designated Site of Metropolitan Importance for Nature Conservation (M084). SMIs are of the highest priority for protection, and contain the best examples of London's habitats, sites with particularly rare species, rare assemblages of species or important populations of species, or sites of particular significance within otherwise heavily built-up areas of London. The identification and protection of Metropolitan Sites is necessary, not only to support a significant proportion of London's wildlife, but also to provide opportunities for people to have contact with the natural environment¹. Bushy Park is also a proposed Site of Special Scientific Interest and notification by Natural England is pending.
- 1.4 The park is a particularly valued resource for local people, for the wide open spaces of the deer park and the attractions of the Woodland Gardens and ponds circuit, while the Stockyard is host to a range of education and community uses.
- 1.5 The essential character of Bushy Park remains as a deer park, of extensive scale and high quality, enriched by the formal avenues but still fundamentally a landscape that feels rural and apart from its modern surroundings.

¹ Valuing Greenness: Green spaces, house prices and Londoners' priorities, Greater London Authority, June 2003 ISBN 1 85261 494 3

The Management Plan Context

1.6 The Management Plan has been prepared within the context of the following The Royal Parks Plans, Strategies and Guidance:

- TRP Framework Document (April 1993)
- TRP Corporate Plan (2009-2011)
- TRP Citizen's Charter
- TRP Sustainability Reports (2006)
- TRP Major Events Strategy (2008-12) and other events/filming reports
- TRP Annual Reports
- TRP Landscape Design Guide (2010)
- TRP Tree Risk Management Policy and Procedures (2007)
- TRP Visitor Reports (2009) and updates
- TRP Green Travel Plan (2009)
- TRP Education Strategy (2010-12)
- TRP Volunteer Strategy (2010)
- TRP and Other Open Spaces Regulations (1997)
- TRP Sports, Health and Wellbeing Strategy (2010-2012)
- TRP Play Strategy (2011-2015)

Aims of the Bushy Park Management Plan

- 1.7** The Management Plan provides the mechanism to conserve and enhance the essential and varied character of Bushy Park. It provides the long term framework and context for its future management to take the park forward for the next 100 years. It develops a more detailed short term plan of priorities and actions to be implemented over the next ten years; and it uses the subdivision of character areas as a management tool in recognising the relative complexities of historical layering and locally distinctive character of different areas within the Park.
- 1.8** It is prepared within the framework of the Bushy Park Strategic Management Plan (LUC, 1999) and the Historic Survey and Landscape Management Plan (LUC, 2001) and has been informed by the Royal Parks Review Group (1996), and by Stakeholder Workshops held in November 1999 and July 2002 as well as a continuing programme of ecological surveys.

- 1.9 The plan also acknowledges the 'Biodiversity Duty' defined in Section 40 of the Natural Environment and Rural Communities (NERC) Act (2006). *"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity"* This replaced and extended S74 of the Countryside and Rights of Way Act 2000 (which put a duty on government only).
- 1.10 The Management Plan describes and evaluates the resource, defines management aims and objectives and develops a suite of policies to guide long-term management. It is primarily intended as a tool to be used by the park management team, but will also serve other functions, such as informing the public and raising awareness.
- 1.11 It is intended that the plan is strategic in nature, setting out the vision for the Park and broad objectives to guide management. This can then be used to prepare detailed specifications for management, and allow budget preparation, allocation and work programming as outlined in the operational plan.
- 1.12 The special historical, architectural, natural or ecological interest of the landscapes, buildings, structures and archaeology has been based on detailed analysis of the Park considering:
- the origins and development of the topographic framework;
 - the character and hierarchy of places and landscape quality;
 - the contribution made by trees, planting and other natural or cultivated elements to the character and ecology of the area;
 - the prevailing (or former) uses within the area and their historic patronage;
 - the importance and sensitivity of known archaeology and wildlife in the area and the potential for discovery of other significant concealed features;
 - the contribution made by biodiversity to the area;
 - the architectural and historic quality, character and coherence of the buildings and structures and the contribution they make to the special interest of the Park;
 - the relationship of the landscape to built environment including definition of significant landmarks, vistas and panoramas, where appropriate;
 - the extent of loss, intrusion or damage: features which detract from the special character of the area (and which provide opportunity sites where change is to be encouraged); and
 - climate change and its impact on the built and natural environment.
- 1.13 The Royal Parks has an obligation to conserve biodiversity under the Natural Environment & Rural Communities Act 2006 and constantly aims for the highest standards of conservation. The Royal Parks will ensure that all contributing to the

management of the landscape, environment, heritage and vistas are aware of the site-specific special interest they hold in trust.

Structure of the Plan

1.14 The plan is structured as follows:

- a summary of the background to the Park, including its context in the wider environment and strategic framework;
- a summary of the Park's historical context;
- a short description of the Park which identifies the main management issues for the management plan;
- a vision for the Park which sets out what TRP wants to achieve;
- a series of management objectives and actions which aim to achieve the vision. Some policies are "park-wide", others relate to specific areas;
- a summary of the implementation of the plan i.e. how the objectives and actions will be achieved and monitored.

Note on the Heritage Lottery Projects

1.15 In 2005, The Royal Parks secured £7.1m of funding and support through HLF for detailed design and procurement of some 67 projects and associated educational, volunteer and outreach activities. The majority of these projects were completed at the end of 2009. A summary of the changes arising from this and other developments is given in Appendix 6.

The Management Plan

1.16 The emphasis of this current Management Plan has accordingly shifted significantly when compared with the previous (2003) edition and as a result of these changes and investments through the HLF project. Whereas the 2003 Plan identified a Park which was suffering from a lack of investment, the current plan is in the context of having caught up much (but not all) of this backlog and delivering new facilities, some robustness and other enhancements. The plan accordingly now shifts to one of sustaining and locally enhancing from this positive base.

1.17 However it would be wrong to assume that all issues have been fully resolved. Indeed, there are some areas of unfinished business. For example, in making the positive transition to reorganized parking arrangements at Clapperstile and Broom Clumps, and with the continuing objective of reducing and longer term phasing out of the car parking at Upper Lodge Road. Also in some areas, such as the Woodland Gardens, the success of the Welcome Centre as a focal point is raising its own problems, with the honeypot effect certainly drawing in a wider spectrum of users but also now intruding – in both wear and tear as well as atmosphere – on the immediate context within the Woodland Gardens. Increased awareness of biodiversity significance in Bushy, as a result of the continuing programme of ecological surveys (including those included in the HLF project) and the volunteer work of the Bushy Park Wildlife Group, also sets an agenda for more informed and sensitive management in the face of

increased, more widespread activities and raised public expectations of Bushy's purpose and delivery.

1.18 The Heritage Lottery Fund (HLF) project delivered a wide variety of repairs, enhancements and new facilities through the program of works undertaken as some 9 separate contracts between Dec 2006 and May 2010. The headline projects of significant change included:-

- The new Welcome Centre (café, toilets, information centre and resource room, with adjacent Broom Clumps car park) providing a new visitor focus and facilities in the core of the park and at the entrance to the upgraded Woodland Gardens.
- Restoration of the Water Gardens at Upper Lodge, opening this area to public access for the first time.
- Restoration and re-gilding of Diana Fountain including re-servicing the water supply.
- New signage and furniture repairs and improvements throughout the park.

1.19 However much effort was also put into repair or improvement of existing fabric – paths, drainage, planting, watercourses and servicing / improving gateways and entrances. Such works are relatively low key, have avoided prominent change of character but have readily been absorbed into the Park. Overall, the project set out to make the Park more robust and more accessible while respecting heritage and without damaging its character. In these terms the HLF project has been successful and well received. It has also caused considerable amendments to the detail of management issues and recommendations in the previous (2003) edition of the Management Plan, as many of these issues have been addressed.

1.20 Additionally, the whole process of project identification, development and design was paralleled and informed by a substantial investment on stakeholder consultation. Some 25 consultation meetings were held with Stakeholder Interest Groups (SIGs) through the whole course of project definition, procurement and evaluation. Although much championed by the Friends of Bushy and Hampton Court Home Parks, the consultation process went much wider and into outreach; interest and participation have remained high, also contributing to significant volunteering activities and published information. Out of this process have emerged the successful and continuing garden volunteers program, prompted and managed by TRP, and the setting up and manning of the information centre at The Welcome Centre with the existence of the Friends. The Friends also contributed to research and project development of the Water Gardens.

The Conservation Statement

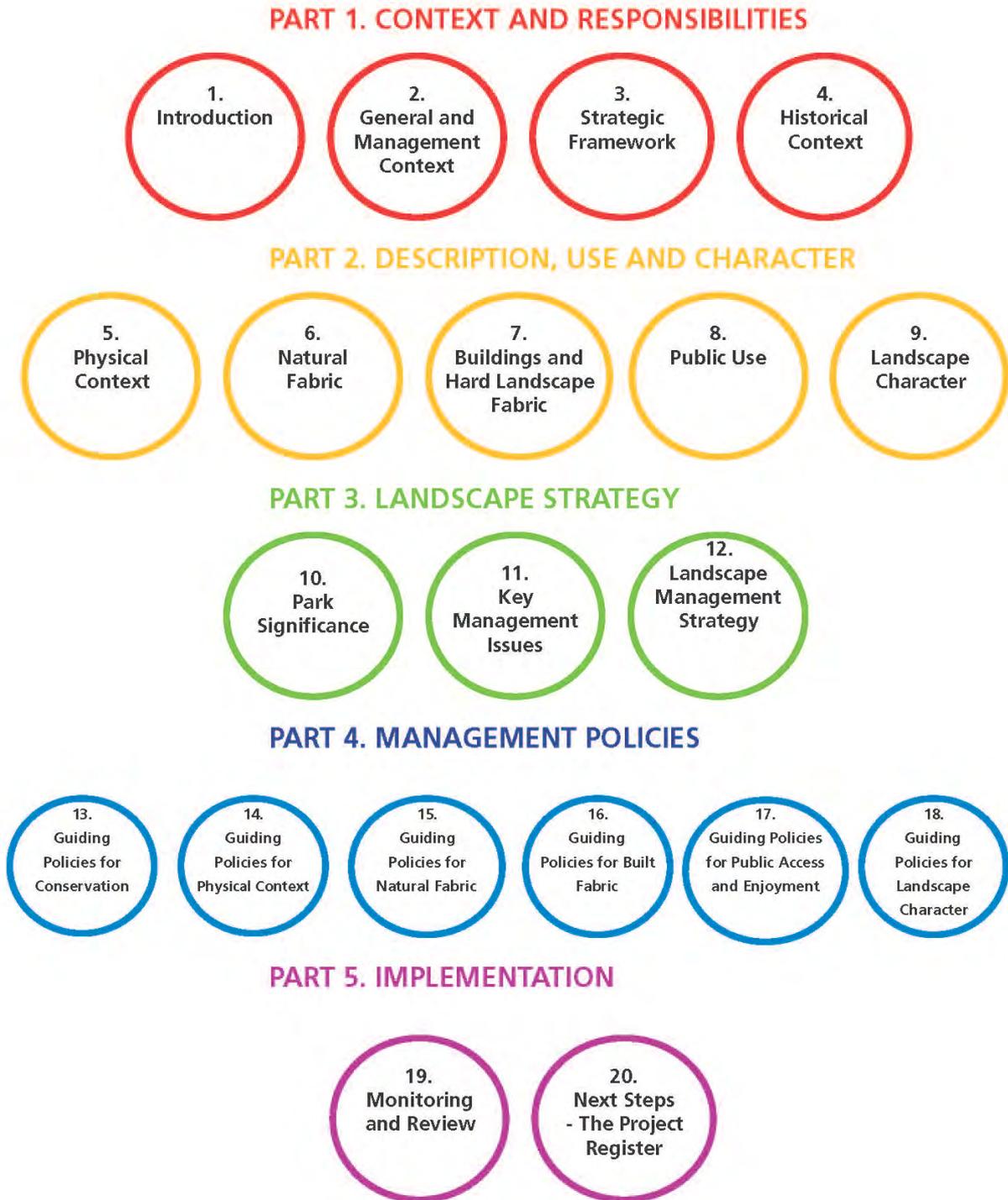
1.21 The purpose of The Royal Parks is to fulfil its responsibility to protect, conserve and enhance the unique landscape, environment, ecology, wildlife, heritage and vistas of the eight Royal Parks in London while developing active and creative policies to encourage wider access to them and to increase opportunities for enjoyment, delight,

sanctuary, information, education, creativity and healthy recreation for everyone, now and in the future.

- I.22 This conservation statement seeks to ensure that historic landscapes, buildings, structures and archaeology are protected, conserved and enhanced notwithstanding improved access and increased utility.
- I.23 The Royal Parks are committed to protecting, conserving and enhancing the landscape, environment, ecology, wildlife, heritage and vistas which have been identified as being of 'special interest' as set out in the policy statements and management guidelines which follow. The policy statements comprise a character appraisal and management guidelines for each element identified as being of special interest.

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Figure I.1 Structure of the Management Plan



2.0 GENERAL AND MANAGEMENT CONTEXT

Location

- 2.1 Bushy Park is located in outer south-west London and lies wholly within the London Borough of Richmond. The Park covers 450 ha (1099 acres) and is situated on low-lying clays and gravels forming part of the Thames floodplain. The Park is enclosed within a loop of the River Thames and is surrounded by the suburbs of Teddington to the north, Hampton Wick to the east and Hampton Hill and Hampton to the west. To the south, lie the palace, formal gardens and parkland of Hampton Court.
- 2.2 Bushy Park forms one of a series of parklands and open spaces linked by the Thames which include Kew, Syon, Osterley, Richmond Park and Marble Hill. Its location is shown in Figure 2.0.

Existing TRP Management Framework

- 2.3 The Royal Parks are owned by The Queen in right of the Crown. TRP is a government Executive Agency of the Department for Culture Media and Sport (DCMS).
- 2.4 As part of the Comprehensive Spending Review 2007, the Government has changed the framework for PSAs (Public Service Agreement) and there have been 30 cross-governmental PSAs for the period 2008-11.
- 2.5 In 2011 it was agreed by DCMS that the Greater London Authority (Mayor's Office) should have more input into the strategy for the agency. In early 2012 a board appointed by the Mayor was tasked to provide strategic guidance for the agency. The new Chief Executive Officer will work with the board and agency on strategic direction 2013 onwards. Alongside, the management plan is working to the DCMS Departmental Strategic Objectives (DSOs) designed to complement the PSAs and focus the Department's priorities. The objectives for 2012-2015 are:
- to conserve and enhance the natural and built environment, historic landscape and biodiversity of the parks for the benefit of our diverse audiences and future generations;
 - to strengthen the organisation and its effectiveness by continuing to deliver better value for money and exploring commercial opportunities
- 2.6 To assist in meeting its PSA and DSOs, and within the context of its strategic priorities DCMS sets the objectives for the TRP and its non-departmental public bodies.
- 2.7 The purpose and corporate objectives for TRP are set down within the Agency Framework Document and the strategic direction, within which the purpose will be met, is endorsed by the Royal Parks Board and Ministerial agreement. These are:

Our purpose is:

“To manage the Royal Parks effectively and efficiently, balancing the responsibility to conserve and enhance these unique environments with the creative policies to encourage access and to increase opportunities for enjoyment, and recreation while minimising the need for exchequer funding. .”
Changed?

Our Values

We will:

- treat everyone with honesty, fairness, equality and respect;
- be open, collaborative and professional;
- be proud of who we are, and strive for excellence in all we do;
- demonstrate integrity in our day-to-day work, trusting and empowering each other.

2.7 TRP Corporate Objectives and Key Performance Targets are set out in The Royal Parks Management Agreement for 2012-15. These are:

Corporate Objectives

1. To conserve and enhance sustainably, for the enjoyment of this and future generations, our world class natural and built historic environment and our biodiversity
2. To engage with our visitors, stakeholders and partner organisations and understand their views
3. To manage the Parks efficiently and secure investment in the Parks' assets and services through an appropriate combination of government funding, commercial income and philanthropy
4. To be a centre of professional excellence where people want to work

TRP Key Performance Targets 2013-14

- Secure ISO 14001 accreditation by March 2014.
- Reduce the Accumulated Works Maintenance Liability (March 2010 - as amended 31st December 2012) by £500k by the end of March 2014.
- Increase the area of habitat under active conservation management by at least 2 Hectares by end of March 2014 and undertake a minimum of 4 targeted surveys per annum to measure and record change in species richness and habitat quality.

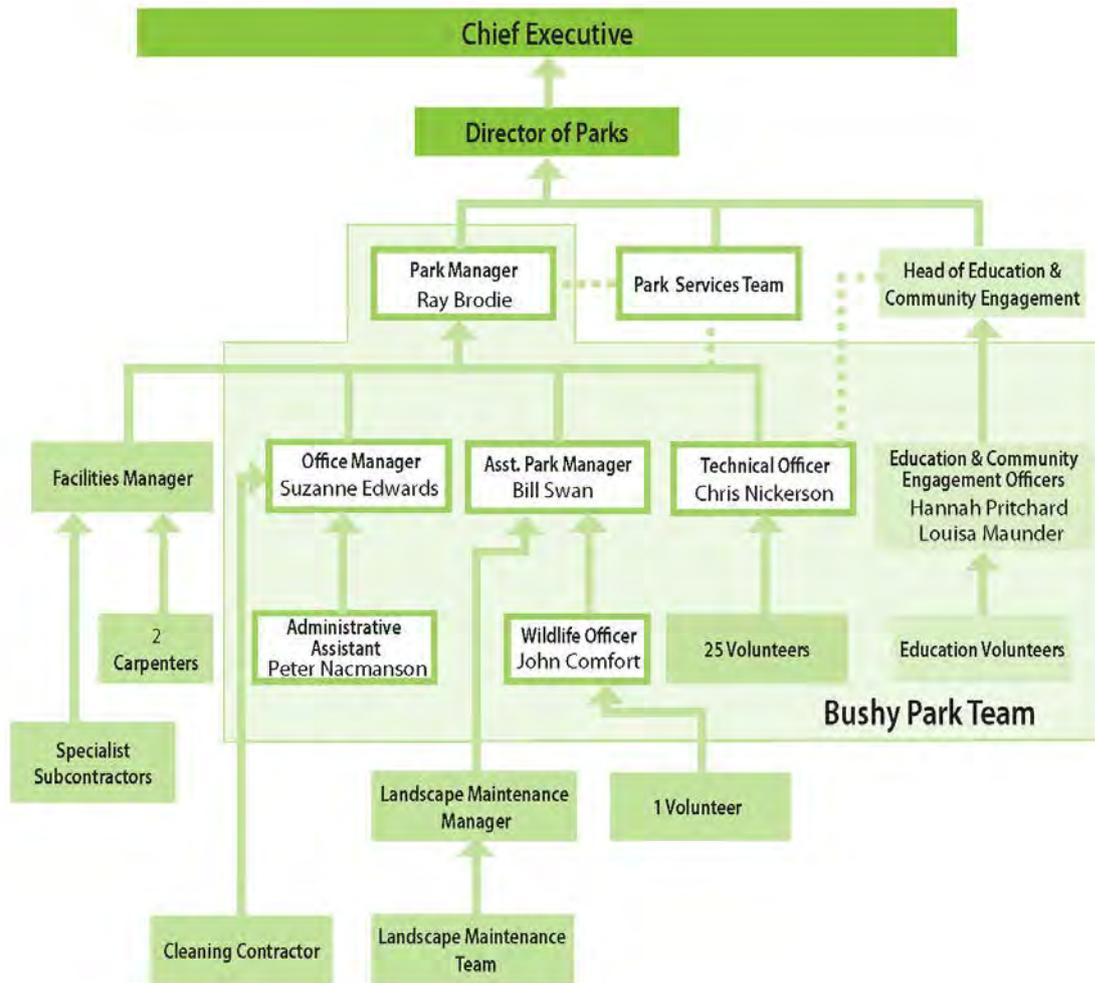
•Complete over 90% of the instructed arboricultural works, relating to Oak Processionary Moth, ahead of the moth emergence in the summer of 2013.

2.8 The Royal Parks' specific objectives also reported each year

Management Structure of Bushy Park

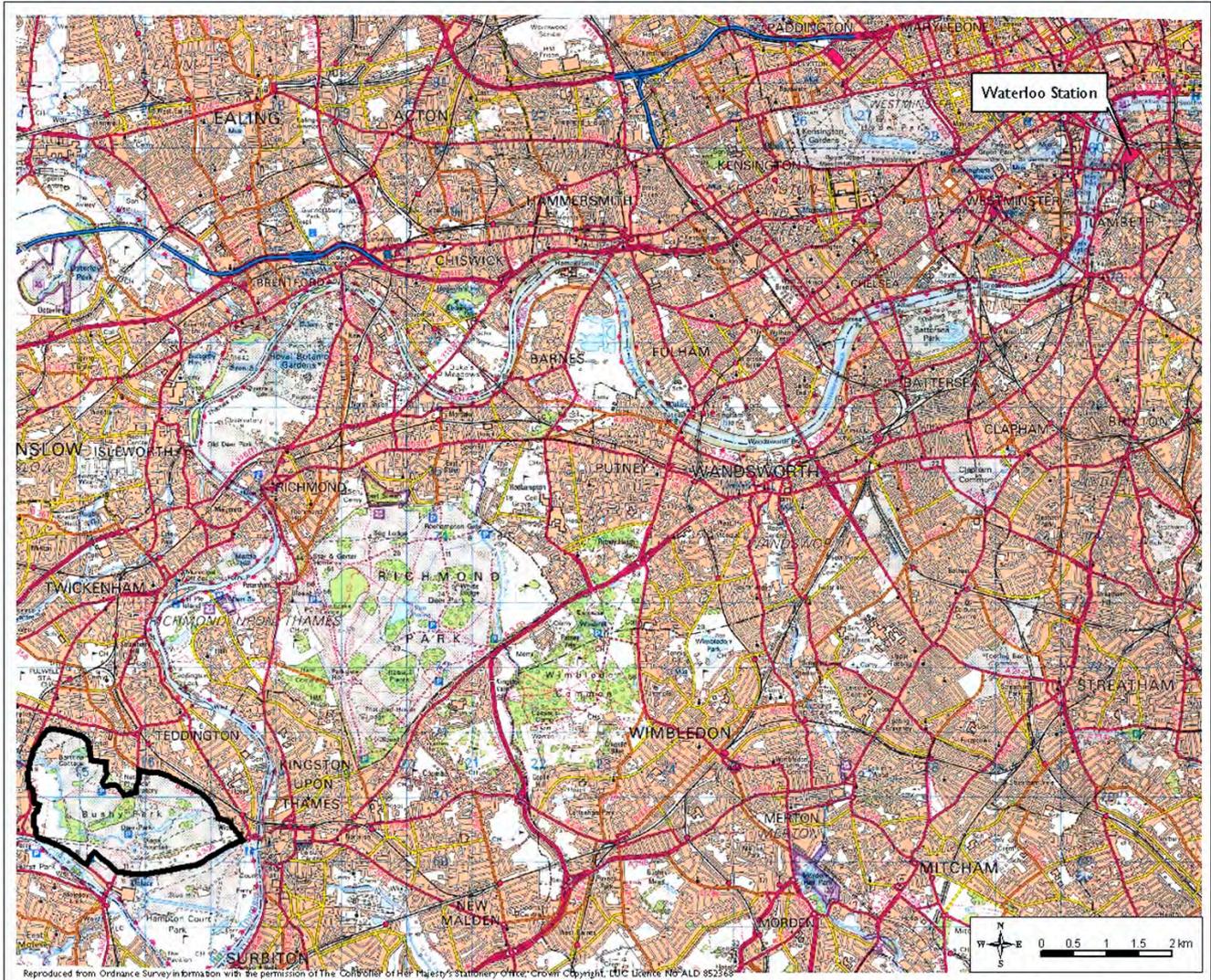
2.9 TRP has the executive responsibility for managing the Royal Parks. Bushy Park has a core TRP staff comprising a Park Manager (with joint responsibility for Bushy and Richmond Parks), one Assistant Park Manager, a temporary Technical Officer, a Head Gardener, an Office Manager, (shared with Richmond Park), two Administrative Officers and one Wildlife Officer (. The Royal Parks Operational Command Unit (TRP OCU), part of the Metropolitan Police, is responsible for policing the Park.

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Figure 2.2 Location of Bushy Park



Landscape Management

2.10 Maintenance of the gardens and wider landscape , including horticultural maintenance and development and minor landscaping works, is undertaken as follows:

- grass cutting, tree planting, woodland management and general estate maintenance is undertaken by the landscape maintenance contractor (currently Fountains Plc);
- tree contractors undertake mature tree maintenance, tree felling and pollarding under the instruction of the Park Management;
- the veteran trees are inspected by arboriculturists managed by TRP Arboricultural Manager and Officers;
- there is one Wildlife Officer based at Bushy Park, employed directly by TRP who, as part of a team of five Wildlife Officers based in other TRP sites undertakes deer and wildlife management ;
- hard works within the park are undertaken under a contract currently with Vinci Facilities, managed by the TRP Works Manager;
- river and bank maintenance for the Longford River as a whole including the section in the park (7km out of the total 19km) is carried out by a team of three personnel employed by Vinci Facilities.
- A new landscape maintenance contract will belet on a 7year term by 1st April 2014 extendable to 10 years. At the end of the term it will be re-tendered.

2.11 TRP are also assisted by consultants (including landscape and arboricultural consultants, catering consultants, marketing consultants and traffic consultants) and draw upon specialist advice from many other groups (e.g. Friends of Bushy Park and Wildlife Group).

Database and Archive

2.12 Landscape maintenance data (principally an inventory of land use and rates for scheduled work) is held in the "CONFIRM" system.

2.13 The Royal Parks Arboricultural Manager has implemented a tree management system using the electronic data management system Arbortrack. The Arbortrack database is populated with the existing trees and is updated regularly through survey work. The system allows tree data to be stored electronically and linked to a mapping system which is compatible with geographical information systems (GIS).

2.14 The Royal Parks Ecology Section currently holds ecological and biological data for the Park. The Royal Parks Head of Ecology has been working with a full time member of staff seconded from Greenspace Information for Greater London (GiGL) to set up and manage a biological recording system (for collection of information on species, habitats and other environmental information) for all of the Royal Parks. The data management system, based principally on Recorder 6 and MapInfo GIS, is now implemented and the process of managing existing and new data is ongoing. The data, now consisting of over 200,000 records (June 2011), are accessible to internal and external customers via information requests from the Ecology Section. Data reports and mapping are customised to meet the needs of the request, Data sharing with

other organisations such as Natural England, the GLA and the Environment Agency partners and consultants working for TRP is now possible (within the terms of the data use agreement with GiGL governing the use of third party data).

- 2.15 The Royal Parks has assessed the feasibility of an organisational GIS system, as current data are generally only accessible from the Ecology Section.. Investment in the IT systems within the organisation is required along with long term investment to manage the system.

Management Issues: Database and Archive

A large amount of information is currently available regarding the Park, and it is important that these data are updated and additional data collected. In view of the importance of the Park as a site of nature conservation interest and proposed SSSI, monitoring of the Park should be increased so as to better inform management practice. The maintenance and continued development of the data management system are vital in helping to meet TRP's statutory obligations to biodiversity conservation.

Sustainability

- 2.16 TRP is also aware that the relationship of the Park to the surrounding area raises wider sustainability issues, including the use of the Park by traffic and access of visitors to and through the Park. In accordance with sustainability principles, TRP supports development of improved public transport links to and possibly through the Park and a reduction in traffic through the Park.
- 2.17 The Royal Parks will strive for the highest standards of environmentally sustainable park management. This will include every effort to minimise energy consumption and emissions, to reduce waste through recycling practices, including composting and to pursue other opportunities for recycling including re-use of water. Application of chemicals will be minimised in compliance with good horticultural practice and use of water resources will be judicious. The importance of the Royal Parks in meeting wider sustainability objectives, for example in maintaining quality of urban life, will be considered in all aspects of Park management and further opportunities for connecting with the wider sustainability agenda will be considered.

Community Involvement

- 2.18 Since the HLF project began there have been some 25 stakeholder consultation group meetings to discuss the progress of the project. TRP continues to work closely with many partnerships and interest groups such as the Friends of Bushy and Home Parks, the volunteer Bushy Park Wildlife Group, the Richmond Biodiversity Partnership and Thames Landscape Strategy.
- 2.19 Other stakeholders include: allotment holders and sports clubs, riding clubs, assisted cycling and those accessing the parks through the education provision (see more information later in the document).

Management Issues: Community Involvement

- TRP should maintain effective communication with interest groups, stakeholders and community groups
- TRP should develop strategies, from the Audience Development Plan to involve principal interests groups (e.g. young people) to the benefit of the Park Encourage The Friends to be involved in information, activities and events.
- Encourages and supports the volunteer projects in the Woodland Gardens, and to expand into the wider park where appropriate.
- Participation in the Thames Landscape Strategy initiatives and other strategic stakeholder project e.g. the GLA All London Green Grid consultation.

External Influences

Getting to the Park

2.20 There are good public transport links to Bushy Park (6 railway stations on routes from Waterloo within 1km; 12 bus services connecting with local centres, Teddington, Hounslow, Feltham, Kingston and Brentford) running along 80% of the park boundary.

Opening Hours

2.21 Park roads (and hence the body of the park) are publicly accessible between 7.30 am and dusk in summer or 7.00 pm in winter.

Accessibility

2.22 Most of the park is open to public access, but there are limited areas of restricted access, as shown on Figure 3. These can be categorised as follows.

Semi-Private Areas restricted to members/fee-paying members of the public include:

- Private Sports Clubs (members);
- The Allotments (allotment holders plus occasional educational visits/Open Days).
- The Water Gardens: are open to public access during daylight hours except on Monday s when they are closed by requirement of The Crown Estate lease

Areas restricted for use by particular user-groups include:

- The Stockyard – community and education centre (children and teachers, community group members)- Field Studies Council (FSC)managed.
- Children’s Play areas (children and their parents);
- Dog-free garden areas – The Woodland Gardens.

Areas (within TRP control) from which members of the public are excluded include:

- TRP working areas;
- Wildlife Sanctuary Areas including fenced enclosures, Stockyard Fields and Brewhouse Meadows.

Areas of the Historic Park not managed by TRP

- Bushy House contains various areas and buildings which although historically part of the park are now under separate ownership and management by other government bodies. These areas along with those under lease and licence are shown on figure 3 Management responsibilities.
- Upper Lodge is a listed grade II building and is an attractive early 19th century house occupying the site of an earlier house built for the Earl of Halifax, Ranger of Bushy Park in the late 17th century. Upper Lodge was vacated by the Ministry of Defence in the early 1990's. The Lodge and other adjacent buildings are managed by the Crown Estate in residential use and with no public access. The adjacent portion of The Water Gardens has been restored (HLF, 2008-09) and is open to public access 6 days per week.
- Bushy House is a listed Grade II* building and comprises an important late seventeenth century house built for Charles II. In 1900 the National Physical Laboratory (NPL) was established at Bushy House where it has remained since. The sports ground to the east of the house are leased to the NPL. Historically, the whole area forms part of Bushy Park with the Park wall extending along Queen's Road to the north and today, the house still presents itself in visual continuity with the Park. At the present time the House and grounds remain under active use and in operational control of NPL. It is understood that the current lease still has some 20 years to run. However, with relocation of main NPL activities to purpose built accommodation further to the North-West this will release the workshop and other buildings which enclose the North and West sides of the House. It is anticipated that they will be demolished under existing and related planning obligations within the next 5 years with restoration of these areas to gardens/landscape setting. In due course this will also release the South Drive and give greater opportunity to re-assess the East front, the relationship with the NPL Sport Club field and its facilities, and accordingly with public vantage and potential access from Chestnut Avenue.

Management Issues: Public Access

- Encouraging use of public transport to visit park.
- Some areas of TRP land inaccessible to the public.
- Controlling access to private and semi-private areas during non-visiting hours.

The Freebord

- 2.25 The Freebord or "deer leap" is a strip of Crown-owned land 5m (16'6") wide, running around some of the perimeter of the Park, the main function of which is to allow access to the outside of the boundary wall for inspection and repairs. It is licensed for an annual fee to adjoining property owners who wish to use the land. There are a number of restrictions, and property owners are not allowed to erect any buildings or plant, lop or cut down any trees in the Freebord. But even with these restrictions, management of the Freebord can significantly affect the setting of the Park.
- 2.26 Recent relaxation of planning controls has led to problems with controlling development on the Freebord and guidelines on outlining effective enforcement of licence conditions will have to be addressed to prevent building without consent.
- 2.27 The administrative costs of the Freebord probably far outweigh the revenue obtained from the issuing of licences. Alternatives, such as permitting the sale of the land with a restrictive covenant or the issuing of free licences have been considered in the past but are not appropriate because of Crown ownership and the need to protect the integrity of the Park.
- 2.28 There are currently 121 freebord licences (72 residential and 49 commercial). Parts of the freeboard have been built upon by adjoining owners and have been lost to the Park, (most notably by the Lion Gate Hotel – to the detriment of pedestrian access through the gate).

Development around the Park

- 2.29 Bushy Park is particularly flat so high rise development close by would reduce the wilderness appeal of the Park. Lighting of sites adjacent to the Park is also of significant concern due to the detrimental effect that it has on wildlife (refer to Policy PM 1.9).
- 2.30 There is a statutory requirement that TRP should be consulted on any proposed development within half a mile of the park boundary. In practice it is only in relation to developments on the Park boundary that they are consulted.

External Influences: Key Management Issues

- TRP to continue working with Transport for London and the adjacent Local Authorities to improve sustainable transport links to the park including improving public transport links and safe cycling access.
- TRP should consider how the freebord should be managed, and controls strengthened.
- TRP should take steps to ensure that they are regularly consulted regarding any possible developments in the vicinity of the Park or development of tall buildings some distance from the Park that could impinge on the skyline of the Park

Main Leases, Licenses and Warrants

2.31 The following leases, licences and warrants are in effect for parts of the park and constituent buildings:

The Royal Paddocks - are used by the Sovereign for stabling and grazing. TRP is responsible for maintenance of the walls to south and north of the paddocks.

The NPL Sports Ground - is licensed to the NPL Sports Club and the Wireless Field to NPL.

Hampton Pool - this area was originally licensed to Hampton UDC in 1914. It is now licenced to the LBRuT who lease it to a charity, Hampton Pool Ltd.

Allotments - there are two allotment sites in Bushy Park:

- (i) Hampton Field Allotments Association (6 ha 310 plots) - licensed to LBRuT by TRP;
- (ii) Hampton Wick Allotments Association (6ha 209 plots) licenced by TRP under a Royal Warrant. The trees and wall are maintained as part of the Park.

The Freebord – see notes above 2.27

Sports Grounds - the following sports grounds are licensed:

- (i) Hampton Hill Cricket Club
- (ii) Teddington Town Sports Club
- (iii) Teddington Cricket and Hockey Club
- (iv) Hampton Wick Royal Cricket and Hockey Club

Sports Car Parking-

Clapperstile Car Park

King George V Playing Fields - These were made available directly by King George V by Royal Warrant in 1930 to the National Playing Fields Association. The London Borough of Richmond has assumed maintenance responsibility. No licence fee is payable.

Lodges - There are 11 Royal Lodges in the Park. Two lodges, Barton's Cottage and Hawthorn Lodge belong to the Royal Household and have grace and favour occupants. Rose Cottage also belongs to the Royal Household. Thatched Cottage is managed by the Crown Estate and has a licence for part of the Park for garden use. Other lodges are occupied by Royal Parks staff and include nos. 1 - 4 of The Upper Lodge Mews, River Lodge, Woodland Cottage, Teddington Gate Lodge, and the New Lodge. The White Lodge is used as a TRP management base.

Management Issues: Leases, Licences, Warrants and Neighbours

- Future potential use of areas currently out of TRP control.
- Encroachment on freebord (Lion Gate Hotel).
- TRP responsible for maintenance of wall in areas out of their control.

Other Background Information

- 2.32 There is a wealth of historical knowledge concerning the Park, principally held by people with long associations with the Park (including staff, the Royal Parks Guild and members of local interest groups). There are a number of existing studies that provide useful background information. Of particular value are the Historical Survey (R Travers Morgan, 1981), and the Royal Parks Review Group Report (1996). A list of references concerning the Park is provided in Appendix I. However, in some areas there are insufficient systematic data. The Historical Survey, which was undertaken in 1981, still provides a useful and accessible record of the Park's history, evolution and - in effect - inventory and condition at that time. The main report still serves as a useful source of reference as well as identifying (and at that stage) predicting some of the issues which the Park has faced and is now facing. The inventory is inevitably partly out of date as the Park is constantly changing through ageing and renewal of its vegetation and adaptation of its fabric in the face of pressures and public uses.
- 2.33 Subsequently the Royal Parks Review Group, under the chairmanship of Dame Jennifer Jenkins, provided an excellent review of issues affecting the Park. This review involved substantial consultation with some 250 individuals and

organisations. Again, many of the issues identified in the Review Group report are carried forward and embodied in this management plan.

- 2.34 The submission documents for HLF Stage 2 (LUC and TRP, 2004) provide helpful summaries of context and issues of repair, enablement, upgrade and restoration, leading to the successful delivery of projects with HLF support.
- 2.35 TRP's Ecology Section can use its biological records system to access past species records and other ecological information. Such data are a valuable aid to understanding how species and wildlife communities have changed over the years. These data are obtained partly from the inventoring and digitisation of past data sourced from within TRP and its volunteers (an ongoing process), and partly through our partnership with GiGL. Historic records and other data supplied to GiGL by third parties (such as the London Natural History Society) are gradually becoming available as GiGL and its partners progress their programme of digitisation of data archives.

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Figure 2.3 Photo Sheet



Brewhouse Meadow Wetland | 11 May 2011

DRAFT

3.0 STRATEGIC FRAMEWORK

- 3.1 This section describes the key national, regional and local designations, planning policies and strategies relating to Bushy Park. This strategic framework provides the context for management of the Park.

National Designations and Policies

- 3.2 There are a wide range of designations and policies, which influence the management of Bushy Park. These are summarised below.

Statutory duties

- 3.3 TRP has statutory duties with regard to the following:
- **NERC Act 2006** Part 3 S.40: “Every public authority must, in exercising its functions, have regard . . . to the purpose of conserving biodiversity.
 - **Wildlife & Countryside Act (1981 as amended)**, particularly in relation to management that may affect protected species.
 - **Water Framework Directive 2000**: The WFD became part of UK Law in 2003 and requires all waterbodies to reach “Good Ecological Status” (GES) or for artificial or heavily modified waterbodies “Good Ecological Potential” (GEP) by 2015, 2021 or 2027 depending on feasibility. The objective of GEP is similar to good status but takes into account the constraints imposed by social and/or economic uses. In the Environment Agency’s Thames region River Basin Management Plan* the Longford River falls within the Port Lane Brook Waterbody (GBI06039023450) with a current overall potential classed as ‘moderate’. The objective is to achieve GEP by 2027. As a public body, TRP is required to give due consideration to the aims of the WFD in any works they carry out that may impact on waterbodies; including the Longford River. Proposed works must be assessed to ensure that the requirements of the WFD are met i.e. that the proposed modification:
 - i) does not deteriorate water body status (‘no deterioration’);
 - ii) will not compromise the successful implementation of improvement measures; and
 - iii) that WFD objectives will still be achieved.

In order to achieve good ecological potential a number of mitigation measures and actions need to be implemented to mitigate against the effects of the high level of modification in this waterbody (see Annexes B and C of the RBMP).

- <http://www.environment-agency.gov.uk/research/planning/125035.aspx>

National Planning Policy Guidance

- 3.4 **Duties under National Planning Policy Framework (March 2012)** one of 12 core planning principles is that planning should “*contribute to conserving and enhancing the natural environment and reducing pollution*”.

S.117 of the NPPF states that to minimise impacts on biodiversity and geodiversity, planning policies should include a number of measures including for example:

- “*plan for biodiversity at a landscape-scale across local authority boundaries;*”
- “*identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*”
- “*promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species;*”

S.123 refers to the aim that planning policies and decisions should: *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

S.125. states: *By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

3.5 Under sub-heading in the Framework document number 12. ‘*Conserving and enhancing the historic environment*’ there are several sections to note (126, 129,131, 132, 133,134,135,136,137,138,139,140, & 141). In particular:

- S.126. states: *Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance.*
- S.132. states: *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset’s conservation. The more important the asset, the greater the weight should be.*
- S.137. states: *Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.*
- S.138. states: *Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance.*
- S.139. states: *Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.*
- S.141. states: *information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.*

English Heritage Register of Parks and Gardens of Special Historic Interest

- 3.6 Bushy Park is included as Grade I on the English Heritage Register of Parks and Gardens of Special Historic Interest (see register entry in Appendix I) highlighting that the Park is of exceptional historic interest.

Listed Buildings and Artefacts

- 3.7 There are 13 listed building entries for Bushy Park which are summarised in Table 3.1.

Table 3.1 Listed buildings and artefacts

Building	Listing status
Bushy House	Grade II*
Garden House to Bushy House	Grade II
Pair of lodges and gates to the south-east of Bushy House (Guns Lodge)	Grade II
Conservatory to Bushy House	Grade II
Clock House	Grade II
North Lodge to NPL	Grade II
Upper Lodge	Grade II
Stables and gardens wall to Upper Lodge	Grade II
Hawthorn Lodge	Grade II
Diana Fountain	Grade I
White Lodge	Grade II
Brick boundary walls	Grade II
Old Brewhouse –Dual designation, also Scheduled Ancient Monument	Grade II

Status of the Longford River

- 3.8 Although the Longford River is not classed as a “main river” and is managed throughout its course by TRP, the Environment Agency (EA) still has a remit in respect of nature conservation, enhancement, land drainage and pollution control. Section of the river known as the ‘twin rivers diversion section’ is under the management of BAA and there is a Twin Rivers Management committee that meet to ensure that the river is not adversely affected downstream. TRP have an easement over this section. From the Kings Bridge down to the Seaford Road Culverts. TRP and the EA are required to give due consideration to the aims of the Water Framework Directive in any works they carry out that may impact on waterbodies; including the Longford River (see 3.3 above).

Management Issue: National Planning Advice

Numerous National policies and designations including heritage, landscape and, building designations that must be respected in plans.

Strategic Planning Advice

Greater London Authority Biodiversity Strategy and BAPs

- 3.9 Bushy Park's ecological importance in the context of Greater London is recognised by its designation as a **Site of Metropolitan Importance for Nature Conservation**.
- 3.10 The UK Biodiversity Action Plan sets out a national strategy for wildlife conservation, based upon action plans for priority habitats and species. A regional Biodiversity Action Plan for London was prepared by the London Biodiversity Partnership in 2001. The London Borough of Richmond upon Thames launched its Local Biodiversity Action Plan in 2008. Both plans remain active with updates and revisions being recorded on the Biodiversity Action Reporting System (BARS). Bushy Park contains a number of Biodiversity Action Plan species and habitats and can help to achieve specific targets associated with these BAP's. These are explored further in Chapter 6. The Royal Parks Agency has a statutory duty, under the Countryside and Rights of Way Act 2000 and the Natural Environments and Rural Communities (NERC) Act (2006), to further the conservation of biological diversity in the UK.
- 3.11 In addition to BAPs, the Mayor of London has published a Biodiversity Strategy "Connecting with London's Nature" (July 2002). This document encourages the promotion of the management of land for biodiversity, for promoting education, collating and distributing wildlife information and exchanging information on best practice for managing parks for wildlife. Partly through the development of TRP's Biological Records System and its active involvement in Local and Regional BAPs, TRP is working to achieve the aims of this strategy.

Thames Landscape Strategy

- 3.12 The Thames Landscape Strategy published in 1994 develops a co-ordinated approach towards the preservation and enhancement of the Thames landscape from Hampton to Kew. The strategy is supported by the local authorities and five national agencies (TRP Agency, the Countryside Commission, English Nature, English Heritage, and The Environment Agency).
- 3.13 The original Thames Landscape Strategy identified the visual axis of the Lime Avenue from Diana Fountain in Bushy Park to Garricks's temple on the river frontage. In practice this visual axis to the temple is interrupted by White Lodge, forming the western terminus of the Lime Avenue with the Park.
- 3.14 The Thames Landscape Strategy Partnership reviews the 100 year plan each year. The reviews are posted on the website. <http://www.thames-landscape-strategy.org.uk/>

Management Issue: Strategic Planning Advice

Wide range of regional strategies and plans that must be considered and, where applicable, implemented when determining management policies and guidelines including biodiversity and views

Local Planning Policies and Designations

- 3.15 As of 1 November 2011 (adoption date of the DMP), all policies contained within the UDP, with the exception of the UDP proposal sites and the policy on waste collection and disposal, have been superseded.
- 3.16 The Local Development Framework (LDF) replaces the Unitary Development Plan (UDP) with Development Plan Documents (DPDs). The park lies wholly within the London Borough of Richmond upon Thames. The statutory policies relating to Bushy Park are contained within The London Borough of Richmond upon Thames Development Management Plan (Adopted Nov 2011) The key applicable policies are as follows:

Conservation and Heritage

- 3.17 All of Bushy Park falls within the **Bushy Park Conservation Area** (Policies DM HD1 and DM HD2). Within the conservation area the Council seeks the retention and protection of trees which contribute to the character or appearance of the conservation area. Trees within the park therefore have status equivalent to a Tree Preservation Order (Policy DM DC4). The park is also an **Area of Special Character**, a special policy area which seeks to conserve and enhance the area's character. The Council also seeks to protect and enhance parks and gardens on the **English Heritage Register of Parks and Gardens of Historic Interest** (Policy DM OS4) and **Listed Buildings** (Policy DM HD4).

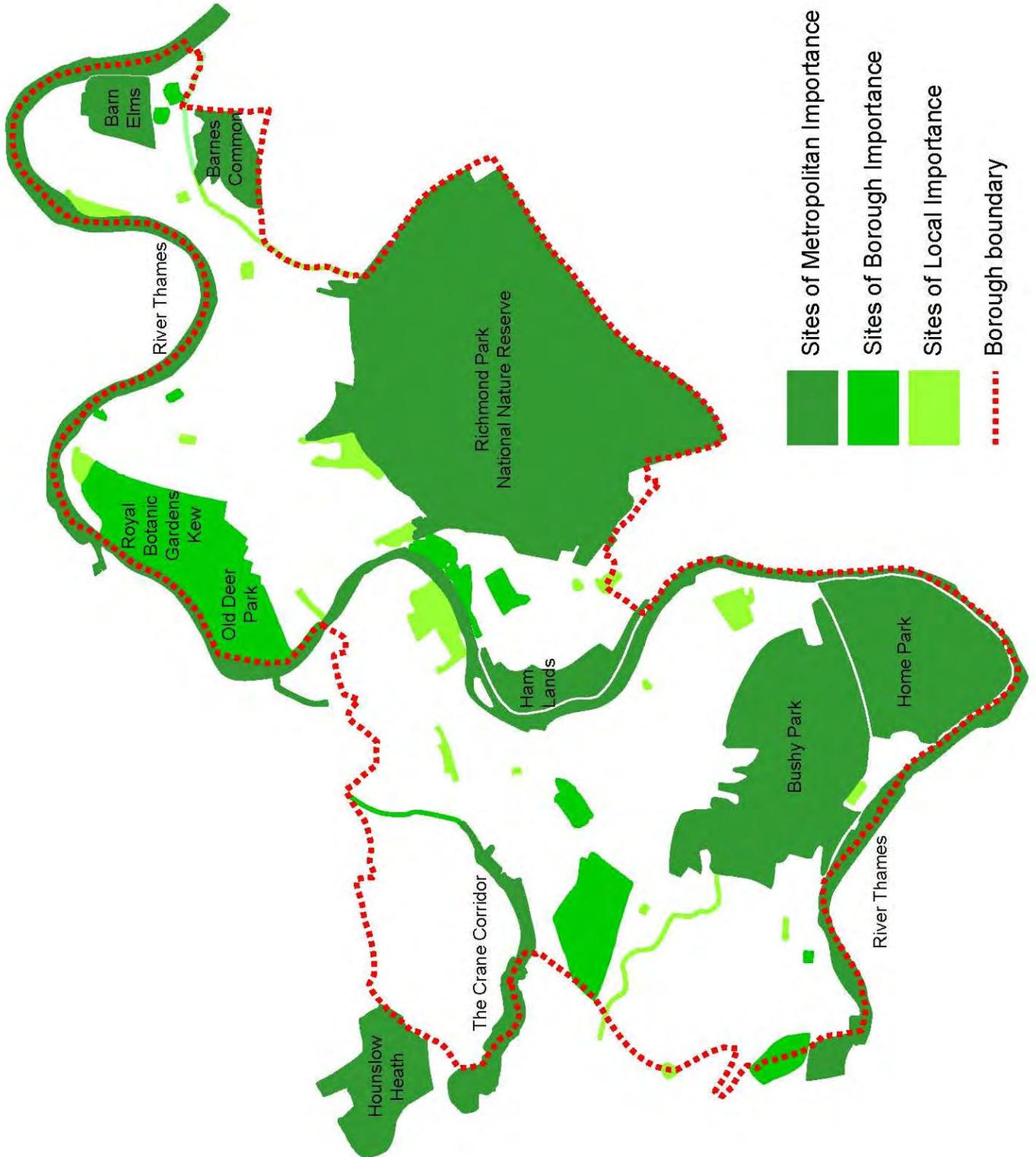
Open Space and Nature Conservation

- 3.18 The whole of Bushy Park is designated **Metropolitan Open Land** (Policy DM OS2), a designation that protects an area from certain types of development. All of the park except for the gardens of Bushy House, the NPL sports field, and Hampton Wick cricket ground are designated in the UDP as **Public Open Space** (Policy DM OS6) in which most forms of development are prohibited. It is also afforded protection as a **Site of Metropolitan importance for Nature Conservation** (Policy DM OS2).

Other Notable Factors

- 3.19 The route of the **London Loop** (Outer Orbital Walking Route) passes through Bushy Park.

Figure 3.1 Richmond Borough Conservation Areas



Management Issue: Local Planning Policy and Designations

- Numerous Local Policies and Designations that must be respected by management plan policies particularly relating to protection of open space from built development, protection of views, character of the built landscape and nature conservation

Significance: Strategic Framework

- 3.20 Nationally, regionally and locally important parkland valued for a wide variety of assets including historic landscape, buildings, wildlife, views and recreational value and with corresponding policy protection.

Sustainable Development

Mainstreaming sustainable Development –The Government’s vision and what this means in Practice Defra February 2011

The Government is committed to sustainable development (SD) as set out in Mainstreaming sustainable development – The Government’s vision and what this means in practice (Defra, Feb 2011). The aim is to stimulate economic growth, reduce the deficit, maximise wellbeing and protect the environment, without negatively impacting on the ability of future generations to do the same. This builds on the principles that underpinned the UK’s 2005 SD strategy (Defra, 2005) and recognises three interconnected ‘pillars’; the needs of the economy, society and the natural environment, alongside the use of good governance and sound science. In summary the aims are:

1. *A commitment to a Green Economy.* ‘Mainstream’ SD by embedding SD into Government policy; provide ministerial leadership and oversight; lead by example by reducing Government’s waste generation, water use and greenhouse gas emissions and the purchase of more sustainable and efficient products.
2. *Action to tackle climate change.* The Department of Energy and Climate Change’s (DECC’s) business plan sets out a long term transition to secure, affordable, low carbon energy on the way to an 80% cut in greenhouse gas emissions by 2050.
3. *Protecting and enhancing the natural environment.* The Natural Environment White Paper represents the first step in a fundamental new direction for the country, in how we value nature – for our economy, our wellbeing and our long-term security. It will therefore integrate the importance of a healthy natural environment to our prosperity and quality of life.
4. *Fairness and Improving wellbeing.* Helping to improve quality of life as well as enabling and empowering others to improve their wellbeing.
5. *National and International Sustainable Development.* Linking objectives on mitigating climate change with protecting biodiversity and reducing global poverty.
6. *Building a ‘Big Society’* with more empowered communities and a society where people are more involved in social action such as volunteering should lead to increased well-being, stronger communities and stronger social ties.

7. *Business Planning.* Regular review of departmental business plans to ensure that environmental, social and economic impacts are taken into account as far as possible.
8. *Operations and Procurement commitments.* Sustainable Operations on the Government Estate (SOGE) targets include transparency on the carbon impact of supply chains, and a more sustainable procurement of goods and services whilst continuing to deliver value for money.
9. *Transparency and public accountability.* The development of measurable indicators to monitor sustainability and the nation's wellbeing, with independent monitoring by the Environmental Audit Committee and public reporting of results.

3.21 These principles will form the basis for policy in the UK and as a government agency TRP is committed to taking these principles on board.

Environmental Management System ISO 14001

- 3.22 As part of TRP commitment to the environment and sustainable development, a Green Housekeeping Policy was originally introduced in 1997. This policy and its implementation were later formalised through the implementation of the internationally accepted Environmental Management System ISO 14001. All 8 Royal Parks were independently registered by external UKAS accredited auditors SGS in December 2002. The Green Housekeeping committee attended regular meetings until late 2008 when it was decided to cease any further plans or meetings. TRP are seeking re-certification for 2014.
- 3.23 TRP believes that *'all aspects of its own operation should be carried out in such a way as to have a minimal adverse impact on the environment'*. This is ingrained in TRP environmental policy, objectives, targets and reflected in everyday procedures and operations in the Royal Parks. For example, it is TRP policy to ensure that all purchased timber has undergone Forest Stewardship Council (FSC) certification.

Parks and Open Spaces - Government Agenda

3.24 The Government recognises the many benefits of good quality parks and green spaces and the value of these spaces in enhancing people quality of life. Following from the 'Our Towns and Cities: The Future Urban White Paper in 2000 the **Office of the Deputy Prime Minister** (ODPM) published a number of reports including 'Living Places: Cleaner, Safer, Greener (2002) focusing on the importance of creating cleaner, safer and greener communities by improving the quality of planning, design, management and maintenance of public spaces and the built environment. The remit of the ODPM, now the **Department for Communities and Local Government** (DCLG), is to improve urban parks, play areas and green spaces to implement the Sustainable Communities agenda through initiatives and partnerships.

The Keep Britain Tidy Green Flag Award

3.25 The Green Flag Award and Green Heritage Award scheme is the national standard for parks and green spaces across England and Wales, and is one of TRP's targets each year. The award is managed by Keep Britain Tidy on behalf of the Department for Communities and Local Government and the Green Flag Advisory Board. Applicants are required to submit a management plan and will be subject to a judging visit. Parks are assessed against the following 8 criteria:

- A Welcoming Place
- Healthy, Safe and Secure
- Clean and Well Maintained
- Sustainability
- Conservation and Heritage
- Community Involvement
- Marketing
- Management

In 2006, Bushy Park entered the scheme and was awarded the Green Flag after exceeding the Award's requirements in all 8 areas, this has subsequently been retained annually.

Regional Context

The London Plan: Spatial Development Strategy for Greater London

3.26 The London Plan 2011 (published July 2011) is the overall strategic plan for London, and it sets out a fully integrated economic, environmental, transport and social framework for the development of the capital to 2031. It forms part of the development plan for Greater London. London boroughs' local plans need to be in general conformity with the London Plan, and its policies guide decisions on planning applications by councils and the Mayor. The Spatial Development Strategy develops policies under a series of themes. Those of most relevance to Bushy Park are outlined below.

POLICY 2.6 OUTER LONDON: VISION AND STRATEGY

A generally high quality of life is one of outer London's major assets. Maintaining this where it exists, and enhancing it where necessary, will be key to the area's future success – a high quality environment, and providing places where people will want to work and live, will be important to attracting and retaining the kind of economic sectors which may lift growth in outer London.

POLICY 2.8 OUTER LONDON: TRANSPORT

Enhancing accessibility by improving links to and between town centres and other key locations by different modes and promoting and realising the improvements to the rail network set out in **Policy 6.4** and **the Mayor's Transport Strategy**

Encouraging greater use of cycling and walking as modes of choice in outer London with more active traffic management, including demand management measures; road improvements to address local congestion; car parking policy; closer co-ordination of transport policy and investment with neighbouring authorities beyond London; and greater recognition of the relationship between office development and car use

Strategic network of green infrastructure

POLICY 2.18 GREEN INFRASTRUCTURE: THE NETWORK OF OPEN AND GREEN SPACES

To protect, promote, expand and manage the extent and quality of, and access to, London's network of green infrastructure. This multifunctional network will secure benefits including, but not limited to, biodiversity; natural and historic landscapes; culture; building a sense of place; the economy; sport; recreation; local food production; mitigating and adapting to climate change; water management; and the social benefits that promote individual and community health and well-being.

To pursue the delivery of green infrastructure across borough boundaries including the publication of supplementary guidance on the **All London Green Grid**. This applies the principles of the East London Green Grid to green infrastructure across London.

POLICY 3.6 CHILDREN AND YOUNG PEOPLE'S PLAY AND INFORMAL RECREATION FACILITIES

To ensure that all children and young people have safe access to good quality, well-designed, secure and stimulating play and informal recreation provision, incorporating trees and greenery wherever possible.

POLICY 3.19 SPORTS FACILITIES

Sports Legacy Plan aims to increase participation in, and tackle inequality of access to, sport and physical activity in London particularly amongst groups/areas with low levels of participation.

POLICY 5.9 OVERHEATING AND COOLING

To seek to reduce the impact of the urban heat island effect in London and encourages the design of places and spaces to avoid overheating and excessive heat generation, and to reduce overheating due to the impacts of climate change and the urban heat island effect on an area wide basis.

POLICY 6.9 CYCLING

To bring about a significant increase in cycling in London, so that it accounts for at least 5 per cent of modal share by 2026

POLICY 6.10 WALKING

To bring about a significant increase in walking in London, by emphasizing the quality of the pedestrian and street environment, including the use of shared space principles – promoting simplified streetscape, decluttering and access for all.

POLICY 6.13 PARKING

To balance promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use.

POLICY 7.4 LOCAL CHARACTER

Development should have regard to the form, function, and structure of an area, place or street and the scale, mass and orientation of surrounding buildings. It should improve an area's visual or physical connection with natural features.

POLICY 7.5 PUBLIC REALM

London's public spaces should be secure, accessible, inclusive, connected, easy to understand and maintain, relate to local context, and incorporate the highest quality design, landscaping, planting, street furniture and surfaces.

Historic environment and landscapes

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

POLICY 7.17 METROPOLITAN OPEN LAND

To support the current extent of **Metropolitan Open Land (MOL)**, its extension in appropriate circumstances and its protection from development having an adverse impact on the openness of MOL.

POLICY 7.19 BIODIVERSITY AND ACCESS TO NATURE

To ensure a proactive approach to the protection, enhancement, creation, promotion and management of biodiversity in support of the **Mayor's Biodiversity Strategy**. This means planning for nature from the beginning of the development process and taking opportunities for positive gains for nature through the layout, design and materials of development proposals and appropriate biodiversity action plans.

Any proposals promoted or brought forward by the London Plan will not adversely affect the integrity of any **European site of nature conservation importance** (to include special areas of conservation (SACs), special protection areas (SPAs), Ramsar, proposed and candidate sites) either alone or in combination with other plans and projects. Whilst all development proposals must address this policy, it is of particular importance when considering the following policies within the **London Plan: 1.1, 2.1-2.17, 3.1, 3.3, 5.14, 5.15, 5.17, 5.20, 6.3, 7.14, 7.15, 7.25 and 7.26**. Whilst all opportunity and

intensification areas must address the policy in general, specific locations requiring consideration are referenced in Annex I.

POLICY 7.20 GEOLOGICAL CONSERVATION

Development proposals should wherever possible, make a positive contribution to the protection and enhancement of geodiversity and protect important geological sites.

POLICY 7.21 TREES AND WOODLANDS

Trees and woodlands should be protected, maintained, and enhanced, following the guidance of the London Tree and Woodland Framework (or any successor strategy). In collaboration with the Forestry Commission the Mayor will produce supplementary guidance on Tree Strategies to guide each borough's production of a Tree Strategy covering the audit, protection, planting and management of trees and woodland. This should be linked to the borough's open space strategy.

The London Biodiversity Action Plan and Biodiversity Strategy

- 3.27 The UK Biodiversity Action Plan sets out a national strategy for wildlife conservation, based upon action plans for habitats and species. This is interpreted at the regional level through the London Biodiversity Action Plan (**Our Green Capital**) prepared by the London Biodiversity Partnership (January 2001). The most relevant action plans for Bushy Park are Habitat Action Plans (HAPs) for Acid Grassland, Reedbeds, Rivers and Streams, Standing Water, Woodland and for Parks and Urban Green Spaces, and Species Action Plans (SAPs) for Mistletoe, Water Vole, Reptiles, Stag Beetle and Bats.
- 3.28 In addition, the Mayor has published a Biodiversity Strategy (**Connecting with London's Nature, The Mayor's Biodiversity Strategy**, July 2002). This document encourages the promotion of the management of land for biodiversity, for promoting education, collating and distributing wildlife information and exchanging information on best practice for managing parks for wildlife. It sets out criteria for designating SMIs (Sites of Metropolitan Importance), the top tier of nature conservation designation in London (see paragraph 3.23).
- 3.29 The Royal Parks has a statutory duty, under the **Countryside and Rights of Way Act 2000** (see paragraph 3.11) and the **NERC Act 2006** (see paragraph 1.10), to further the conservation of biological diversity in the UK. The implementation of TRP biological recording strategy provides a means to record and monitor biodiversity gains.

Local Context

Development Management Plan (First Review, adopted November 2011)

- 3.30 The Park lies wholly within the London Borough of Richmond-upon-Thames (LBRuT). Neighbouring borough of Royal Borough of Kingston upon Thames (to the east) and Elmbridge to the south-west. The statutory policies relating to the Park are contained within the LBRuT Unitary Development Plan which has now been superseded with the Development Management Plan (adopted November 2011) The DMP is a Development Plan Document (DPD) and is one of the documents that make up the Local Development Framework that sets out the policies used by the Council to determine planning applications. Although the Royal Parks are Crown Land and previously could pursue notification of planning matters under section 18/84, from 1st April 2006 TRP is now obliged to comply with standard procedures and local authority planning policies.
- 3.31 The DMP contains relevant policies relating to landscape, buildings and townscape, nature conservation, archaeology, transport, protection from flooding and specific development proposals in relation to improvements. These are set out in three main documents – The Core Strategy, The Twickenham Area Action Plan and the Site Allocations DPDs. The key policies relevant to Bushy Park are summarised below and the DMP Proposals map is available on-line².

Summary list of key DMP policies

DM OS2 Metropolitan Open Land
DM HD 7 Views and vistas
DMOS 6 Public Open Spaces
DM OS 4 Historic parks, gardens and landscapes
DM OS 5 Biodiversity and new development
DM OD 7 Children's and Young People's Play facilities
DM OS 8 Sports and Recreation Facilities
DM OS 11 Thames Policy Area
DM HD 1 Conservation areas – designation, protection and enhancement
DM HD2 Conservation of Listed buildings & Scheduled ancient monuments
DM HD4 Archaeological Sites

The Open Environment

- 3.32 Bushy Park is identified as Metropolitan Open Land (MOL). Policy DM OS2 of the adopted DMP concerns protection and conservation of MOL by keeping it predominantly in open use, resisting development that would have a harmful effect and encouraging enhancements.

Policy DM HD7 concerns the protection of views and vistas, seeking to protect the quality of views, opportunities to create attractive new views and, where appropriate, improve any that have been obscured. The LBRuT will also seek to

² www.richmond.gov.uk/home/environment/planning/unitary_development_plan.htm

protect the quality of views identified in Supplementary Planning Guidance including the Thames Landscape Strategy (see paragraph 3.54). Two particular views in Bushy Park are highlighted in the UDP proposals plan:

- From/to between White Lodge and the Arethusa (Diana) Fountain; and
- From/to between the Arethusa (Diana) Fountain and Teddington Gate along Chestnut Avenue.

Bushy Park is listed as Grade I on the Register of Parks and Gardens of special historic interest in England. Policy DM SO4 concerns the protection and enhancement of such parks and gardens of special historic interest.

Policy DM SO6 concerns the retention and improvement of public open space including increasing enjoyment of such spaces through provision of active and passive recreation, improving access and facilities whilst having regard for nature conservation. The policy also concerns the protection and enhancement of the visual quality of such public open space through high quality design. Bushy Park is identified as public open space, although the Upper Lodge complex, White Lodge, Storeyard area and National Physical laboratories grounds are excluded.

Nature Conservation

- 3.33 Policy DM SO5 concerns the protection of SSSIs and other sites of nature importance from development and damage. The Park is included in the London Plan as a Site of Metropolitan Importance for nature conservation (refer to paragraph 3.26).

The Longford river is covered by Policy DM SO5 which deals with nature conservation on rivers to ensure that development does not encroach or damage valuable wildlife habitats and seeks to protect the flora and fauna along the Thames, banks, margins, islands and tributaries and take opportunities to restore wildlife value where it has been lost.

The Built Environment

- 3.34 Bushy Park is identified as a Conservation Area. LBRuT have a statutory duty to produce policies concerning the preservation and enhancement of Conservation Areas. In the DMP this is included under policies DM HD1. As well as concerning development control, the Park's designation as a Conservation Area also means TRP is required to give six weeks notice of any proposed tree works.

Policy DM HD2 concerns the preservation of listed buildings and policy DM HD2 concerns the use of historic buildings. There is scheduled ancient monument identified in the DMP DM HD2.

Archaeology

Bushy Park is identified as an area of archaeological potential (priority 1). The policies on archaeological sites DM HD4 concern the conservation, protection and enhancement of the Borough's archaeological heritage.

Transport

Policies DM TP3 support the retention and improvement of public rights of way and cycle routes (to complement the London Cycle Network) and the promotion of access through appropriate way marking and interpretation.

Local Strategy and Plan Proposals

The Park lies wholly within the London Borough of Richmond Upon Thames. The statutory policies relating to Bushy Park are constrained within the Borough of Richmond Upon Thames Development Management Plan (adopted November 2011). The applicable policies also relate to the following designations of Bushy Park as:

Bushy Park Conservation area

- **Area of Special Character**, (a special policy area which seeks to conserve and enhance the areas character
- Grade I listing on **English Heritage Register of Parks and Gardens of Special Historic Interest**
- Numerous listed buildings within the Park/on boundaries
- Designated **Metropolitan Open Space**
- Most of the Park is designated in the DMP as **Public Open Space**
- Afforded protection as a **Site of Metropolitan Importance for Nature Conservation**
- The proposed route of the **London Loop, Outer Orbital Walking Route** passes through Bushy Park

The Thames Landscape Strategy published in 1994 develops a co-ordinated approach towards the preservation and enhancement of the Thames landscape from Hampton to Kew. The strategy is supported by the local authorities and four national agencies (TRP, Natural England, English Heritage and The Environment Agency).

The original Thames Landscape Strategy identified the visual axis of the Lime Avenue from Diana Fountain in Bushy Park to Garrick's Temple on the river frontage. In practice this visual axis to the temple is interrupted by White Lodge, forming the western terminus of the Lime Avenue with the Park.

London Borough of Richmond Community Plan 2007-2017

The London Borough of Richmond's Community Plan for the Borough 2007 to 2017 (sets out the strategic direction for how the Borough develops over the ten years and as such is an important framework for the future. The

most recent Community Plan 2013-2018 includes “Delivering for local people: A Healthy Borough; A Green Borough ; and A Safe Borough. It also emphasises the vision of “*Where the local character of the environment is protected and development is high quality and compatible with local character.*” Local Biodiversity Action Plan (LBAP) (2005)

- 3.35 The Local Biodiversity Action Plan (LBAP) for the London Borough of Richmond upon Thames sets out the framework for the protection, conservation and enhancement of wildlife within Richmond upon Thames. The LBAP was produced in 2005 and re-launched in 2008 by the Richmond Biodiversity Group of which members include the London Borough of Richmond upon Thames, London Natural History Society, London Wildlife Trust, Royal Botanic Gardens Kew, The Royal Parks, Thames Landscape Strategy and Wildfowl & Wetlands Trust, professional bodies, communities and local residents within the borough.
- 3.36 The LBAP identifies the priority habitats within the Borough, which are also of regional and national importance. These are Acid Grassland, Ancient Parkland/Veteran Trees, Broad-leaved Woodland, Reed beds and Tidal Thames. The priority species identified in the LBAP, which are also of regional, national and international importance, include: Mistletoe, Tower Mustard, Bats, Song Thrush, Stag Beetles and Water Vole.

Historical Royal Palaces

Lying north of Hampton Court Palace, the history of Bushy Park is inextricably linked to the palace. With the mile long chestnut avenue conceived by Sir Christopher Wren as a formal approach to Hampton Court Palace in the reign of William III & Mary II, flanked on both sides by a single row of horse chestnuts and four rows of limes, it marks the park's zenith in terms of royal ambitions and sophistication. The status of Ancient Scheduled Monument of the Palace and Surrounds requires special attention when considering views and proposed new development.

Park Management: Key Management Issues

- Bushy Park is not yet designated as a SSSI although it is currently being assessed for notification by Natural England. TRP should continue to assess the likely effects of any management proposals or projects on the important nature conservation features of the site. The Royal Parks is a public body and thus, in the management of all its functions, has statutory obligations regarding biodiversity conservation under the NERC Act 2006. Should Bushy become a SSSI, Section 28G (2) of the Wildlife and Countryside Act 1981 (as amended) would also apply. This requires an authority "to take reasonable steps, consistent with the proper exercise of these functions, to further the conservation and enhancement of the features for which the site is of special interest"(ODPM Circular 06/2005, Part II Para. 57). The Government expects publicbodiesto:
 - a) apply strict tests when carrying out functions within or affecting SSSIs, to ensure that they avoid or at least minimise adverse effects;
 - b) adopt the highest standards of management in relation to SSSIs which they own; and
 - c) as owners or otherwise, take positive steps, wherever possible, to enhance the special interest features of a SSSI where their activities may be affecting it, or as opportunities arise in the exercise of their functions.
- The objectives and actions for management of the nature conservation interest of the Park will require substantial human resources. Responsibility for protecting the natural environment is lead by Park Management and the support of the Royal Parks Operational Command Unit is very important in delivering this. In 2007 a Safer Parks Panel was created to provide an overview and direction of policing by the Safer Parks team. The panel is independently chaired and includes representatives of key stakeholder groups (**refer to POLICY PMI.1**).
- A Geographical Information System has been developed by TRP's Ecology Section which would allow information to be combined such as archaeological data with aerial photographs and areas of ecological sensitivity.
- Baseline ecological surveys, tree surveys and cartographic survey information need regular updates and appropriate management.

Richmond's Parks and Open Spaces Strategy (Adopted 2006)

- 3.37 The Open Spaces Strategy sets out a philosophy and framework for the provision and care of open land within the Borough. The Strategy was developed in partnership with the Borough's Greenspace Stakeholders Forum – an informal grouping of local land managers and parks and open spaces stakeholders. The membership of this Forum included The Royal Parks, the Crown Estate, English Heritage, the National Trust and Hounslow CIP as well as local representatives of key user groups.
- 3.38 The Council's vision for Richmond upon Thames open spaces is: "to provide access to an exciting range of open space experiences for all" underpinned by 10 key principles:

1. Protect visual and physical access to open land
2. Protect, enhance and promote the characteristic features of the Borough particularly the riverside, historic landscapes and features
3. Improve and maintain infrastructure
4. Plan to provide for the needs of the community and visitors
5. Make the best use of public and private resources and maximise external funding
6. Work in partnership with the community and other local landscape agencies
7. Promote the use of open land for all
8. Reduce the fear of crime by providing healthy, safe environments and promoting activity
9. Maintain and enhance the Borough's biodiversity
10. Providing high quality, sustainably-managed open spaces

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Figure 3.2 Photo Sheet

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4.0 HISTORICAL CONTEXT

- 4.1 Bushy Park was formed in the early 16th century. The majority of the site was emarked with its current boundaries during the reign of Henry VIII with an addition in 1620 by James I. The land had been predominantly arable openfield and the remains of the field baulks and plough ridges can still be traced today, a remarkably large and well preserved example of the everyday landscape of the medieval period.
- 4.2 Bushy owes its existence to Hampton Court, as a hunting ground for the Royal Court, and the seventeenth century schemes to glorify the palace enriched the landscape of Bushy Park with the building of the Longford River to supply water to Hampton Court and the creation of the Chestnut Avenue to form an approach from the north.
- 4.3 The eighteenth century saw the consolidation of the park and the maturing of the landscape; the nineteenth century saw its partial fragmentation, diversification into agriculture and more determined planting of plantations, belts and groups of trees; the twentieth century has seen further fragmentation, adaptation, restoration and revaluation as a heritage landscape resource of great importance, public access and recreation.

Early history

- 4.4 Bushy Park, lies within a loop of the Thames on light freely draining gravels. The landscape of the park reveals a long history of human activity and settlement. Several prehistoric finds demonstrate the presence of man in the area from 6000 BC onwards - for example a large Bronze Age barrow located on Sandy Lane just north of the Park wall. Surprisingly few prehistoric artefacts have been recorded within the park itself, although recently two stone spindle-whorls, which have been identified as being of Romano-British or late prehistoric origin have been found among the roots of windblown oak trees.

Medieval period

- 4.5 Archaeological and historical evidence shows that, until the land was enclosed (1491 – 1537) it was common arable land belonging to the Manor of Hampton and was managed as a typical medieval openfield system producing crops of wheat, rye and barley. The massive field baulks defining the individual field strips, or furlongs, are distinctive archaeological features in Bushy Park. When the Longford River was constructed in 1639 it followed the line of some of the medieval field baulks, which have been used either as a base for the canal or as a source of material for mounding the banks. The river is therefore 'fossilising' part of the medieval field system. In much of the park, there is also evidence of the plough ridges formed by the cultivation of the ground. The best examples of this are preserved west of Chestnut Avenue, south of Cobbler's Walk and south of the Woodland Gardens.

The formation of the deer park

- 4.6 In 1491 Sir Giles d'Aubeny, enclosed and stocked with deer an area of 162 ha of arable farmland on the site that would later become Middle Park to provide sport for courtiers staying at Hampton Court. In 1515 Cardinal Wolsey rebuilt the house of Hampton Court in grand style. He acquired Hare Warren, adding a further 172 ha of land to the hunting grounds and fenced it with oak paling.
- 4.7 Wolsey handed over Hampton Court, and with it, the tracts of land which would form Bushy park, to Henry VIII in 1529. A warren of black rabbits was established in 1531 near to the park gate to Hampton Court. Henry divided the Park into two with a wall, separating Middle Park to the west from Hare Warren to the east. In 1538 he also built a wall around the southern boundary of the Middle Park and Hare Warren on the one side and the Home Park on the other so that the road from Hampton Court to Kingston was enclosed by two walls and became known as "Between the Walls". The year before a hedge and ditch was formed to make the western boundary of Middle Park. Henry also added the oval shaped "Old Park" centred around what is now Upper Lodge in 1537. This area was initially called New Park but was known as Bushy Park by 1604.
- 4.8 The next major change to the park was made by James I around 1620 when he added a further area to the south west of the park known as Court Field completing the current boundaries of the park.
- 4.9 Following the Civil War the park was put up for sale. However, in 1653, Cromwell was declared Lord Protector of the Commonwealth and took up residence at Hampton Court a year later so preventing the sale and fragmentation of the park.

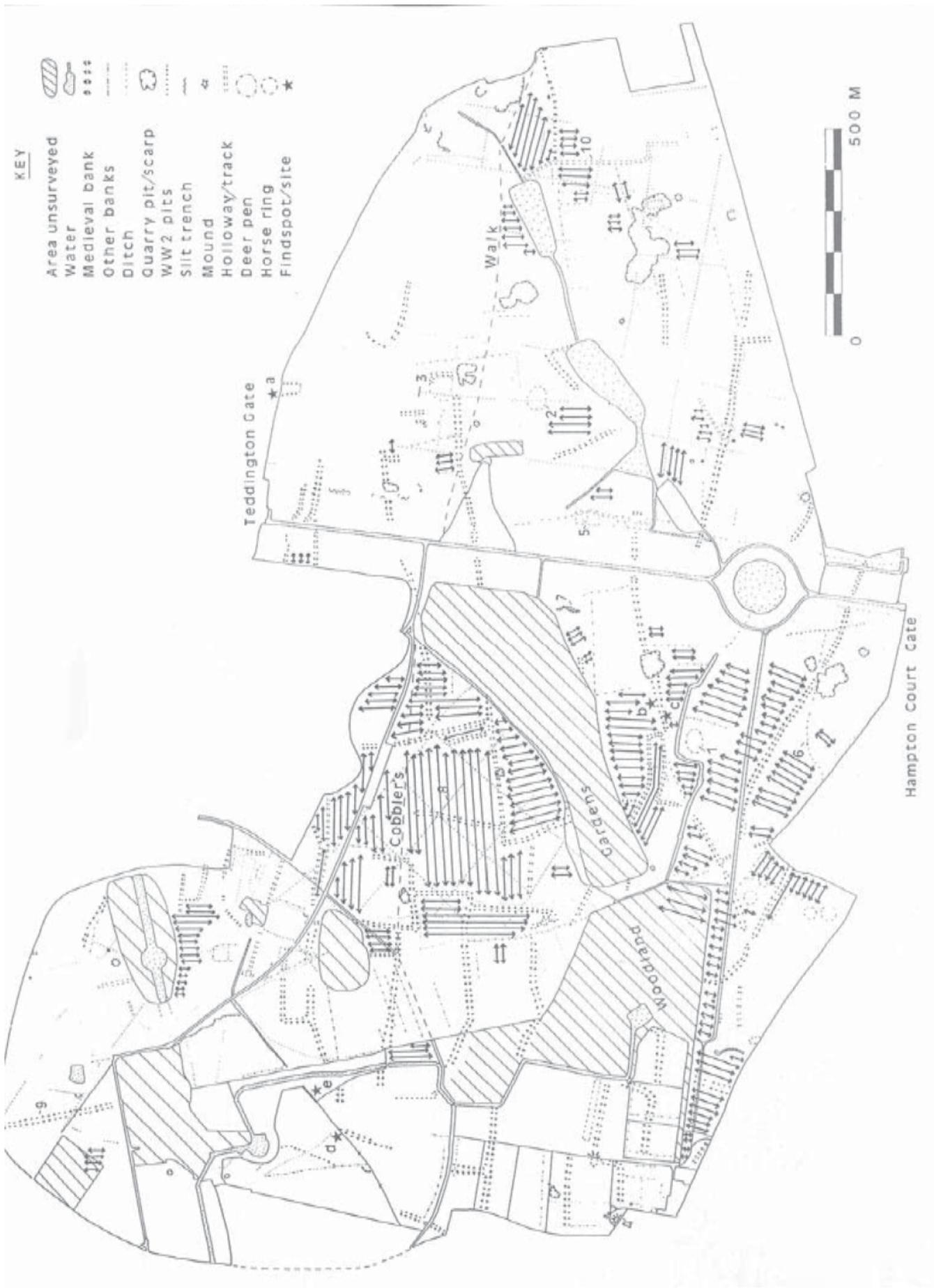
1. The archaeological survey was undertaken and prepared by Tom Greaves MA PhD in August 1995, and based on his field walking recording and measuring (see Appendix 9).
2. The survey was recorded on forty four Ordnance Survey base maps provided by the Royal Parks (Ordnance Survey plans for Grosvenor Park, 1972) at scales of 1:2500 and 1:1000 depending on the area surveyed. Aerial photographs were also used and drawn by hand on the base sheets and referred to the sheets (Plans 1 to 57) which was itself included in the Report "Bushy Park, Middlesex - An Archaeological Survey" by Tom Greaves PhD, 1995.
3. As part of the Bushy Park HLF development Stage 2 (2004) and with the approval of Tom Greaves, the original 42 sheets have been transferred to Bushy Park HLF and the original CAD files transferred to Tom Greaves. The original CAD files have been used to produce this plan and original CAD files for the survey were used to produce the original CAD files. The features and reference numbers have been highlighted to improve legibility.
4. It has then been possible to place the CAD layer into the NPA base plan for Bushy Park (Grosvenor, 1996). The output here has altered vegetation types (from scrubland) and water from this 96 survey to give better contextual information.

Produced by Land Use Consultants
for RPA April 2004 using Tom
Greaves' original survey sheets



Figure 4.1 Historic Context – Archaeology (Based on Tom Greaves Survey)

Figure 4.2 Historic Context – Archaeology (Mediaeval Open Field)



The Longford River

- 4.10 The Longford River was created in 1638/9 to bring water from the Colne River to Hampton Court. The purpose of this project of Charles I is not clear; possibly it was intended to improve the fresh water supply, although this was already sourced via a conduit from Coombe Hill on the other side of the Thames. The most likely reason seems to be to supply new ornamental waterworks which were not built due to the outbreak of the Civil War.
- 4.11 The 25 kilometre canal (source at Longford to outfall into The Thames below Hampton Court) was designed by Nicholas Lane. Edward Manning, who had done similar work at Richmond Park, was commissioned to construct the river and received £3,000 in 1638 for cutting the channel which was completed in July 1639, taking just 9 months. A further payment of £1,000 in January 1640 perhaps indicates alterations or that all had not gone smoothly with the construction. The payment was for “perfecting of divers things about the New River from Longford”.
- 4.12 The course of the river within Bushy Park was largely as it remains today, keeping to slightly higher ground in the park, giving a very modest change in level between the Waterhouse Pond (now in the Woodland Gardens) and Hampton Court Palace so allowing sufficient “head” for the piped off-take to drive the fountains. To keep the new river at the right level it had to be built above the ground level on a large part of its route. To do this more easily and economically Edward Manning used the medieval field baulks which stand higher than the surrounding land. This accounts for the curious route and right angled elbows which the river follows through the Park.
- 4.13 The new Longford River was unpopular with some local people as it divided parishes, blocked roads and, because of poor construction, flooded land nearby. This bad feeling culminated in the destruction of the bridge at Longford and the blocking of the river by local people in 1649. So that when Cromwell had new fish ponds dug in the Hare Warren they were initially fed by local springs.
- 4.14 It was not until the Restoration and the alterations to the House Park and Gardens at Hampton Court under Charles II that the Longford River came into use to feed the new Long Water. Adrian May, a courtier to King Charles, was supervisor of these works and also added a new branch to the River Longford in Bushy Park to supply Cromwell’s fish ponds. This made the ponds overflow and caused periodic floods.
- 4.15 The river course was altered in 1689 when the great avenue was laid out and again in 1710 when it was diverted into a new high pond as part of the Water Gardens created by the Earl of Halifax at Upper Lodge.
- 4.16 Thomas Simpson, a keeper at Bushy during the late 17th and early 18th centuries, spent nearly 70 years working on the park and in particular on putting the River Longford into good order. He died in 1734 at the age of 99 and was probably the first occupant of the White Lodge at the south-western tip of the park.

Figure 4.3 Historic Context – Survey Plan of c.1709 showing Avenues (Gough)

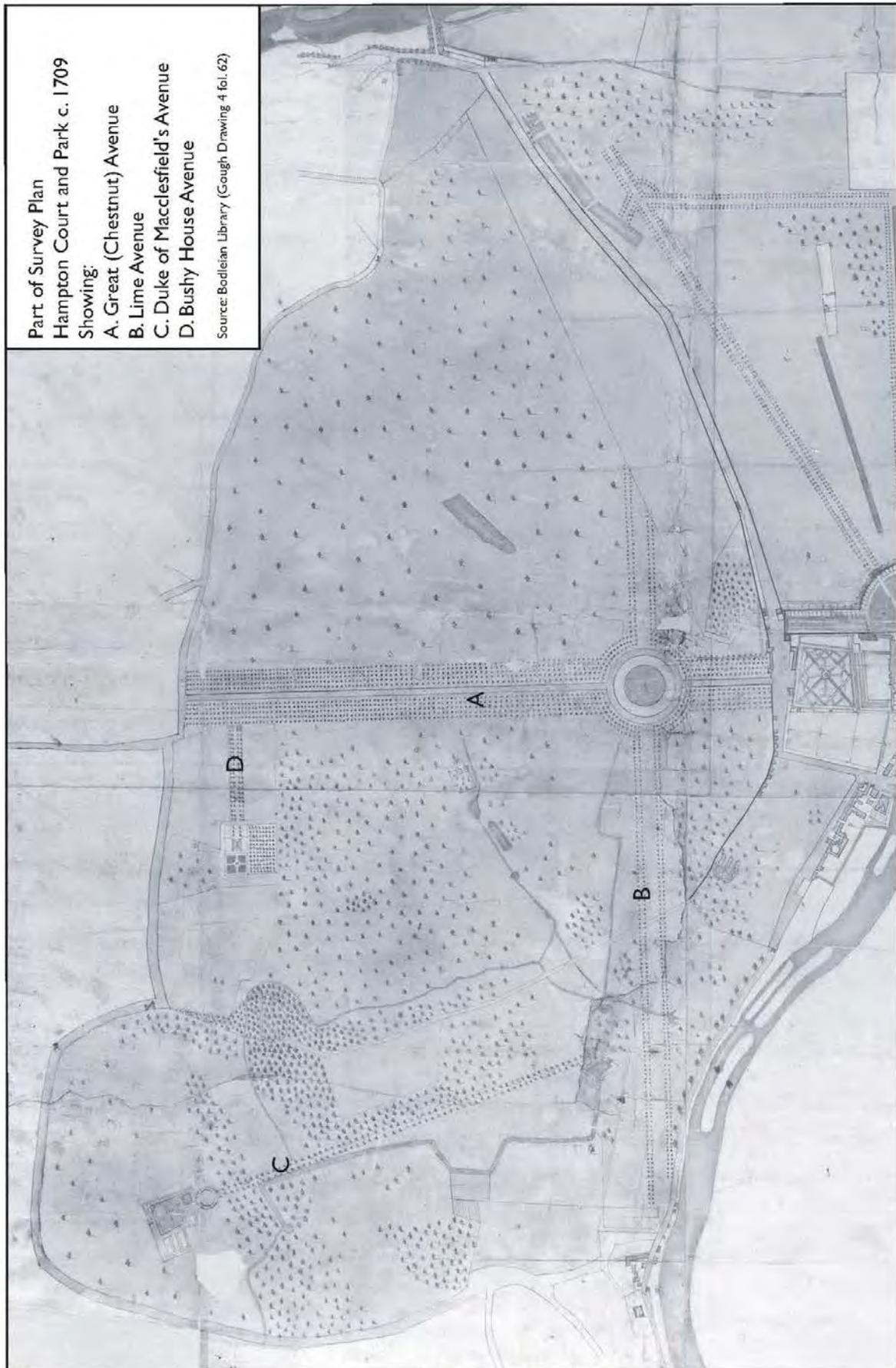
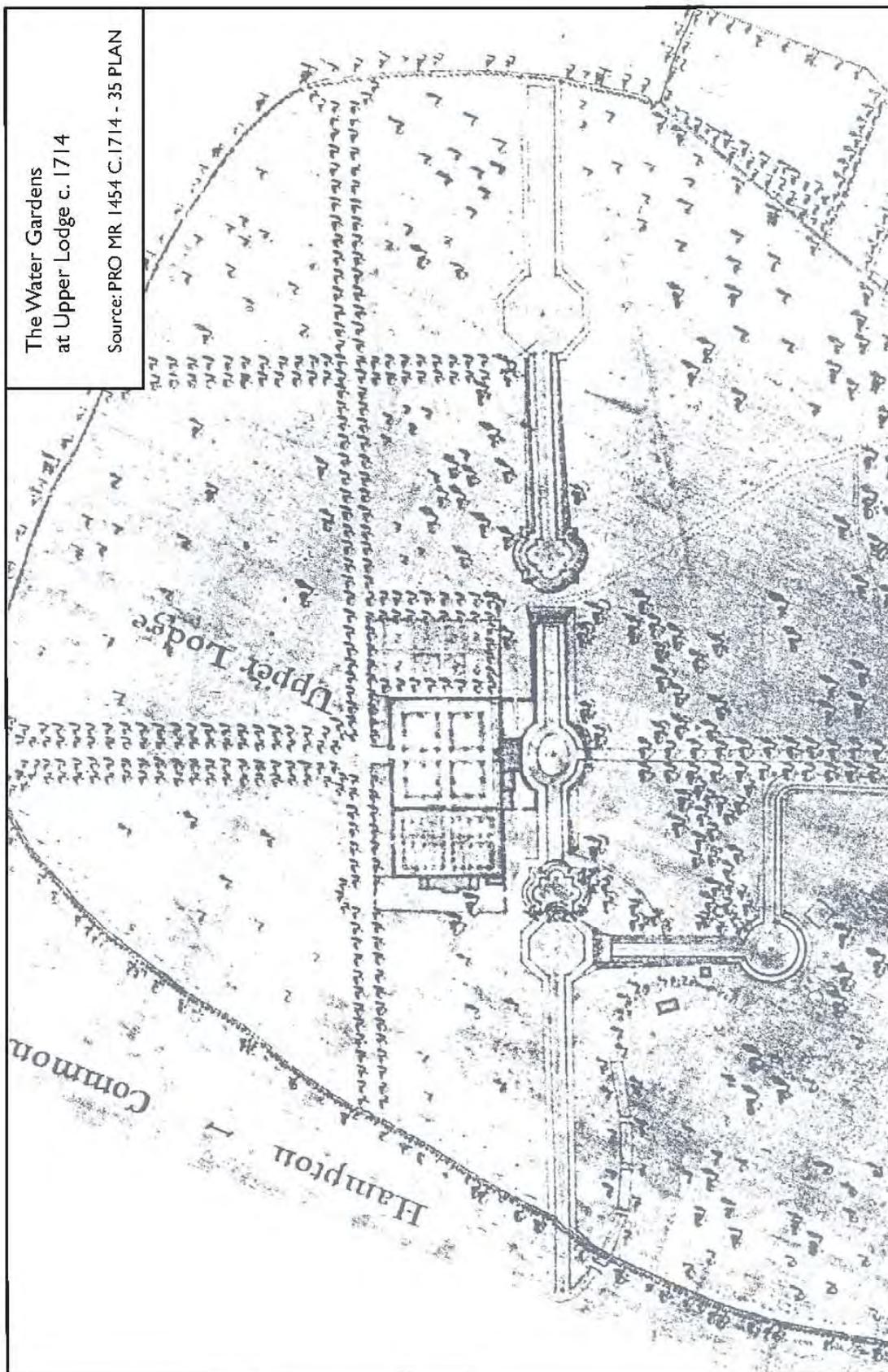


Figure 4.4 Historic Context – Plan c.1714 showing Water Gardens



The Formal Landscape

The Chestnut Avenue

- 4.17 When William III and Mary came to the throne they were keen to modernise the old palace at Hampton Court and in the 1690s Sir Christopher Wren drew up plans to rebuild the palace and to make equally dramatic changes to the gardens and parks. The work on Hampton Court itself was not completed but major changes to the gardens and parks were carried through. A large scale project was the Great Avenue, a grand approach to the palace from the north, planned to focus on the Great Hall, the centrepiece of Wren's proposed north façade.
- 4.18 Some 1050 lime trees had been planted to form the Great Avenue by 1690. Double rows surrounded the Basin and lined the cross avenues and the section to the south while there were four rows of trees on each side of the northern section. In 1699 Henry Wise, who was employed as a contractor through the Office of Works and operated under the direction of George London, planted 732 horse chestnuts and limes in the Great Avenue at Bushy.
- 4.19 Wise also constructed the 18 foot wide gravel road in the centre of the avenue. At this time the plan for the basin was put into action. It was reported in a contemporary letter as "a Bason of 400 ft diameter in the middle of the circle of trees, which will be very noble". Some sketch designs for the avenue, possibly by George London, show the basin near to its southern end. London had designed similar features at Woburn Abbey and Wanstead. The basin was positioned at the intersection of the cross avenue which was aligned to link up to the pattern of avenues in Hampton Court Home Park. However this was not carried through as the eastern end of the cross avenue was blocked by the new Paddock Course.
- 4.20 A programme of works for 1700 was submitted by William Talman (as Comptroller of the Royal Gardens and of the Office of Works) including alterations to the Longford River, due to the new avenues. Estimates were also made for replacing dead and unhealthy trees in the avenues, for pruning the healthy ones and for planting an avenue of 110 elms to "my Lord Macclesfield's" (a north south avenue between the Waterhouse and Upper Lodge in the western part of the park). The latter was included in an estimate for works by Henry Wise towards the end of 1700, and was probably planted accordingly.
- 4.21 An estimate by Wise around 1711/14 included costs for setting up gates on both sides of the Hampton Court Road in line with the Chestnut Avenue and for placing a statue in the bason. The fountain and statue of Diana, attributed to Hubert Le Sueur which had previously been at Somerset House, later in the Privy Garden at Hampton Court, then put in store from 1701, was to be moved to the bason. Work was underway by the end of 1712. However the work was still incomplete on the death of Queen Anne in mid 1714 and it was the first visit by George I to Hampton Court that prompted the completion of the work at considerably higher cost than first estimated.

Amalgamation of the parks

- 4.22 **Charles Montagu, the first Earl of Halifax** (1661-1715), a Whig politician and important financier to William III, brought out the Duchess of Cleveland's

keeperships and was granted the offices of Chief Steward and Ranger of Hampton Court in June 1709. He took over the under-keepership of Bushy Park from the Duke of Grafton; and in 1713, when Edward Proger died, Montagu became also keeper of Middle Park and Hare Warren. From this time the distinction between The Old Park and Middle Park declined and the whole area of parks north of the Hampton Court Road gradually became known as Bushy Park. At the same time the lodges became known as Upper Lodge and Lower Lodge (later Bushy House).

The Earl of Halifax at Upper Lodge

- 4.23 The Upper Lodge, in the centre of the oval north west section of the park, is the oldest of the occupied sites in Bushy. It was in existence in some form in 1537 when the land around it was emparked. By 1709 the lodge was in a ruinous state following years of neglect and damage in the Great Storm of 1703. Halifax suggested (and the Treasury agreed) that he would rebuild it at his own expense and, in return, the lodge would be leased to him personally rather than be attached to the keepership of Bushy Park. Charles Montagu had fallen from political favour by 1709 after an eminent career which included setting up the Bank of England and, as Chancellor of the Exchequer, introducing a new coinage milled by the Royal Mint, under the Mastership of his friend, Isaac Newton. He was created Earl of Halifax and took up his political career again in 1714 but was to die the following year. However in 1710 Halifax had the ambition, time and money to restore the lodge and create a new garden on a grand scale which would dominate a large area of the Park.
- 4.24 The Longford River entered the park from the west and ran towards the lodge before turning south. Halifax took advantage of the natural change in level down from the higher river terrace gravel at the north east of the park. He formed a new pool on the higher level with grottos and a cascade down to a lower pool. The lodge was rebuilt, centred on the alignment of the 1701 elm avenue (The Duke of Macclesfield's Avenue). A pool was created in front of the house on this axis and to the east and a long canal with two ornamental ponds was formed, using water from springs rising from the gravel terrace at Hampton. The land in front of the lodge was terraced while formal walled gardens were made on a symmetrical plan to the north of the building. Halifax spent over £1,000 in building the lodge, the garden walls and the new brewhouse and to plant the orchard and gardens.
- 4.25 The garden designer and writer, Stephen Switzer, stated that the water garden was so famous that it needed no description. In 1729 he wrote "...the Canal and Cascade at Bushy Park...is, without doubt, one of the best works of that kind in England, and perhaps as good as any elsewhere". In 1995 a garden historian, Jane Crawley, identified the water gardens with their cascade and grottos and the Brewhouse in the background of a painting by Jacob Bogdani (1660-1724); and through researchers, largely by the Friends (of B.P and HCHP) a further contemporary painting was identified in storage at Hampton Court. The painting "Figures in a Landscape" is now on display at Hampton Court.
- 4.26 There was also large scale tree planting in the park which Switzer may have had a hand in, possibly as Henry Wise's deputy. An estimate by Wise made at some

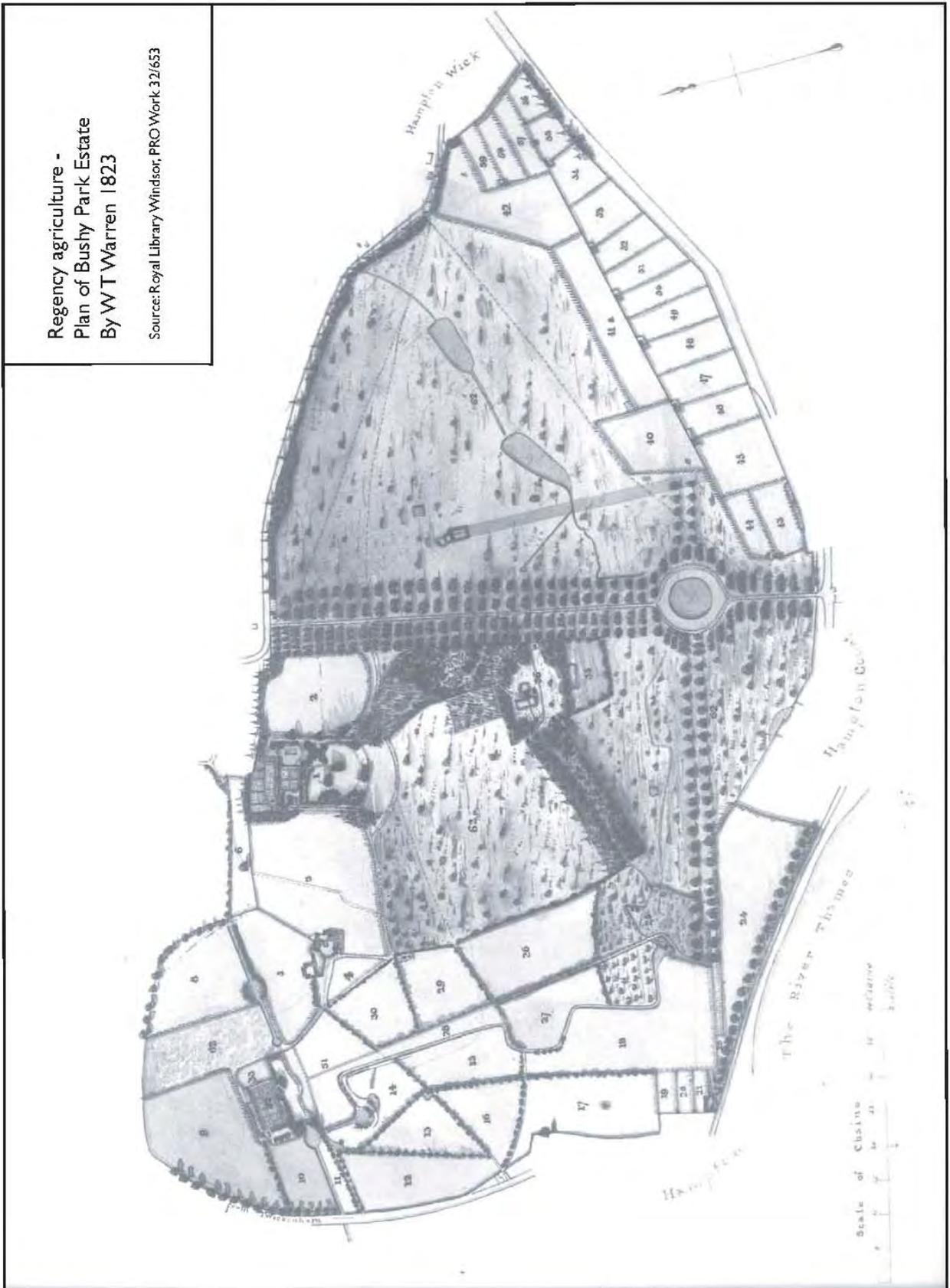
time between 1711 and 1714 includes planting 700 elms and white poplars in “lines and platons” in Bushy Park.

- 4.27 The first Earl of Halifax died in 1715 leaving Upper Lodge to Catherine Barton, the niece of Sir Isaac Newton. She lived at the lodge until her death in 1739 but the Keepership passed to George Montagu, Halifax’s nephew, who took up residence in and made improvements to Bushy House.
- 4.28 Upper Lodge became a Grace and Favour residence and continued in this role until the First World War when it was used as a military hospital and later, between the wars, as a school. The site was requisitioned in World War II for military purposes and continued in related research occupation under a lease via the Admiralty until 1994 when the lease was handed back to the Crown Estate. The Crown Estate has redeveloped the Upper Lodge Site for residential occupation but granted a long term lease on the core area of the Water Gardens to the Royal Parks, thereby enabling restoration with the help of HLF.

Bushy House

- 4.29 Bushy House began as the keeper’s lodge for Middle Park, likely to have been originally sited at the Pheasantry. By 1653 it was located in its current position and described as a “large dwelling house”.
- 4.30 After the Restoration, Edward Proger, a courtier and friend of the King, was commanded to build a lodge at Bushy by Charles II. This princely building, costing £4,000, forms the nucleus of the present house. He became keeper of Middle Park and Hare Warren. After the death of King Charles, Proger retired to Bushy and continued to live there until his death at the age of 92 in 1713.
- 4.31 Two years later George Montagu inherited the Keepership of the whole park from his uncle and took up residence at Bushy House, enlarging the house and redesigning the gardens. Further land was enclosed from the park to east and west to enlarge the grounds. In turn his son, George Montagu Dunk, inherited the Keepership in 1737. A successful politician, he built Hampton Court House for his mistress, the actress Mary Anne Faulkner. From an original grant of 3 acres from Hampton Court Green the house and gardens ended up taking 8 acres.
- 4.32 The next Keeper (or Ranger) of the park was the wife of the Prime Minister, Lord North. On his resignation as Prime Minister in 1778 they moved to Bushy House and during their time there the gardens were transformed from the formal to romantic English landscape garden style. Tradition has it that Capability Brown laid out the new gardens; he was head gardener at Hampton Court at the time and a friend of Lord North.

Figure 4.5 Historic Context – Plan of Bushy Park Estate, Warren 1823



Regency agriculture -
 Plan of Bushy Park Estate
 By W.T. Warren 1823
 Source: Royal Library Windsor, PRO Work 32/653

The Duke of Clarence – farming at Bushy

- 4.33 After the death of Lady North in 1797 the third son of George III, William, Duke of Clarence became Ranger. A slightly disreputable figure at that time, he was living with the comedy actress, Dora Jordan, and had a total of ten children with her, seven while they lived at Bushy.
- 4.34 The previous occupants of Bushy House had affected the park as a whole either as careful keepers like Proger or by appropriating open parkland for gardens like the Earl of Halifax; but the Duke of Clarence had ambitions as a gentleman farmer and by carrying these out at Bushy he made the biggest change to the land since its emarkment in Tudor times.
- 4.35 The Duke was short of money so he immediately harvested the cash crop of timber in the park, selling 758 trees shortly after moving there and leaving little timber standing after a year. However he was also responsible for making new plantations, including some of those which would become the Woodland Gardens.
- 4.36 William also subdivided large areas of the park with hedges for enclosure of arable farming, pasture land and tree growing. Along with the areas already enclosed from parkland such as the Royal Paddocks this meant that over 50% of Bushy was no longer parkland as indicated on the plan by Warren, dated 1823.
- 4.37 As the Duke of Clarence came closer to the crown a suitable wife was found for him. Dora had departed from Bushy and died in poverty in Paris in 1815. When William married Princess Adelaide in 1818 she joined him and his many children at Bushy House. The marriage brought money and the house was enlarged shortly afterwards. On William's accession to the throne Queen Adelaide became Ranger and she continued to use Bushy House until her death in 1849. William lost interest in farming at Bushy when he became King in 1830. Some areas were returned to parkland and the new barns and other farm buildings he had built near Barton's Cottage were demolished in 1851. William's legacies to the park are partly surviving pattern of fields and hedgerows mainly to Westside of the Park along with the now mature plantations.

A place of popular resort

- 4.38 By the end of the 19th century Bushy Park was a popular place of resort for Londoners particularly on Sundays. Local people traditionally had access to the park including the right to gather firewood from fallen branches (the subject of a dispute in Victorian times). But rights of access had also been challenged in the early part of the eighteenth century. A path from west to east across the upper part of the park (now known as Cobblers Walk) was a popular route for Hampton villagers to reach Kingston market until it was disrupted by the creation of the Great Avenue. The road, intended as a royal road to Hampton Court, was fenced off from the rest of the park so obstructing this established footway route. This resulted in a drop in the number of villagers venturing across the park on market day. It was noted by a shoemaker, Timothy Bennett, in his shop in Hampton Wick High Street and challenged accordingly.

- 4.39 Timothy Bennett was celebrated for bringing about the re-opening the footpath across the park. In 1752 the public were officially sanctioned to cross the Great Avenue road and it ceased to be a private royal route. The path became known as Cobblers Walk. Through the next 150 years the public use of the park increased, with riding and picnics in the grasslands and woods and during the 1870s and 1880s Bushy Park was the site of great cycle meets marking the heyday of the penny farthing.
- 4.40 By the end of the century Great Avenue had become known as Chestnut Avenue and viewing the spectacular blooming of the chestnuts trees in springtime was formalised as Chestnut Sunday, an opportunity for a festive day trip away from the grime of the city. This event declined in popularity after the First World War but has recently been revived as a significant local event. This reflects the change in use of the park during the 20th century as its popularity as a destination for day trips from London declined and it settled into the role of a local park particularly valued by people living nearby for its tranquillity and rural atmosphere.

Scientific research

- 4.41 As the Victorian age ended new uses were sought for the grand lodges of Bushy Park and both Bushy House and Upper Lodge became the site for major institutions carrying out scientific research. Now these uses have run their course giving new opportunities to restore links between the great houses and the landscape of the park.
- 4.42 At the end of the 19th century the Royal Society were looking for a site for the proposed National Standards Laboratory. In 1900 this was established as the National Physical Laboratory (NPL) at Bushy House. Amongst the important research undertaken here throughout the 20th century were the earliest experiments in radar (carried out on the NPL sports field) and Barnes Wallis's tests for the development of the bouncing bomb in the NPL ship tanks.
- 4.43 The US Eighth Army Air Force used Upper Lodge as barracks from 1941 and in 1944 chemical warfare experiments were made there. Upper Lodge transferred to Admiralty in 1945 to extend the Admiralty Research Laboratory at Teddington. The MOD relinquished the leases in 1994 and the Crown Estate has redeveloped the Lodge, part of the Mews and the former circular testing tank building (rotunda) for residential uses, also enabling partial restoration of the Water Gardens.

The two World Wars

- 4.44 The World Wars caused land to be taken from the park for both food production and accommodation of troops. Most of this is now returned to the park but the allotments and some archaeological traces of the camps remain.
- 4.45 During World War I, an encampment of Canadian troops was stationed in the park. A number of temporary buildings were established in the grounds of Upper Lodge, which was used as the King's Canadian Hospital.
- 4.46 Some of the parkland was ploughed for food production and allotments already established at Hampton Wick, Clapperstile and at Hampton Hill were intensified.

The farmed land was returned to the park after the war. Clapperstile allotments were taken over for NPL use but the two main allotment sites remained in use.

- 4.47 The Second World War saw large areas of the park again used for growing food and several parts given over for military use. The area to the east of Chestnut Avenue and north of Cobbler's Walk became part of a large U.S. base called Camp Griffiss. In 1944 General Eisenhower moved S.H.A.E.F. (Supreme Headquarters Allied Expeditionary Forces) to this camp in Bushy Park from where the initial preparations for the Normandy invasion took place. The last of the wartime buildings were not removed until 1963 and the area was returned to grassland. The site still has vestiges of the camp layout and incorporates the commemorative memorials to the U.S.A.A.F., SHAEF and more recently the Berlin Airlift.

The 20th century park

- 4.48 Other developments during the twentieth century relate to the use of the park for public leisure and recreation. Both social change and the characters of the various superintendents played their part in shaping the park.
- 4.49 After the First World War a scheme to provide work in the Royal Parks resulted in the addition of the triangular boating pond and the creation of a woodland dell, cascades and rustic walks in the Waterhouse Wood under the Superintendent of the Park, Mr Hepburn.
- 4.50 From 1919 to the mid-1930s a residential open-air school (known as the King's Canadian Camp School) was located at Upper Lodge, extending into the former Groom's Paddock. Here poor boys from London's east end came to recover from respiratory diseases, benefiting from fresh air and exercise, including swimming in the pools of the former Water Gardens.
- 4.51 The Superintendent of the park from the late 1940s to the 1960s, Joseph Fisher, oversaw the creation of the Woodland Gardens, returning something of the pleasure garden of the former Pheasantry villa as it had been in the 1830s. He also modified the Waterhouse Gardens, opening up grassed spaces under the trees and constructed ponds, Triss's (named for his daughter) and Fisher's Pond. Joseph Fisher also developed the Isabella Plantation at Richmond Park.
- 4.52 Further changes included the creation of a children's playground, the loss of the teahouse (near the playground; similar in design to that surviving at Greenwich), car parks and the enclosure of several sports pitches.

The 21st century park

- 4.53 The restoration of the Old Brewhouse, part funded by the Heritage Lottery Fund, has revitalised the scheduled ancient monument and ensured a future for the building.
- 4.54 The construction of the Pheasantry Welcome Centre has been a successful and popular addition to the park facilities, timber clad and low key nestling into the landscape.

4.55 The addition of sports' pavilions, semi-enclosed parkland for sporting use follows on from the Olympics legacy.

4.56 The creation of the Education Centre at the Stockyard has become an invaluable resource in the learning of nature and conservation, and history.

4.57

Management Issues: Historical Context

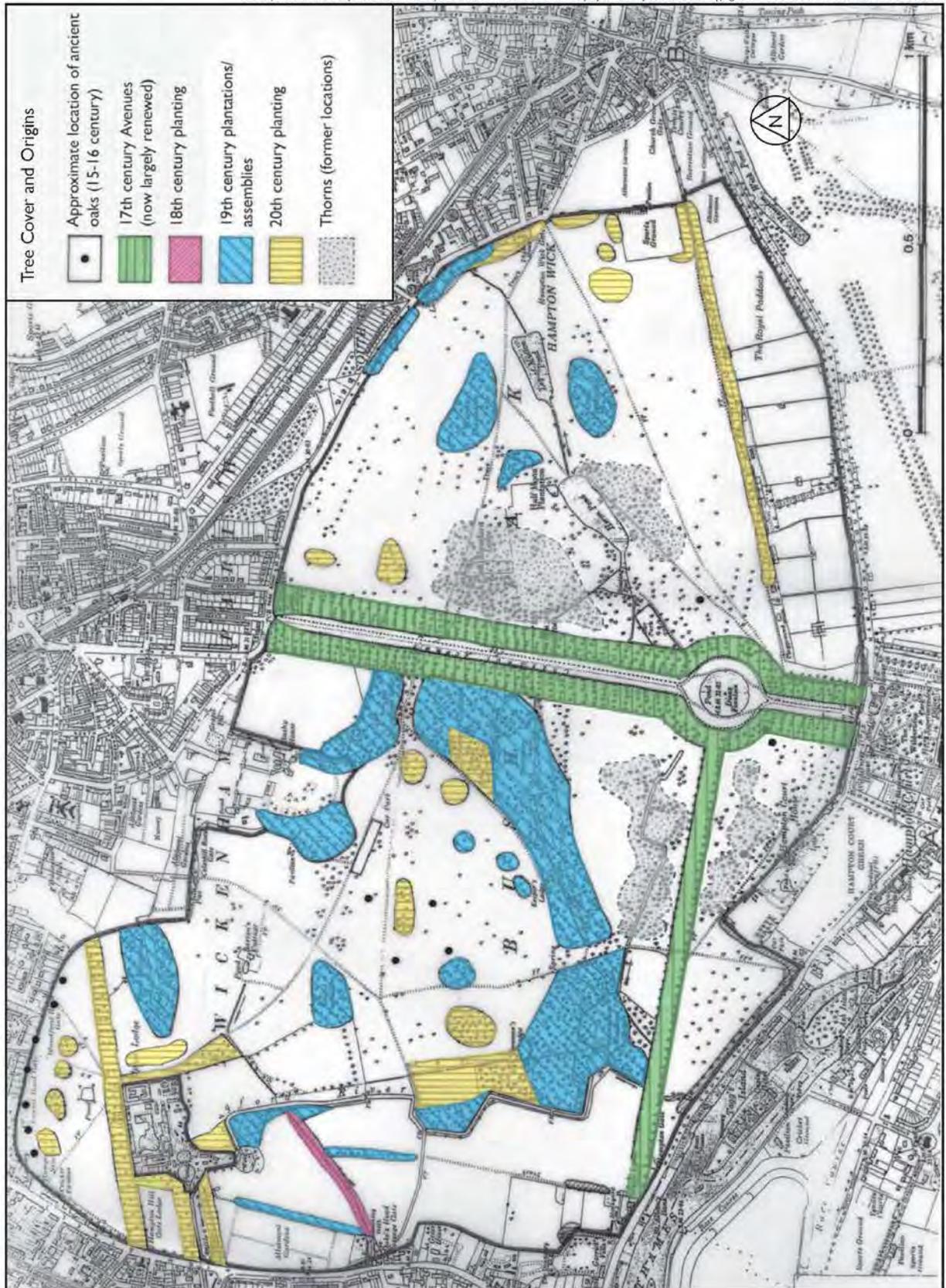
Avoiding damage to the archaeological resource.

- Conservation of the historic framework and features including pattern of avenues, plantations, buildings, and extensive deer grazed grassland.
- Potential conflicts between park use and historic fabric.
- Important buildings within the historic extent of the park have become disconnected from it.

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Figure 4.6 Historic Context – Tree Cover Origins

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Significance of Historic Context

Key historic features of Bushy Park

Medieval

- Remnants of medieval open-field system – ridge and furrow patterns and field baulks

The Deer Park

- primary historical significance of Bushy Park
- established mainly in the early 16th century
- The Wall
- Initially 3 parks, later blended together.
- largely unchanged for the last 500 years
- wide open spaces of deer grazed grassland and bracken with oak and thorn trees

17th and 18th century

- the Longford River
- Upper Lodge and Bushy House
- the Water Gardens and associated avenues
- Great Chestnut and Cross Avenues
- the Basin and Diana Fountain
- White Lodge

19th century

- Brewhouse Meadows and Stockyard Fields
- the Plantations and Duke of Clarence hedgerows

20th century

- development of the Woodland Gardens
- WWII encampment
- proliferation of sporting facilities
- visitor amenities - the playground, toilets and car parks
- fragmentation (allotments, sports fields, Kings Field)

21st century

- education centre
- Pheasantry Welcome Centre

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5.0 PHYSICAL DESCRIPTION

Geology, Topography and Soils

- 5.1 The underlying geology of the park is London clay, although this only outcrops in a small area at the site of the Canal plantation. Over the remainder of the Park river terrace gravel deposits overlie the clay. The majority is covered by the lower terraces of flood plain gravels while the higher Taplow terrace occurs in the north-western corner of the park, there are in addition small areas of alluvium. The soils are generally free draining, thin, gravelly and acidic.
- 5.2 The whole of Bushy Park is low-lying and of remarkably consistent flatness, at about 10m OD with very gentle slopes to the south determined by the arrangement of river terraces. In the north-west corner of the park, towards Hampton Hill, the ground rises onto a higher old river terrace at about 15m OD. There are local undulations and depressions within the flood plain gravels, such as former gravel pits which create small scale diversity in the land surface.

Views and Vistas

- 5.3 The flat topography of the park is exploited in the dramatic long views along the Chestnut and Lime Avenues and also forms the basis of the fundamental character of the park as expansive, level or subtly undulating open grassland. However the flat landform also means that unshielded views of buildings even of modest height outside the walls can be intrusive and the boundary tree planting is crucial in maintaining a sense of enclosure. See landscape character section for analysis of views and vistas.

Management Issues: Views and Vistas

- Flat topography gives positive long views within the site but also allows the negative impacts of views of buildings outside the park.

Hydrology and drainage

- 5.4 The two main natural drainage channels are:
- the vicinity of the Dukes Head Passage Gate north eastwards from the former Hampton Spring, skirting the Taplow river terrace, and the boggy area where the London Clay outcrops; thence eastwards out of Bushy Park towards Teddington;
 - the Waterhouse Pond area north eastwards through the woodland gardens and then eastwards through the eastern half of Bushy Park and out of the park just north of Hampton Wick.
- 5.5 The natural drainage has, however been complicated by the creation of new watercourses. The most important of these is the Longford River which was created by Charles I who had the waters of the River Colne diverted along a 19.5km (11 miles) channel to Hampton Court. The river enters the Park in the north-west corner at Pantile Bridge and “elbows” its way south, supplying water

to a number of waterbodies in the park and finally out to Hampton Court and the Thames.

- 5.6 During the mid and late 20th century some of the network of small drainage ditches was filled in; and in recent wet winters problems have been encountered due to the high level of the water table within the park which may be at least in part due to the loss of these ditches. Symptoms include an increase in standing water and the loss of thorn trees to the south of the Upper Lodge Road Car Park and elsewhere.

Management Issues: Hydrology and Drainage

- Complex historic system of watercourses
- Network of small drainage ditches and culverts some of which are seasonal
- High water table during adverse weather conditions causing loss of parkland trees

Water

- 5.7 Water is a key feature at Bushy and appears in a variety of forms. The extent through the park is very considerable – some 12,000m of water courses (the Longford River, Woodland Gardens channels, Barton’s Stream system, Heron Pond system), including some 2,000m of culvert. The open water of the ponds extends to almost 6ha.
- 5.8 The Longford River forms one “spine” entering at the northwest corner of the park at the Pantile Bridge and flowing southeast to just east of Hampton Court Gate. As an artificial river it is managed with several separate off takes leading water through the Woodlands Gardens. One main flow serves the Diana Fountain and on to Hampton Court where it flows through the formal waterways of the Great Fountain Garden and the Long Canal. The other main flow, taken off in the Woodland Gardens serves the watercourses of the Boating Pond, Heron and Leg of Mutton Ponds. There are other watercourses and water bodies including those of Hampton Hill Pond, the Upper Lodge Water Gardens, the Canal and the Barton’s Stream system which runs from Hampton Hill across the park to the Clapperstile boundary and is then culverted eastward under the grounds of Bushy House to discharge from the park, still in culvert, at Sandy Lane. The Barton’s Stream system has also been benefited by the outflow from a recently created wetland area in the Brewhouse meadow which is fed by a minor outflow from the Longford River.
- 5.9 These extensive water bodies are subject to silting, deterioration of camp-sheeting of contained banks and to blockage or collapse of critical connections of culverts. The wildlife habitats they support also require management e.g. the sensitive management of in-channel and bankside vegetation. Provision, maintenance and weather related control of valves and sluices are essential for varying flow regimes in response to potential flood or low flow conditions. Considerable work has been undertaken over the last 10 years, partly in response to major flooding in the winter of 2000-2001, and subsequently as part of the HLF project, including de-silting the major part of the Longford River and replacing

some of the camp-sheeting to the ponds. However there is still substantial work to be undertaken to get back to a maintainable baseline.

The Longford River, constructed in 1638, provides vital supply of water from Longford Village to Bushy (19km) serving and supplying its water bodies and those of Hampton Court. It is of ecological and heritage significance in its own right. Informed and committed management of the river corridor outside the Park boundaries is critical to continuity and well being within.

Management Issues: Water

- Large extent and variety of forms of water in the park – major ongoing maintenance commitment.
- Some catch-up still required in backlog of maintenance to water bodies.
- How to manage Longford River more efficiently

Physical Context : Key Management Issues

- TRP should take opportunities to harvest and store rainwater for use in buildings and for irrigation purposes.
- TRP should consider how best to manage and develop physical features to enhance the landscape and nature conservation value of the park.
- TRP should review the extent of culverted systems and examine case for re-opening

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PART 2: DESCRIPTION, USE AND CHARACTER

6.0 NATURAL FABRIC

Introduction

- 6.1** The following section describes the essential elements which create the natural fabric of Bushy Park. The natural landscape of Bushy Park is characterised by a mosaic of acidic grassland with bracken and anthills, interspersed with poorly drained areas with tussock grasses and rushes, scattered parkland trees, enclosed tree clumps and small scale plantations. Superimposed on this is the formal landscape comprising the Chestnut Avenue and the Cross Avenue. Much of the character of Bushy Park is derived from its continuous management over the last four centuries as a deer park. This includes the essential permeability of view beneath the browse line of the parkland trees and open clumps; the extent of open grassland; and the pattern and quality of the bracken. This section also describes the collective value of the natural fabric as a resource for ecology and wildlife, and the modern horticultural areas of the Woodland Gardens which are an important attraction within Bushy Park.

Ecology and Wildlife

- 6.2** Bushy Park is a large and wildlife-rich site in Greater London. It ranks amongst the top sites for oak pasture woodland in Britain as well as being internationally important for its range of invertebrates especially those associated with ancient trees. Britain possesses more such sites and a larger area of them than any other country in Western Europe and is therefore a stronghold for a wide range of invertebrates, mosses, fungi and lichens.
- 6.3**

Biodiversity definition

Biodiversity can be defined as: "*The variability among living organisms from all sources including, inter alia terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems*" (Article 2 of the Biodiversity Convention, 1992). Three levels of biodiversity are apparent from this definition, namely diversity between and within ecosystems and habitats; diversity of species and genetic variation within individual species.

Conservation Status

- 6.4** The Park is designated as a Site of Metropolitan Importance for Nature Conservation and is thus of regional importance for wildlife conservation (see section 3 of part 1). However, the Park's habitats and assemblages of invertebrates (particularly those associated with acid grassland and ancient wood pasture) have been acknowledged by Natural England to meet SSSI criteria and Bushy Park is currently a proposed SSSI awaiting notification.

Managing with Partners

- 6.5** The Bushy Park Wildlife Group (BPWG) comprises Royal Parks staff, volunteer naturalists, ecologists and other professionals and provides a forum for discussions relating to wildlife and nature conservation in the Park. The groups members and carry out and promote the surveying and monitoring of wildlife. The Group has set up two main areas of recording interest (Birds and Butterflies) and flora are also recorded on an occasional basis. Data are submitted to the TRP Ecology Section. Members of the group may also participate in work parties to carry out conservation management work. . TRP supports the BPWG in this work and also actively supports the local Richmond Biodiversity Partnership as well as regional and national Biodiversity Action Plans and work closely with Natural England, the Environment Agency and DEFRA as required.
- 6.6** The Park will facilitate sharing information, particularly in partnership with Greenspace Information for Great London and opportunities for training and research. Park staff will disseminate information and share best practice with other professionals and organisations such as Natural England, the GLA, City of London Historic Royal Palaces and Wimbledon Common. Hosting and delivering lectures and workshops helps to raise understanding regionally, nationally and internationally.

Habitats

- 6.7** The Park comprises a number of habitats but is principally Lowland Wood Pasture and Parkland, a priority habitat in the National Biodiversity Action Plan and encompassed by the London BAP and the LBRuT Local BAP. This is a 'habitat complex' comprising large open grown trees in a matrix of grazed grassland. In Bushy Park, the habitat has persisted for over 500 years.
- 6.8** The London area is well endowed with this nationally rare habitat, in addition to Bushy Park, sites such as Epping Forest, Richmond Park, Hampton Court, Home Park and a range of other deer parks, as well as sites close to London such as Ashted Common, Burnham Beeches and Windsor Forest and Great Park. This range and proximity of sites means that London can make a significant contribution to the UK Lowland Wood Pasture and Parklands Action Plan, as part of the UK Biodiversity Action Plan (BAP). Richmond and Bushy Parks could together provide London's most significant contribution to this process. The Park is also playing a role in the Richmond borough BAP and relevant London BAPs.
- 6.9** The Park's other habitats include:
- unimproved neutral and acid grasslands, often containing large numbers of anthills, which are Biodiversity Action Plan priority habitats in their own right (Bushy Park holds a significant proportion of the remaining acid and wet neutral grassland habitats in London) (UK: acid grassland, neutral grassland, London: acid grassland, Richmond: acid grassland);
 - broad-leaved and mixed woodlands (UK: broad-leaved, mixed and yew woodland, London: woodland, Richmond: broad-leaved woodland);containing a number of significant veteran trees.
 - the Longford River, lakes, ponds and ditches (UK: standing open water and canals, Richmond: standing open water);

- wet grasslands and rush habitats (UK: purple moor grass and rush pastures, Richmond: purple moor grass /rush pasture);
- bracken (UK: bracken);
- bare and trampled ground, paths and rides which forms an important habitat for flora and fauna adapted to take advantage of these types of habitat;
- walls and paving, which can be valuable for lichens (UK: built-up areas and gardens, London: built structures);
- reedbed (a national and London BAP priority habitat, (UK: reedbed, London: reedbed, Richmond: reedbed)
- wet woodland (UK: wet woodland).

6.10 Although the Park does contain a number of veteran hawthorns, there is little scrub habitat in the main body of the Park since natural regeneration is prevented by deer and rabbit browsing. However, management to encourage scrub has been successfully trialled in Richmond Park where several scrub enclosures have allowed the regeneration of hawthorn and gorse. It is also possible to manage the edges of enclosed woodlands to create a transitional zone between the woodland and grassland consisting of scrub and woodland-edge grasses and wild flowers.

6.11 In 2004 a Phase II survey of park grasslands was prepared (LUC, 2005) to map and audit the occurrence and extent of ground flora communities present in the Park using the National Vegetation Classification (NVC) system to characterise the community types. This information, as part of the GIS data available through the Ecology Section, have provided a baseline for future surveys and underpinned a more detailed approach to management planning. In June-August 2011 a re-survey was carried out to measure changes in extent and community composition of these floral communities.

Species

6.12 Due to the variety of habitats present, the Park supports a very wide variety of species. A steadily growing volume of systematic monitoring of the Park has been implemented by the BPWVG for some birds and butterflies, however much survey information is also held by different organisations (for example data held by the London Natural History Society). In the past, such sources of information were not readily available to TRP for the purposes of management, but TRP's Biological Records System is now able to access these data as they are progressively being digitised as part of the work of the GiGL partnership

6.13 Invertebrates: Bushy Park is now widely acknowledged as supporting an exceptionally high species richness of invertebrates, including many rare and nationally scarce species in important assemblages. A volume entirely dedicated to the insects of Bushy Park was published in the Bulletin of the Amateur Entomologist's Society (vol 65, no.464) in 2006. Hammond (2011) noted that a total of 899 beetle species, of which 172 are of conservation importance, have been

recorded from the Park. The conservation importance of invertebrate assemblages in Bushy Park is one of the principal reasons for its qualification as a proposed SSSI.

The Park is particularly important for decaying-wood (saproxylic) invertebrates (a UK BAP priority group) associated with the veteran trees. This key group was included in the ecological survey in 2004, with 193 species of saproxylic beetle recorded, one of the richest sites in the UK (Denton 2006)³. Further survey, conducted in 2009-2010 (Hammond, 2011)⁴, by TRPs Ecology Section and Dr Peter Hammond raised the total to 264 saproxylic species with 167 of those are of conservation importance; including 42 Red Data Book species. These findings confirm Bushy Park's high ranking well within the top ten sites in Britain for this important group of beetles and clearly of international significance. From the same survey 2009-2010, 359 species of flies (Diptera) including 82 species of local or national conservation importance, were identified by Dr Martin Drake; of which 8 were Red Data Book species. Previous work (Baldock *et al.* 2006)⁵ had already identified Bushy Park as a site of some interest for some specific groups of flies (the larger Brachycera and Conopidae).

Informal surveys have also revealed a rich fauna of aculeate hymenoptera (bees, wasps, ants) with 169 species recorded including many species of conservation importance and an exceptionally high species quality score for the site (Baldock & Sutton 2006)⁶.

Spiders had been previously unsurveyed but were included in the 2004 ecological survey (LUC, 2005) with 89 species recorded by Dr Jonty Denton; a large total for a single survey. The Park also supports important invertebrate fauna associated with wetland habitats (ponds, ditches and wet grasslands). A survey in 2004 by Dr. David Leeming (LUC, 2005)⁷ recorded a total of 216 aquatic invertebrate taxa, with 10 Nationally Notable and 2 Red Data Book species. A targeted survey by Leeming in 2010⁸, principally of the recent wetland creation and restoration works funded by The Esmée Fairbairn Foundation, recorded 189 taxa including 10 species of conservation importance; a Red Data Book riffle beetle and nine nationally scarce species including the soldier fly *Vanoyia tenuicornis*. Freed (2010)⁹ also recorded 11 species of dragonfly and damselflies from these wetland areas.

Recent records of the signal crayfish (*Pacifastacus leniusculus*) in the Longford River outside the Park are of concern, as is the continuing presence of the Chinese mitten crab (*Eriocheir sinensis*). Both these species are highly invasive, hard to

³ Denton J. (2006) The Saproxylic Coleoptera of Bushy Park, Middlesex, *Bulletin of the Amateur Entomologist's Society* vol. 65 (No. 464), pp.18-28.

⁴ Hammond P. (2011) Survey of the beetles of Bushy Park, Middlesex, U.K., with special reference to the species associated with veteran trees, June 2011, unpublished report to TRP

⁵ Baldock D., J. Denton & P.G.Sutton (2006) The Larger Brachycera and Conopidae of Bushy Park, Middlesex, *Bulletin of the Amateur Entomologist's Society* vol. 65 (No. 464), pp.10-17.

⁶ Baldock D. & P.G.Sutton (2006) Additions to the list of Aculeate Hymenoptera for Bushy Park, Middlesex, *Bulletin of the Amateur Entomologist's Society* vol. 65 (No. 464), pp.29-36.

⁷ LUC (2005) Ecological Surveys of Bushy Park, Land Use Consultants report for TRP January 2005.

⁸ Leeming D. (2010) A survey for aquatic invertebrates, amphibians and water voles. Bushy Park Middlesex, 6th July 2010. unpublished report for TRP.

⁹ Freed, T H (2010) A Survey Of Odonata & Lepidoptera Associated With Selected Wetland Areas In Bushy Park, unpublished report for TRP.

control and predators of native aquatic wildlife. There should also be vigilance for the likely spread of the zebra mussel (*Dreissena polymorpha*), a non-native serious pest bivalve mollusc was recorded for the first time in the Heathrow Section of the Longford River in 2008 (Windrush,2008)¹⁰.

6.14 Butterflies and moths : Surveys of lepidoptera in 2005-2006 and in 2010 (Freed, 2010) have revealed that the Park supports a very rich community of moths and butterflies with over 550 species including 23 of conservation importance. Butterfly surveys by the BPWVG are undertaken annually using a standard transect protocol. Since 2001, some 31 species of butterfly have been recorded in Bushy Park, many of which breed in the Park. The most significant populations are the grassland species including small heath (UK BAP priority species), meadow brown and skippers but the wide range of habitats in the Park supports a wide range of species, for example purple hairstreaks, which breed in the canopies of the oak trees, are also a characteristic part of the Park's ecology.

Since 2010 the arrival of large populations of oak processionary moth and the recent need to manage it is having negative consequences on other species.

6.15 Birds: Over 47 species breed in the Park and more than 110 species have been recently recorded in the Park (Bushy Park Wildlife Group, 2006).. The Park supports birds associated with wetlands e.g. reed warbler, kingfisher, heron, snipe and a wide range of breeding and over-wintering water birds. Hole nesting birds are also important e.g. little owl, three species of woodpecker, nuthatch, tawny owl, kestrel, ring-necked parakeet and jackdaw, as are other woodland species (treecreeper, woodcock, and sparrowhawk) and birds of open parkland (skylark, meadow pipit, starling and jay).

Bird monitoring based on the standard walk method, carried out by volunteers, began in 2004 and continues. Historic bird records are in the form of a considerable amount of raw data, with records from various sources extending back to the 1930s.. These data, alongside more recent records supplied by the volunteers of the Bushy Park Wildlife Group are being incorporated into the Biological Records system with more recent data being prioritised. In addition, an annual volunteer survey of skylark breeding areas commenced in 2009. This work has enabled trends in bird numbers to be identified, for example the roughly 6-fold increase in Ring-necked Parakeets and Jackdaws since monitoring began. Of particular importance are a number of ground-nesting birds like skylark, reed bunting, meadow pipit and stonechat. All four of these species are of conservation concern in the UK. Unwitting walkers or dogs can easily disturb ground-nesting birds among the grass, therefore signs requesting visitors to keep dogs on short leads and to stick to the paths are now being erected from March to July in one of the two main skylark nesting areas. BPWVG volunteers are monitoring the outcome

¹⁰ Windrush (2008) Ecological Monitoring Of The Twin Rivers Diversion (Tcd) Comprising Reaches Of The Duke Of Northumberland's River And Longford River. Windrush Aec, July 2008

of this approach which has been successful in increasing the number of skylark territories in Richmond Park.

6.16 Mammals: Mammal records from the Park are mainly derived from occasional observations and records from interested individuals. A survey of small mammals undertaken in 1997 (Reeve et al. 2001)¹¹. Woodmouse, Bank vole, field vole and common shrew were all found. The mammal populations of the woodland areas and Brewhouse Meadows were comparable to similar sites elsewhere but the populations in the open grassland areas were relatively low. This may result from the very high levels of disturbance from dogs and the relative lack of cover in the deer-grazed and mown swards of the Park.

Hedgehogs are still to be found in good numbers in Bushy Park although they have disappeared from most of the Parks in inner London. The Regent's Park is the only other Royal Park with hedgehogs. In many parts of London the hedgehog population has also sharply declined. In Bushy Park, as well as the presence of suitable habitat, the absence of badgers, which are known both to compete with hedgehogs for food and predate them, is one key factor in their continued presence. Richmond Park, offering very similar habitats but with a strong population of badgers, has no established population of hedgehogs.

Bats. The varied habitat, good insect populations and the availability of tree roost sites also makes the Park important for bats – no fewer than 9 bat species have been recorded since 2004. Known roosts exist in Park buildings for pipistrelle and brown long-eared bats. In May 2011, three harp traps recorded a total of 52 bats of 8 species: Nathusius' pipistrelle, common and soprano pipistrelle, Leisler's, Daubenton's, brown long-eared bats, noctule and Natterer's bats. In June 355 common pipistrelles were counted emerging from a maternity roost close to the Park in June 2011 (Adam Curtis, pers comm.). Such survey work confirms that Bushy Park is a locally important site for foraging and roosting bats, with wooded areas with mature trees, and areas of water being the most attractive areas of the Park for foraging bats. The surveys have also confirmed that a number of buildings in the Park are used by roosting bats, and it is also highly likely that mature trees with features of potential value to bats will also be used as bat roosts. Artificial lighting disturbance on the bat habitats from increasing over development on the perimeter is of major concern.

Water voles have recently become locally extinct in Bushy Park, with no reliable records since 2004. Formerly, they were found around the Longford River, nature trail and Waterhouse Woodland Garden. Water voles are a UK priority species for conservation and a re-introduction project should now be a priority for TRP. A report, commissioned in 2007¹² set out a series of management recommendations to improve habitat quality and to de-fragment the suitable habitat Park's waterbodies. Work to create a new area of wetland/reedbed in the Brewhouse Meadow has now provided about 950 metres of additional bankside habitat and was

¹¹ Reeve, N.J., I Palmer, K. E. Jones, J. Blanc & A. Fure (2001) Trapping Surveys of small mammals on Wimbledon Common, Bushy park and Ham Lands, south-west London. The London Naturalist No.80, pp109-125

¹² Gow D. (2007) Bushy Park Water Vole Management Plan. Unpublished report for TRP.

assessed in 2011 as a suitable receptor site. The use of mink-rafts on the site since April 2006 has detected no mink, but continued vigilance is required. Further work vital to the re-introduction project is to reduce heavy over-shading by trees along the Longford River within the Park allowing an improvement in the quality and connectivity of bankside vegetation; both in the River and along the streams and ditch system it feeds. Protocols for all bankside management need to be in place to ensure a continuity of suitable habitat.

6.17 Amphibians and Reptiles: TRP have relatively few data relating to amphibians and reptiles, however, the park's wet grasslands support good populations of grass snake. Records for common lizard and slow worm are notably absent and neither was recorded in the 2004 survey despite considerable sampling effort (LUC, 2005). The wetlands and waterways of the Park support populations of common toad, common frog and smooth newt and there are both historic and recent records of great crested newt, a European Protected Species. . The creation of a new wetland in the Brewhouse meadow and associated enhancements of ditches and a seasonally drying woodland pond are all of potential benefit to great crested newts. Further work to create suitable habitat within Canal Plantation in 2011 (in partnership with Froglife) will require future monitoring.

6.18 Fish: There are many waterbodies in Bushy Park including the Longford River, permanent ponds (large and small) fed by river water, wetland areas, seasonally drying ditches and ponds. Some larger water bodies are managed as coarse fishing ponds, the Heron Pond and Leg-Of-Mutton Pond, and dominated by carp (*Cyprinus* species). Few formal data are available but the ecology survey in 2004 (LUC, 2005) noted the presence of: chub, bullhead, stone loach, 3-spined stickleback, dace, roach and tench, Surveys of the Longford River outside the Park have additionally recorded pike, minnow, eel and perch (Windrush, 2008)

6.19 Fungi and Lichens: Ancient wood-pasture is typically rich in fungi and lichens (=lichenized fungi) but urban air pollution levels mean that lichens are generally under-represented. Currently TRP has no data on the lichens of Bushy Park, but more data exist for macro-fungi from occasional records and a park-wide survey was conducted from April to December 2009 (Overall, 2009). A total of 283 species were identified, including 17 species of conservation importance, notably *Coprinus sterquilinus* (on horse dung) and *Phellinus torulosus* (on hawthorn) both Red Data Book species. Attention to the protection and conservation of these and the other species of conservation importance is recommended. Although the Park contains a diverse range of fungi, the acid grasslands and some of the woodland plantations were relatively species-poor. Some expected or common species were absent or in low numbers, e.g. species of the genus *Boletus*. The reasons for such absences are unclear, but over-collection of edible species by park visitors and consumption by deer are likely contributing factors.

6.20 Flora: Only limited data are available regarding mosses and liverworts. The other flora of the Park have been surveyed on an ad hoc basis by volunteer recorders,

but were more systematically surveyed in 2004 and 2011 (LUC 2005, 2011)¹³ UK priority species in the Park include mistletoe, black poplar, chamomile and mudwort; the latter two being dependent on disturbed ground and the mudwort requiring disturbed wet ground. The acid grasslands of Bushy Park are of regional importance and form a valuable mosaic of wetter and drier habitat types varying in species composition according to local soil and drainage conditions.

The characteristic grasses of the Park's acid grassland include (among many others), common bent (*Agrostis capillaris*), brown bent (*Agrostis vinealis*), wavy hair grass (*Deschampsia flexuosa*) and early hair grass (*Aira praecox*). In less well-drained areas, the species mix shifts to favour velvet bent (*Agrostis canina* subsp. *montana*), purple moor grass (*Molinia caerulea*), tussock grass (*Deschampsia cespitosa*), plus a great variety of rushes, woodrushes and sedges.

Other characteristic plant species of the acid grassland include tormentil (*Potentilla erecta*), sheep's sorrel (*Rumex acetosella*), mouse-eared hawkweed (*Pilosella officinarum*) and heath speedwell (*Veronica officinalis*). Two London BAP flagship species are found in the Park's acid grasslands, heath bedstraw (*Galium saxatile*) and harebell (*Campanula rotundifolia*)

In the Park, the acid grassland generally benefits from deer grazing and light disturbance, which maintains an open grassland, helping to prevent invasion by bramble and scrub and halts succession to woodland.

Biodiversity : Key Management Issues

- TRP should continue to consider how it manages the Park to realise its biodiversity potential and how it contributes to the objectives in the national, Greater London and Richmond Upon Thames Biodiversity Action Plans. This includes work to conserve and enhance priority habitats and species as required by the NERC Act 2006
- Bushy Park is a proposed SSSI and should be managed as if it were of a status similar to Richmond Park. TRP should continue to work proactively with Natural England to progress the notification of the site.
- TRP should consider how to further progress systematic biodiversity data collection, particularly in order to monitor the outcomes of enhancement projects, and to ensure adequate resourcing for the information systems, data management and reporting that underpin TRP's biological records system. TRP should prioritise a re-introduction programme for water voles in conjunction with suitable habitat enhancements and a monitoring programme. TRP should consider how management should respond to the impacts climate change will have on ecology and wildlife in the Park
- Light spill - TRP should consider their approach to requests for artificial lighting in the park and other lighting outside the park from sports clubs to

¹³ LUC (2005) Ecological Surveys of Bushy Park, Land Use Consultants report for TRP January 2005.

enable and enhance sporting provision. In the past unlicensed lighting towers have been allowed casting intense glare over wide areas of Bushy Park to the detriment of night flying species such as moths, bats and invertebrates.

- Invasive species & pests – Bushy Park is increasingly having to divert time and financial resources to managing a wide range of invading species including the chinese mitten crab, ring necked parakeet, oak processionary moth, Japanese knotweed, Himalayan balsam and floating pennywort.

Trees and Woodland

6.21 Bushy Park contains several woodland plantations and a large number of mature parkland trees. The Park suffered greatly in the storms of 1987 and 1990 when a total of about 1,600 trees were lost, however the majority of these have now been replaced. There are today over 4,000 free standing trees in the Park and 40 ha of open and enclosed woodland (about 10% of the Park).

6.22 In recent years a comprehensive health and safety survey of the trees in the park has provided baseline information on the tree population. Plans are in place to regularly update these inspections are part of TRP health and safety policy. This in turn generates a cyclical regime of tree pruning and management works. Plans are in place to make this a more carefully programmed, pro-active and continuous management regime in the future.

6.23 Tree Health: there are a number of trees under severe stress in the Broom Clumps/Fountains yard area of the park due to compaction and the management of the area as a waste tip. Measures should be put in place to manage these trees on health and safety grounds, many are in too steep a state of decline for the effects to be mitigated.

6.24 Pests and diseases: are having a significant impact on the tree population:

- Acute Oak Decline
- Horse Chestnut Bleeding canker
- Oak Processionary Moth
- Potential threat of Sudden Oak Death

6.25 As listed above several areas of the park have Oaks showing symptoms of Acute Oak Decline, most notably the unenclosed plantations, woodland gardens and areas of the perimeter boundary planting. The consequence of this is a more frequent inspection regime in the zone one areas of the park and more frequent intervention in the way of pruning and deadwood removal. The retention of deadwood both aerial and ground both contribute to the value of saproxylic invertebrate assemblage for which Bushy Park is recognised as one of the top ten sites in the UK. The retention of deadwood is regarded as beneficial and generally attempts to tidy it away should be resisted.

6.26 Oak Processionary Moth – this invasive insect pest, which is a threat to tree and human health, was first found in the park in 2010 and is now the subject of a rigorous control programme. The numbers and distribution of the moth in

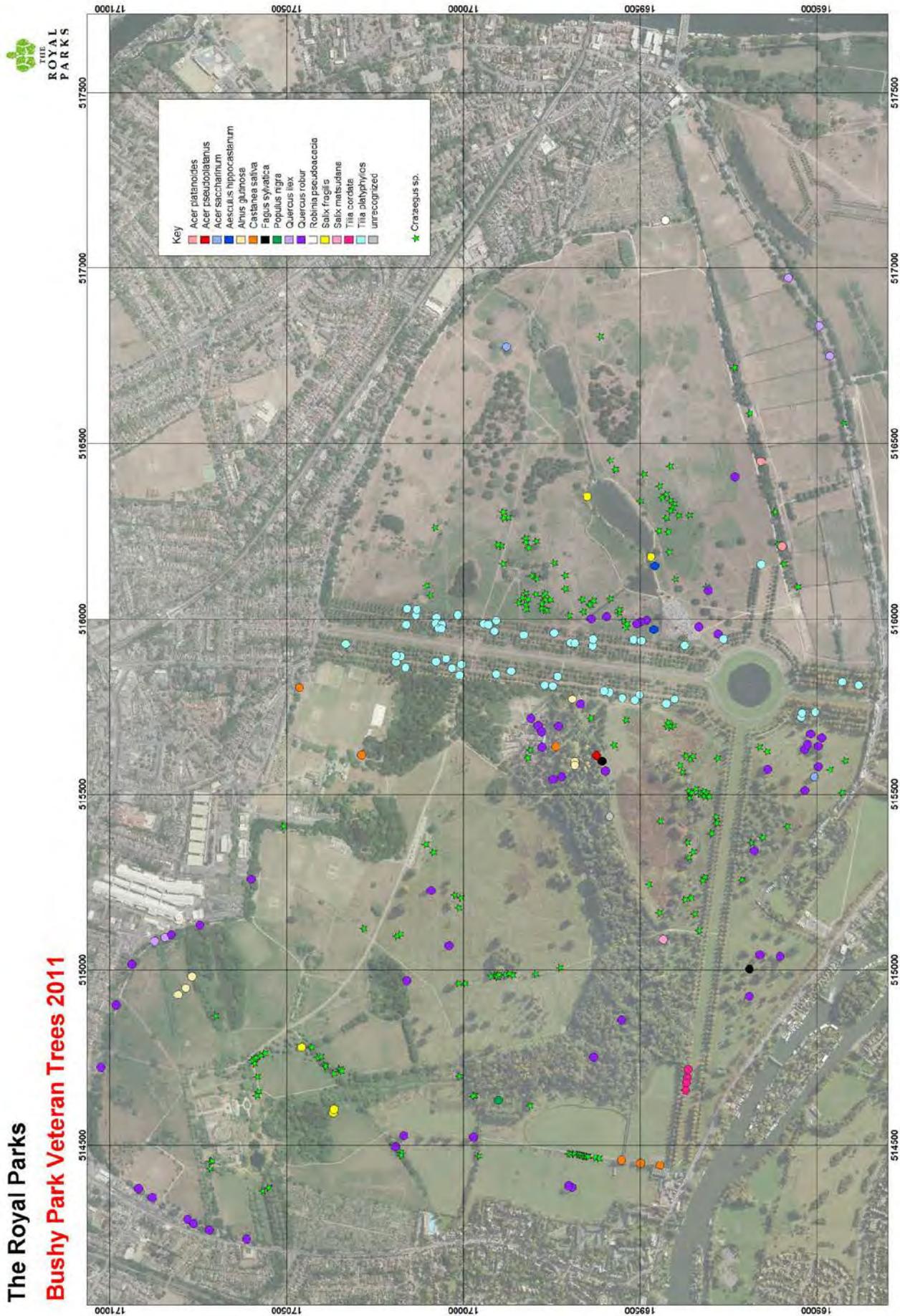
the park has increased significantly in 2012 and its future management regime will be kept under annual review.

6.27 Veteran trees: Specialist management of the veteran tree population in the park has not previously been a priority. A specialist survey of the veteran trees in Bushy Park took place in 2008 and in 2012. The 2012 survey identified a total of 143 veteran trees. These are scattered around the park with the greatest number of veteran Oaks situated in the southern area to the west of Hampton Court Gate and the remainder around the perimeter at Hampton Hill. These latter may date from around the time of the enclosure of the park by Henry VIII in 1537.

The recently updated survey of the veterans has produced comprehensive management plans for all these trees which should be implemented in a rolling programme as soon as possible and as funds permit.

Quercus robur	52
Tilia platyphyllos	52
Alnus glutinosa	6
Castanea sativa	6
Quercus ilex	5
Salix fragilis	5
Tilia cordata	4
Acer platanoides	2
Acer saccharinum	2
Aesculus hippocastanum	2
Fagus sylvatica	2
Unrecognized	1
Acer pseudoplatanus	1
Populus nigra	1
Robinia pseudoacacia	1
Salix babylonica	1

Figure 6.I Veteran Tree Locations



The Royal Parks
Bushy Park Veteran Trees 2011



Produced by Greenspace Information for Greater London & The Royal Parks

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6.28 Seventeenth century avenues: the formal Horse Chestnut and Lime (Cross) avenues were originally planted at the end of the seventeenth century. These trees have been gradually renewed so that they have an uneven aged population. In recent years a large number of the Horse Chestnuts have been severely affected by the bacterial disease Bleeding Canker of Horse Chestnut, which has caused dieback and death. A number of the Limes have also been affected by age and fungal attack.

6.29 Eighteenth century planting: during the eighteenth century only a small amount of planting was undertaken. Avenues planted as part of the formal landscape surrounding Upper Lodge are today no longer extant although they have been partly re-created by new planting in the 1950s and 1960s. This consisted of Horse Chestnuts which are now suffering significant population loss as trees succumb to Bleeding Canker.

6.30 Nineteenth century single age plantations: The earliest woodland block to be planted was the Pheasantry Plantation (oaks) in 1823 and planting continued throughout the mid and late 1800's using a limited palette of species namely oak, beech, holm oak and scots pine. Areas of the Pheasantry and Waterhouse Woodland gardens are showing signs of decline as a significant number of the Oak trees develop symptoms of Acute Oak Decline.

6.31 These single-aged woodlands are now reaching ages of 100 -150 years and are of particular concern in terms of management requirements. Those which remain enclosed such as Round Plantation, Guns Lodge Covert, Broom Clumps and the Pheasantry are suffering from lack of management. They are, for example, being invaded by rhododendron and sycamore following the opening up of the canopy through the decay of older trees and losses sustained during the 1987 and 1990 storms. In contrast, the unenclosed woodlands such as Oval, Warren and Half Moon Plantations have been subject to heavy grazing and trampling pressure. As a result have no understorey or natural regeneration and with the loss of trees through old age and storm damage are now beginning to resemble wood pasture. Both urgently require management intervention if they are to be retained as part of the parkland landscape. A significant number of the oaks in these unenclosed plantations – Warren, Oval, Half Moon are showing symptoms of Acute Oak Decline. The Oak in Warren Plantation particularly have being showing symptoms of Chronic Oak Decline but in recent years many appear to have succumbed to AOD.

6.32

Twentieth century planting: There has been considerable planting during the twentieth century, mainly renewal of historic features, but also some commemorative plantations such as the Millennium Wood. In the Woodland Gardens, tree planting in the last 50 years has been rather random with little thought given to the original horticultural plantings.

6.33 Parkland trees and hawthorns: Bushy Park possesses a good population of parkland trees, predominantly oak which are concentrated in areas to the south of the woodland gardens and to the immediate east of Chestnut Avenue. Replanting policy to date has been to replace 'like with like' as trees have died and thus generally maintaining the pattern of cover.

The Park's stock of mature Hawthorns has deteriorated rapidly over the last 10 years or so with many recently collapsed trees following the very high water tables of winter 2000-2001. Some useful replanting has been undertaken with particular effect and through sponsorship of the Friends, but more is needed to bring these important populations back to strength. Regrowth of browsed seedlings can also be encouraged by the erection of chestnut pale enclosures.

An analysis of air photographs from the 1960s and 1970s indicates that there was, at one time, a much greater concentration of hawthorns in specific areas of the Park, namely:

- Around Hawthorn Cottage
- To the south of Heron Pond
- South of the woodland gardens
- South of the Lime Avenue

6.34 Naturally regenerated woodland: woodlands have naturally developed in areas excluded from grazing, for example along the Longford River north of the Waterhouse Woodland Gardens. These areas tend to be dominated by species such as sycamore and require management in the form of thinning to promote a more uneven-aged species diverse woodland.

6.35 Boundary planting: The thin belt of trees around the park perimeter (inside the wall) are particularly important in blocking views to buildings outside the park and creating a sense of enclosure. Some notable gaps have been planted up as part of the HLF Project. The fact that most of the boundary planting is Oak, some of which are showing symptoms of AOD, while the occasional Horse Chestnuts are succumbing to Bleeding Canker, indicate that more extensive plans need to be in place for re-planting, in order to maintain this boundary screen and the sense of enclosure.

Management Issues: Trees and Woodland

- The population of trees in the Park needs to be managed to maintain a dynamic and evolving landscape whilst allowing continued public access.
- Management of woodlands should continue to be improved to benefit silviculture and wildlife, as appropriate.
- The Millennium Wood would benefit from a separate management plan.
- The Park is important for its saproxylic invertebrates. The veteran tree and deadwood resource needs prioritised management to maintain its importance to biodiversity in the future. A woodland management plan should be written and FSC accreditation should be subsequently achieved.
- Resource should continue to be allocated to ensure that the trees can be managed in accordance with public safety and tackling issues of sudden oak death and oak processionary moth.
- An avenues management strategy has been prepared subject to consultation. Its recommendations should be implemented.
- The increasing impact of pests and diseases on key species in the park will require park managers to diversify future plantings, whilst seeking to retain historically important avenue trees and propagating resistant clones where possible.
- Recent increases in material and labour costs in the protection of the lime trees required for up to 100 years have resulted in the need for consideration of iron tree guards which are more cost effective over the more traditional oak tree guard.
- The Woodland Gardens Management plan is in need of being thoroughly updated with the management of trees enhancing the ornamental planting.

Woodland

6.36 Much of the 47ha of woodland tree cover within the Park originates from planting within the last two centuries, and, with few exceptions lacks a structure typical of semi-natural woodland stands and with no indicator species of ancient semi-natural woodland.

W10 *Quercus robur*-*Pteridium aquilinum*-*Rubus fruticosus* woodland

W10 is one of the most frequently encountered broad-leaved woodland types on free-draining neutral to acid soils lowland England. It includes a wide range of canopy variation, but is typically dominated by oak *Quercus robur*, with frequent to occasional birch *Betula pendula*, sycamore *Acer pseudoplatanus*, hornbeam *Carpinus betulus*, and sessile oak *Quercus petraea*. Beneath the canopy, hazel *Corylus avellana* and hawthorn *Crataegus monogyna* are typical constituents of the shrub layer. Within the field layer, bramble *Rubus fruticosus*, bracken *Pteridium aquilinum* and bluebell are also frequently encountered.

W10d *Holcus lanatus* sub-community represents the bulk of the Park's woodland and has been derived largely from ornamental planting in the past two hundred years. It occupies 45.76ha (including 14.93ha of ornamental woodland garden), and includes both formally managed and unmanaged woodland stands. W10d is the most species poor of the W10 sub-community types, and is typified elsewhere by oak plantations and young secondary woodlands.

Within the Park beyond the formal areas of the Woodland Gardens, the most abundant woody species after oak, sycamore and birch is rhododendron *Rhododendron ponticum*. The typical woodland field layer, where not restricted by rhododendron, is characterised by bracken, bramble and a range of ruderal and grassland species including common bent, creeping soft grass, and wood dock *Rumex sanguineus*. In locations where deer have been excluded (e.g. the Round Plantation) woodland plants such as male fern *Dryopteris filix-mas*, foxglove *Digitaria purpurea*, and rosebay willowherb also occur.

The Woodland Garden area is distinct from the other W10d woodlands in the Park due to the presence of a larger number of ornamental trees, shrubs and herbs. These stands are not well represented by the NVC, and although they fit most closely to W10d, have been labelled as W10d (ornamental) to reflect their distinct character.

W6 *Alnus glutinosa-Urtica dioica* woodland

Two stands of W6 'wet woodland' occur within the Park (combined total area 1.24 ha) on low-lying ground by the Longford River. Both are referable as the **W6b *Salix fragilis* sub-community**.

W6 is a woodland type with a widespread but localised distribution within lowland England where it occurs on eutrophic moist soils on river floodplains, and around standing waters. The W6b sub-community is associated with nutrient enrichment, usually as a result of the deposition of alluvium from floodwater, fertiliser run-off and/or treated sewage effluent.

Within the Park, the W6 woodland has a rather scruffy appearance with alder *Alnus glutinosa* and crack willow *Salix fragilis* typically forming an open canopy beneath which there is often frequent elder *Sambucus nigra*, and a field layer comprised of dense nettle with a variety of other ruderal species.

Future conservation management of woodland

- 6.37** The London BAP woodland Habitat Action Plan, refers to all types and origins of woodland. It is estimated that there are 7,300ha of woodland in the region, and Bushy represents approximately 0.6% of this figure. However, none of the Park's woodland vegetation meets the criteria laid out in the six woodland priority HAPs for the UK.

Although no plants indicative of ancient semi-natural woodland are present, the Park's woodland represents a large and important resource of oak trees, many of which are approaching maturity and can be considered to be veterans. The value of the woodland resource, and in particular trees of over 250 years old, as habitat for

saproxyllic (dead wood) invertebrate species with high individual nature conservation value is of great significance.

Away from the formal areas in the Woodland Gardens, priorities for woodland management should be the exclusion of deer and selective removal of ornamental tree and shrub species, with particular being attention given to the removal of dense rhododendron and tree canopy reduction to promote greater structural and floristic diversity of the field layer. Eventual extirpation of the invasive *Rhododendron ponticum*, which is also a key host for the oak fungal disease *Phytophthora ramorum*, is a major objective.

The management of existing wet woodland adjacent to the Longford River to create a managed area of coppiced osiers with greater botanical diversity in the field layer and of value to birds, water voles and amphibians in the future is also desirable. Further investigations into how this could be achieved should take place e.g. by some selective thinning of trees and shrubs, re-profiling of land and management of water levels, and the introduction of appropriately sourced wetland ground flora.

DRAFT

Parkland Ground Cover

6.38 The parkland is dominated by acid grasslands with areas of bracken. Since enclosure, most of the Park's grasslands have been managed by deer grazing. The Park's unimproved neutral and acid grasslands are priority habitats in the UK Biodiversity Action Plan, and are a vital contribution to the wilderness quality of the Park, as well as providing fodder for the deer. The anthills characteristic of the undisturbed grassland areas, support a range of plants adapted to dry conditions and frequent disturbance. Lowland Acid Grassland is a UK BAP priority habitat and TRP is the lead Partner for the London Biodiversity Partnership's Acid Grassland Habitat Action Plan. Lowland acid grassland is identified as a priority habitat in the UK Biodiversity Action Plan (BAP), and the Park represents a key site in the south-east containing approximately 0.4% of the UK's resource¹⁴ and 10% of London's acid grassland stock¹⁵. However, as with Richmond Park, the frequency of positive indicator species of flora in the Park's acid grasslands is relatively low and sward height is generally above the target range, indicating the need for additional grazing. In some areas of the east side of the Park, the dense stands of bracken are spreading over acid grassland areas. This requires control, but that is not easy to achieve on uneven ground and without disturbing ground nesting birds.

A wide variety of vegetation types occur within the Park which can be characterised using the National Vegetation Classification (NVC). These were surveyed in 2004 (LUC 2005) and again in 2011. The site is dominated by acid (U) and neutral grassland (MG), together with plantation woodland (W) communities. An overview of the NVC community types found in the two surveys and the change in extent of the measured areas is provided in **Table 6.1**.

Table 6.1 : Summary of NVC communities and other habitats at Bushy Park their associated extent in 2011, and change from 2004

NVC type	Cover (%)	Area (ha)*	Change (ha)
Grassland			
U4b <i>Festuca ovina</i> – <i>Agrostis capillaris</i> – <i>Galium saxatile</i> : <i>Holcus lanatus</i> - <i>Trifolium repens</i> sub-community	22.34	87.70	-28.25
U1b <i>Festuca ovina</i> – <i>Agrostis capillaris</i> – <i>Rumex acetosella</i> .typical sub-community	5.28	20.73	+8.69
U1f <i>Festuca ovina</i> – <i>Agrostis capillaris</i> – <i>Rumex acetosella</i> : <i>Hypochaeris radicata</i> sub-community	0.01	0.06	
MG1a <i>Arrhenatherum elatius</i> : <i>Festuca rubra</i> sub-community	7.60	29.85	+10.72
MG1b <i>Arrhenatherum elatius</i> : <i>Urtica dioica</i> sub-community	0.42	1.65	
MG1e <i>Arrhenatherum elatius</i> : <i>Centaurea nigra</i> sub-community	2.02	7.91	

¹⁴ UK Biodiversity Action Plan, Habitat Action Plans <http://www.ukbap.org.uk/habitats.aspx>

¹⁵ London Biodiversity Action Plans, http://www.lbp.org.uk/07library.html#to_AP

MG5a <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> : <i>Lathyrus pratensis</i> sub-community	1.50	5.91	-0.38
MG6a <i>Lolium perenne</i> – <i>Cynosurus cristatus</i> : Typical sub-community	1.43	5.61	-7.34
MG6b <i>Lolium perenne</i> – <i>Cynosurus cristatus</i> : <i>Anthoxanthum odoratum</i> sub-community	17.84	70.03	
MG7 <i>Lolium leys</i>	0.25	0.98	-0.45
MG9b <i>Holcus lanatus</i> – <i>Deschampsia cespitosa</i> : <i>Poa trivialis</i> sub-community	0.10	0.38	-0.29
MG10a <i>Holcus lanatus</i> – <i>Juncus effusus</i> Typical sub-community	0.04	0.17	+0.36
MG10b <i>Holcus lanatus</i> – <i>Juncus effusus</i> : <i>Juncus inflexus</i> sub-community	0.36	1.43	
U20a <i>Pteridium aquilinum</i> – <i>Galium saxatile</i> : <i>Anthoxanthum odoratum</i> sub-community	3.52	13.82	+2.21
U20c <i>Pteridium aquilinum</i> – <i>Galium saxatile</i> : Species-poor sub-community	10.94	42.96	
Other habitat types			
Woodland and scrub	14.71	57.76	+12.00
Open vegetation communities	0.65	2.56	+0.23
Allotments	1.67	6.56	-
Open water	2.60	10.20	+0.48
Hard standing / buildings	1.08	4.26	-
Out of survey area	5.62	22.08	-
TOTAL	100%	392.63ha	

* Transition and mosaic stands of vegetation are recorded as the most prominent community type.

Unimproved acid grasslands

6.39 Acid grassland is the most frequently encountered vegetation at Bushy dominating the unenclosed areas of the Park. The Park's 108.49 hectares of unimproved acid grassland represents one of the most valuable habitat resources within the Park and indeed in London where it is a priority BAP habitat. Although rather species-poor and of uniform structure at the community level, as a whole the grassland supports a relatively wide range of characteristic acid grassland plant species of which many are uncommon in the London area. The 20.79 hectares of U1 'parched' acid grassland can be considered the richer and more structurally diverse in comparison to the 87.70 hectares of ranker U4b acid grassland. The latter offers considerable potential for restoration and enhancement.

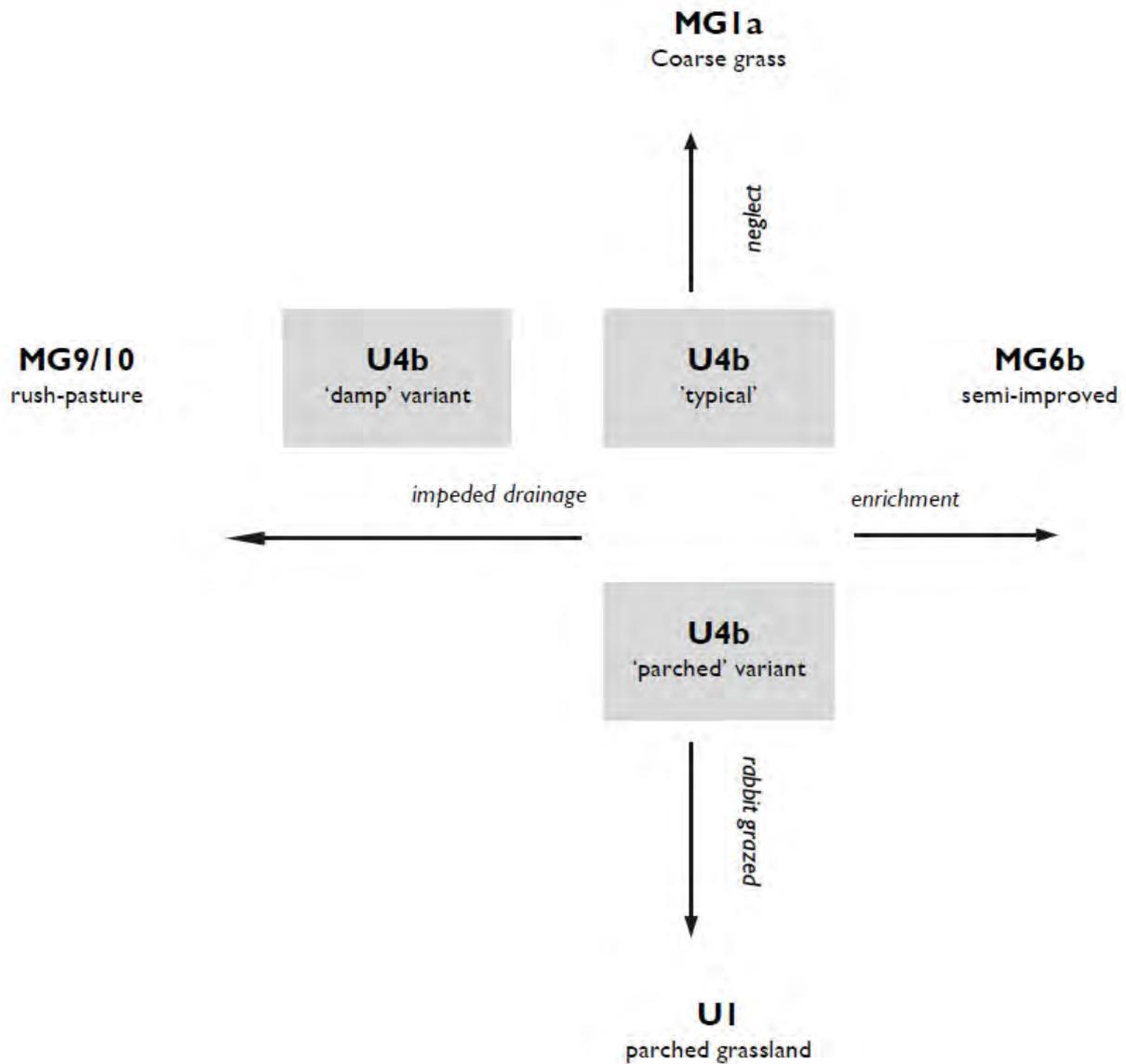
U4 *Festuca ovina* – *Agrostis capillaris* – *Galium saxatile* grassland

One sub-community of U4, **U4b *Holcus lanatus*-*Trifolium repens*** sub-community in the NVC was the most widespread acid grassland community, and occupies 115.95 hectares of the Park. It occurs on soils that appear slightly deeper, damper and less strongly acidic than those that support the U1 NVC grassland type. Within the Park the U4b community encompasses a range of floristic variation that seems to reflect local differences in soil condition and/or land management across the site. Deer grazing plays an important role in managing and preserving U4 swards in the Park.

The U4b sward in the Park is typically closed and dominated by grass species such as red fescue *Festuca rubra* and common bent *Agrostis capillaris* with frequent occurrences of Yorkshire fog *Holcus lanatus* and smooth meadow grass *Poa pratensis* agg. The community is not particularly rich in herbaceous associates, but species that are frequently recorded included heath bedstraw *Galium saxatile*, lesser stitchwort *Stellaria graminea* and germander speedwell *Veronica chamaedrys*. Other less frequently recorded species include yarrow *Achillea millefolium*, lesser birds-foot trefoil *Lotus corniculatus*, and ribwort plantain *Plantago lanceolata*. Three sedge species with restricted distributions in London were also recorded and included oval sedge *Carex ovalis*, spiked sedge *Carex spicata* and prickly sedge *Carex muricata* ssp. *pairiee*.

The 'typical' U4b constitutes the majority of the Parks grasslands, and extensive stands occur to the south of the Lime Avenue (near Barrack Gate), northwest of Round Plantation, and west of Sandy Lane Gate. This is considered to be a rank acid grassland with restricted floristic diversity and structure that is attributable to insufficient grazing. Enrichment through dog fouling and atmospheric pollution may also encourage the development of this grassland type. The presence of small amounts of false oat-grass *Arrhenatherum elatius* is fairly common within areas of 'typical' U4b in Bushy Park. In the absence of active management this species can become dominant and the community becomes more closely referable to the MGI *Arrhenatherum elatius* grassland.

Figure 6.2: U4b variants and their relationship to other NVC communities



6.40 The 'damp' U4b variant is characterised by the local abundance of hairy sedge *Carex hirta* within the sward along with occasional sharp-flowered rush *Juncus acutiflorus*, hard rush *Juncus inflexus* or soft rush *Juncus effusus*. The sward height in these areas is generally higher than in surrounding U4b areas and the vegetation appears to be more verdant.

The 'parched' U4b variant is more open and less luxuriant than the 'typical' type, and is most similar to UI grassland. Stands of this type are not particularly species rich, and are characterised by the presence of red fescue (as opposed to sheep's fescue *Festuca ovina*) as the community dominant, and the scattered presence of lesser stitchwort.

A 'shade' variant may occur beneath partially shaded ground under tree canopies. It is characterised typically by an increase in shade tolerant grass species, particularly creeping soft grass *Holcus mollis* that can dominate the sward in shady situations.

UI *Festuca ovina* – *Agrostis capillaris* – *Rumex acetosella* grassland

The **UI *Festuca ovina* – *Agrostis capillaris* – *Rumex acetosella* grassland** or 'parched acid grassland' (Sanderson, 1998)¹⁶ is a lowland community associated with free-draining sands and gravels in areas with low annual rainfall, and where summer parching occurs. At Bushy Park this grassland type was largely associated with elevated anthill mounds, which are a common feature throughout the Park and are locally abundant in areas that have escaped past soil improvement and intensive recreation pressure. Rabbit grazing appears to be particularly important to the maintenance of this habitat and the most extensive examples were recorded in close proximity to dense bracken or woodland where cover for rabbits is provided. 'Bulky' grass species (e.g. Yorkshire fog) are infrequently recorded in UI stands and typical UI swards are characterised by a short open turf with bare ground and an associated diverse range of lower plants. The short-lived perennial sheep's sorrel is typically diagnostic in making a separation from U4 acid grassland stands. Similarly, sheep's fescue, heath-grass *Danthonia decumbens* and brown bent *Agrostis vinealis* are grass species that tend to be confined to UI stands in the Park.

Annual ephemeral plant species such as early hair-grass *Aira praecox*, bird's foot *Ornithopus perpusillus*, and slender parsley-piert *Aphanes australis* are also characteristic of UI grassland. Many of these plants flower very early in the year (in April) and may have been overlooked in some locations during the 2011 survey.]

Two different UI stand types are present - the **UIb typical sub-community** and the **UIf *Hypochaeris radicata* sub-community**, although UIf is only recorded in one location.

UIb grassland was the most frequently encountered UI grassland within the Park. It is represented by rank grassy stands where sheep's fescue, common bent and sheep's sorrel are dominant with few other associates and by more open ephemeral swards where slender trefoil *Trifolium micranthum*, soft brome *Bromus hordeaceus*, bucks-horn plantain *Plantago coronopus* and mouse-ear hawkweed *Pilosella officinarum* are locally prominent.

The **UIf sub-community** was found in one location, and is differentiated from typical UIb by the abundance of heath-grass, cat's ear *Hypochaeris radicata*, and a reduced cover of sheep's sorrel. The presence of heath grass in UIf, and the UI community as a whole, is not accounted for in the floristic tables, but heath-grass is considered to be an important diagnostic species for this sub-community⁶. It is

¹⁶ Sanderson N A (1998): A review of the extent, conservation interest and management of lowland acid grassland in England Volumes I and II. English Nature

difficult to identify the ecological preferences for this stand type, but it would appear to occupy slightly damper soil profiles to U1b in the Park.

Future Management Of Acid Grassland

6.41 The Park's unimproved acid grassland represents one of the most valuable habitat resources within the Park. The 12.04 hectares of U1 'parched' acid grassland can be considered the richest and most structurally diverse in comparison to the 115.95 hectares of ranker U4b acid grassland which has considerable potential for restoration and enhancement. Most of the characteristic acid grassland species identified as occurring at Bushy Park in 1993¹⁷, including, sheep's fescue, common bent-grass *Agrostis capillaris*, heath bedstraw *Galium saxatile* and birdsfoot and sheep's sorrel *Rumex acetosella*, were recorded in 2004. However, none of the 'less widespread' species were re-found; including subterranean clover *Trifolium subterraneum*, knotted clover *Trifolium striatum*, and upright chickweed *Moenchia erecta*. These seem to be now very scarce or locally extinct.

The most significant threats to Acid Grassland in Bushy Park are insufficient grazing pressure, the spread of bracken, nutrient enrichment from dog fouling and diffuse atmospheric deposition of nitrogen oxides. Much of the grassland is under-grazed which has allowed a number of bulky grass species to dominate the sward and build up a dense 'thatch' of dead plant material each year which excludes less competitive/shade tolerant flowering herbs which are important in maintaining the biodiversity interest of the Park, through, for example, providing nectar sources for flying insects, including saproxylic insects and aculeate hymenoptera.

Deer play an important role in maintaining the open aspect of the grassland resource, effectively controlling the spread of woody species, but seem less able to create a short herb-rich open turf of higher nature conservation interest. The acid grassland areas of greatest wildlife conservation value appear to be closely associated with rabbit grazing. From a strategic management perspective, it is important, in the absence of additional grazing livestock, that sufficient cover in the form of scrub and bracken is retained to maintain a rabbit population sufficient to sustain the existing U1 resource.

The re-introduction of cattle alongside deer is the most obvious option at Bushy to improve the botanical diversity of the acid grassland. The choice of stock suited to poor-quality swards and the grazing regime, are important considerations in progressing this option. Breeds such as English Longhorn cattle have proved effective in restoring rank acid grassland stands, are placid and well suited to sites where amenity use (including dog walking) is high.

Stock density and timing of grazing would need to be carefully considered to ensure that other important ecological attributes of the Park, notably the presence of ground nesting birds, small mammals and nectar foraging invertebrates, are not compromised by overgrazing.

¹⁷ Archer, J. and David Curson, D. (1993) *Nature Conservation in Richmond upon Thames*. Ecology Handbook 21, London Ecology Unit

Neutral Grassland

MG5a *Cynosurus cristatus*-*Centaurea nigra* grassland

- 6.42** In the east of Bushy Park there are a number of fields which support a grassland community with affinities to **MG5a *Cynosurus cristatus*-*Centaurea nigra* grassland *Lathyrus pratensis* sub-community**. This diverse grassland community actually has a relatively low coverage of grass species and at Bushy Park it is formed of abundant ribwort plantain, sweet vernal-grass, common bent and red fescue. Lesser birds-foot trefoil is frequent and meadow vetchling *Lathyrus pratensis*, crested dog's tail *Cynosurus cristatus*, yellow rattle *Rhinanthus minor*, false oat grass, *Senecio jacobaea*, lesser stitchwort, oxeye daisy *Leucanthemum vulgare* and ladies bedstraw *Galium verum* all occasional. There are locally abundant patches of common knapweed *Centaurea nigra*.

These areas of MG5a grassland appear to be managed by cutting and as a result have a rather uniform structure, although it does support a wide range of species. There are areas where false oat grass *Arrhenatherum elatius* is becoming abundant or dominant and these areas are thought to have closer affinities to the **MGI *Arrhenatherum elatius* grassland**.

MGI *Arrhenatherum elatius* grassland

Coarse, species-poor stands of grassland dominated by false oat-grass were recorded in a number of different locations, although their distribution was concentrated in the east of the Park. Three MGI sub-communities were identified covering a total area of 39.42 hectares. In order of botanical diversity and ecological value they were: **MGIe *Centaurea nigra* sub-community**; **MGIa *Festuca rubra* subcommunity**; and **MGIb *Urtica dioica* sub-community**.

MGIe is confined to the Brewhouse and Stockyard Fields to the west of the Park, and around Millennium Wood in the east. It encompasses relatively rich swards with frequent meadow herbs including common knapweed, meadow vetchling, tufted vetch *Vicia cracca*, yellow-rattle and lesser bird's-foot trefoil growing among tussocks of false-oat grass. MGIe represents the first stage of natural succession from regularly managed hay meadows to more rank unmanaged vegetation. This community is maintained by regular but infrequent cutting.

MGIa is by far the most frequent MGI sub-community recorded within Bushy Park, covering an area of almost 30ha. It is found almost exclusively in the east of the Park, where it forms tall species-poor stands dominated by false-oat grass with few herbaceous associates. A range of intermediates between this vegetation type and 'rank' acid grassland (U4b) are also present.

These are characterised by lower frequencies of false-oat grass but with frequent occurrences of other coarse grasses such as cock's-foot *Dactylis glomerata*, and Yorkshire fog, and typically with remnant species of former acid swards such as heath bedstraw and sheep's sorrel.

MG1b was the least frequently encountered MGI sub-community, and occurred only in areas subject to soil disturbance and/or local nutrient enrichment. It was defined by the presence of tall herb species including nettle *Urtica dioica*, hogweed *Heracleum sphondylium* and thistle *Cirsium* spp.

MG6 *Lolium perenne* – *Cynosurus cristatus* grassland

MG6 grassland covers 75.64 hectares of the Park. MG6 occupies similar soil conditions to the acid grassland U4b, but appears to replace it within Bushy in areas that are subject to frequent mowing, grazing or soil enrichment. At Bushy MG6 swards are represented by paths, roadside verges, amenity grassland areas and horse paddocks.

Two sub-communities were recorded (MG6a and b), with the majority conforming to the **MG6b *Anthoxanthum odoratum* sub-community**. At Bushy, MG6b is characterised by the abundant perennial rye-grass *Lolium perenne* and white clover *Trifolium repens*, alongside the sub-community preferentials common bent, red fescue, cat's-ear *Hypochaeris radicata* and field wood-rush *Luzula campestris*. A feature of some swards along the Lime Avenue, and around the Diana Fountain is the occurrence of sheep's sorrel, heath bedstraw and (largely restricted to these locations) lesser hawkbit *Leontodon saxatile*.

The MG6a Typical sub-community is less species rich and is dominated by perennial rye-grass with limited numbers of other species. It is confined to particularly heavily used parts of the Park, for example, around Heron and Leg-of-Mutton Ponds.

MG7 *Lolium perenne* leys

MG7 or 'improved' grassland occupies a single 0.98 hectare stand around the newly created Water Gardens south of Upper Lodge. It is the most species poor grassland type encountered in lowland England, and is typically sown and intensively managed for agricultural, amenity or sport use. Perennial rye-grass cultivars tend to be overwhelmingly dominant with a few associated herbs such as white clover. This is an accurate description of the habitat recorded around the Water Garden.

Future Management of Unimproved Neutral Grassland

- 6.43** Lowland meadows are a priority habitat within the UK BAP as they have suffered considerable declines due to agricultural intensification and habitat loss. It was estimated that by 1984 in lowland England and Wales, semi-natural grassland had

declined by 97% over the previous 50 years¹⁸. The hay meadow vegetation at Bushy was created artificially using seed sourced from an Oxfordshire meadow SSSI. It has developed successfully into a herb rich turf in many locations, and represents an important BAP habitat resource in London¹⁹.

Within the Park, MG6 & 7 stands are closely associated with horse grazing or public amenity use, and there is limited scope for managing these grasslands less intensively for nature conservation objectives. The pitch areas on the periphery of the park have also been improved and are dominated by perennial rye grass swards

However, supplementing existing deer with alternative livestock would lead to a reduction in cover of MG1a in the open U4 dominated grassland areas of the Park.

Within the Brewhouse and Stockyard Fields, the continuing practice of a hay meadow cut in July or August could be followed by aftermath grazing between September and February. This would help to rehabilitate the MG1e grassland to a more botanically rich MG5 *Cynosurus cristatus*-*Centaurea nigra* type grassland.

Regular hay meadow management is essential if MG5 swards are to be maintained and are not taken over any further by rank false-oat grass vegetation. An annual summer cut between July and August (after hay rattle has set seed), with a spring cut once in every five years followed by aftermath grazing in September is considered the optimum treatment for MG5 grassland²⁰.

The majority of the grasslands in Bushy Park receive no special management other than grazing by the deer. Those areas which receive additional maintenance comprise:

- Lime Avenue is managed as a hay meadow. Chestnut Avenue either side of the road is mowed every 10 days during the growing season. Beneath the trees it is mown every 2-3 months as rough grass during the growing season;
- Woodland Gardens and the Water Gardens grassland is kept as lawns.
- In other areas of the park, particularly Hampton Hill end tarmac paths have mown verges.
- The Park maintains the 2 football pitches at Hampton Hill. All other sports grounds are maintained by the leasees;
- The Gymkhana field is currently cut (3 x year), while the Brewhouse Fields are usually cut once annually in late summer for hay;

Wet Grassland and Rush-Pasture Communities

6.44 Only small fragmented stands of wet grassland or rush-pasture occur within Bushy Park.

¹⁸ UK Biodiversity Action Plan, Habitat Action Plans <http://www.ukbap.org.uk/habitats.aspx>

¹⁹ London Biodiversity Action Plans, http://www.lbp.org.uk/07library.html#to_AP

²⁰ Crofts, A. and Jefferson, R. G. (eds) (1999) *The Lowland Grassland Management Handbook*, English nature, 2nd edition.

MG9b *Holcus lanatus* – *Deschampsia cespitosa* grassland

The **MG9b *Holcus lanatus* – *Deschampsia cespitosa* grassland *Arrhenatherum elatius* sub-community** is recorded in one low-lying location (0.38ha) to the south of Canal Plantation. Here there appears to be a clay dominated substrate which may be impeding soil drainage. At Bushy, tufted hair-grass *Deschampsia cespitosa* is the structurally dominant species of this habitat, with associated Yorkshire fog, hairy sedge, and occasional creeping buttercup *Ranunculus repens*, creeping cinquefoil *Potentilla reptans*, and meadow foxtail *Alopecurus pratensis*. This community also showed an affiliation with **MG11 *Festuca rubra*-*Agrostis stolonifera*-*Potentilla anserina* grassland** with patches dominated by silverweed and Yorkshire fog.

MG10 *Holcus lanatus* – *Juncus effusus* rush-pasture

A number of small stands (combined total area 1.60 ha) of **MG10 *Holcus lanatus* – *Juncus effusus* rush-pasture** are present within Bushy Park. Vegetation of this type is species poor, and occupies low-lying areas of the Park. Two sub-communities are represented – MG10a and b. The MG10b community generally develops in more base-rich conditions.

The two largest areas of rush-pasture occur on low-lying ground immediately north of Heron Pond and Leg-of-Mutton pond and are referable to the MG10b *Juncus inflexus* sub-community. Here hard rush is the overwhelming dominant with few associated herbs, except in the wettest open areas where water mint *Mentha aquatica*, and skullcap *Scutellaria galericulata* are present. The nationally scarce species, mudwort *Limosella aquatica* grows in this area .

The MG10a Typical sub-community occurs in three locations in the west of the site. It is dominated by the presence soft rush, with an associated suite of species growing at lower frequencies between the rush tussocks, including Yorkshire fog, hairy sedge and creeping buttercup. In some situations the presence of velvet bent *Agrostis canina*, tormentil, oval sedge, and sharp flowered rush indicate affinities to the richer vegetation of the M23 *Juncus effusus/acutiflorus*-*Galium palustre* rush-pasture.

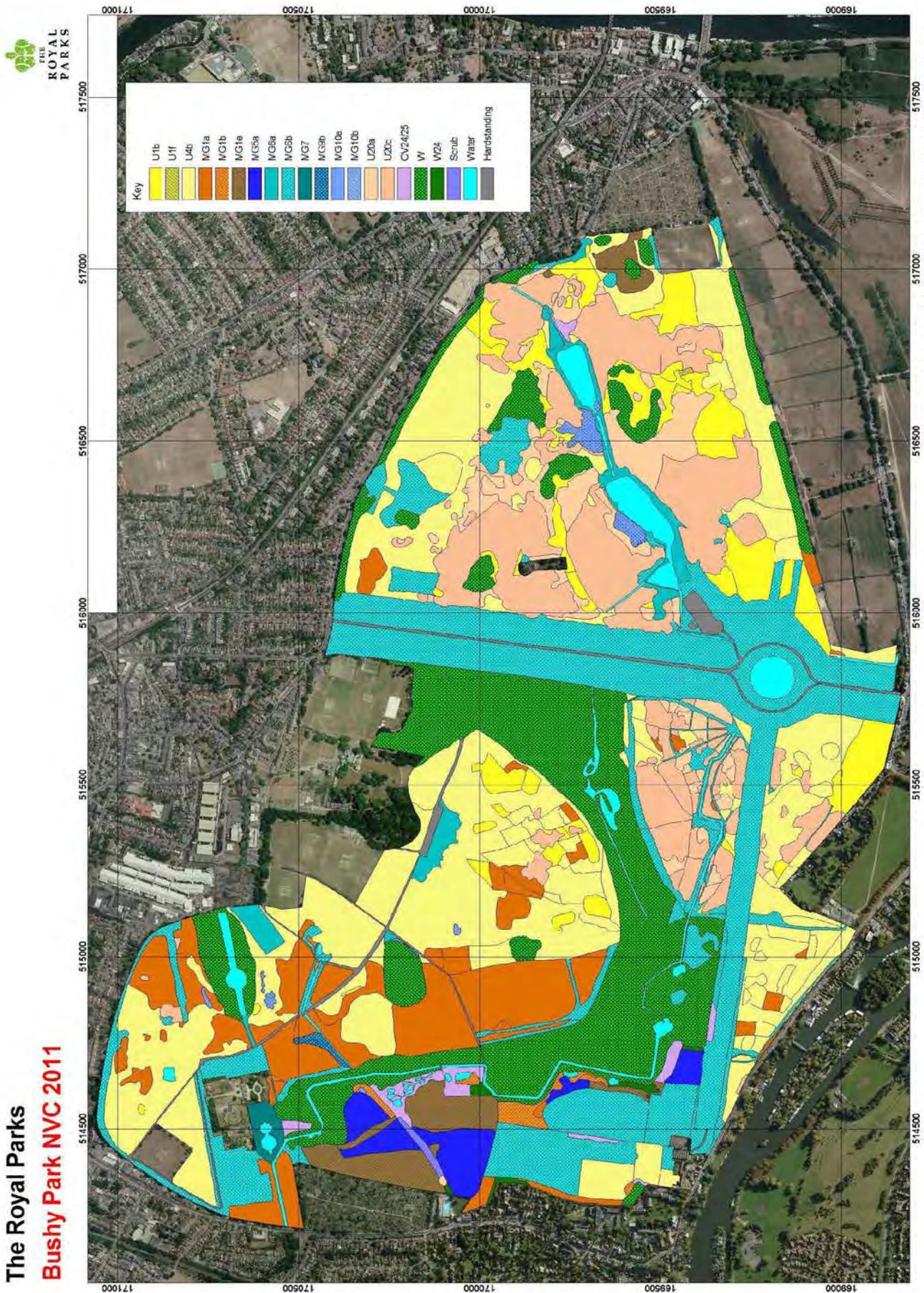
Future Management of Wet Grassland and Rush Pasture

- 6.45** The wet grassland and rush-pasture communities recorded within the Park are generally of low botanical value and too fragmented to constitute a viable area of priority habitat under the UK purple moor grass and rush pastures BAP definition. At a local level these communities support plants not found in other habitats in the Park, for example black sedge and sharp-flowered rush, and therefore possess distinct biodiversity interest. They may also be of interest for their invertebrate communities. Future management to maintain an open structure among the MG9

and MG10 stands is desirable. This could be achieved by heavy spring grazing by enclosed cattle or bi-annual mowing.

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Figure 6.3 Map of Main Grassland Communities



BRACKEN

- 6.46** Stands of bracken (**U20** *Pteridium aquilinum* – *Galium saxatile* community) dominated vegetation represents approximately 15% of the Parks surface vegetation (LUC 2011). U20 is common throughout England on free draining, weak to strongly acidic soils, and often indicates the location of past woodland cover. Two bracken-dominated sub-communities occur in the Park - **U20a** *Anthoxanthum odoratum* and **U20c** species-poor sub-community.

U20c is the most common sub-community covering large swathes of the eastern side of the Park. It is characterised by dominant bracken cover with the occasional presence of sheep's sorrel, heath bedstraw and lesser stitchwort, and the grass species common bent, brown bent and red fescue. This sub-community is species-poor with dense shading that has almost completely displaced other acid grassland flora.

The U20a sub-community occurs in scattered locations across the Park. It is characterised by less dense bracken cover and a relatively greater abundance of the herb and grass species described for U20c species.

There are records of the presence of bracken in the Park since Henry VIII's time. Areas of bracken make a positive contribution to the natural qualities of the Park and provide important cover for the deer (especially newborns) and some species of birds. However, it can displace grassland and form a species-poor monoculture. The further spread and density of bracken, therefore, needs to be controlled such that it does not threaten areas of open grassland or reduce areas accessible to the public (bracken dominated areas become inaccessible especially during the summer months).

In terms of distribution the bracken is largely confined to areas to the east of Chestnut Avenue and south of the Waterhouse Woodland Gardens and there is very little bracken to be found in Middle Park and Hampton Hill. Bracken appears to be primarily associated with the sandy drift and clay loam soils; although within these areas it avoids waterlogged conditions. It has also largely avoided areas disturbed over the last 100 years such as the S.H.A.E.F site to the north and the cultivated and improved grasslands to the west of the Park.

Previously, the spread of bracken had been considered to have stabilised after a period in which it was expanding and encroaching on the areas of acidic grassland. An analysis of aerial photographs showed that bracken increased from an area of 31 ha in 1962 and 36 ha in 1971 to 43 ha in 1988. However, the 2004 survey (LUC 2005) revealed a further increase in bracken cover to almost 55 ha and the 2011 survey showed a small further increase to almost 57 ha (LUC 2005, 2011), with

further encroachment into acid grassland (a national priority habitat); especially in the east of the Park.

Both monitoring and management are needed to reverse this **increase** and to prevent the bracken invading and displacing priority habitats in new areas of the park.

Future conservation management

6.47 From a botanical perspective, bracken stands are species poor habitats of relatively low nature conservation value. However, eradication of bracken is not the objective because, at Bushy Park, bracken stands provide beneficial permanent cover they provide habitat for deer, rabbits, and ground nesting bird species such as wren, meadow pipit and skylark.

Nevertheless, Bushy Park's status as a proposed SSSI and the inexorable spread of bracken into its regionally significant areas of acid grassland require that management controls should be implemented to reverse and stabilise the spread of bracken into areas of acid grassland. This would help to recover valuable areas of acid grassland and increase habitat for a wide range of species, including invertebrates and ground nesting birds.

Some areas of dense bracken (U20c) should be selectively controlled to create less dense stands and encourage the development of the more species-rich U20a community. This will retain areas of bracken for deer but will increase its ecological value.

Methods of control can include cutting, rolling or beating, soil stripping, trampling by heavy livestock (e.g. cattle) and spraying with herbicide.

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Non-Grassland Communities

6.48 Two open vegetation (OV) communities, were also identified within the Park (total combined area <2.5 ha). In general these are commonplace habitats characteristic of nutrient rich and disturbed ground conditions. **OV24 *Urtica dioica-Galium aparine***, and **OV25 *Urtica dioica-Cirsium arvense*** communities occur as intimate mosaics. They are **characterised by an abundance of** ruderal species such as creeping thistle *Cirsium arvense*, cleavers *Galium aparine*, common nettle, common hogweed, goat's-rue *Galega officinalis*, docks *Rumex spp.* and other commonplace grassland herbs growing at lower frequencies.

Wetlands and Aquatic Habitats

6.49 There has been a number of ditch and small pond creation projects implemented over the last few years to retain and store water in the Park, to open culverts and to restore ditches. Additionally a wetland area covering about 0.5 hectares has been created within the Brewhouse Meadow area.

There are series of ponds and areas of open water in the Park. The close proximity of the car park to the Boating Lake and Heron Pond makes it a popular recreational area particularly with dog owners. The consequent heavy trampling has severely reduced bankside vegetation around most of the margins. The numerous smaller ponds, springs and ditches suffer less from human disturbance and hence some are more natural and of greater ecological interest for both flora and fauna. In addition, numerous ditches criss-cross the Park; most are lined with rushes and other moisture loving plants. The range of wetland habitats in the Park supports a very diverse community of invertebrates.

The Royal Parks has been monitoring water quality biannually in its waterbodies since 1998 and holds detailed ecological data. The species records included in these data are included in the TRP biological records system and transferred to GiGL . A management plan was developed for The Diana Fountain pond, Heron Pond and Leg of Mutton Pond in 2005

Aquatic plants

6.50 Prior to the 2004 survey (LUC 2005) little was known about the Park's aquatic plants. The London Ecology Unit Ecology Handbook 21²¹ noted mudwort *Limosella aquatica* (a nationally scarce plant species) growing in a marshy area near Heron Pond, and two species that are rare in the London area found in similar locations i.e. nodding bur-marigold *Bidens cernua* and marsh arrow grass *Triglochin palustre*.

The results of the aquatic plant survey (LUC 2005) are summarised below. National Vegetation Classification (NVC) communities are as according to Rodwell (1995)²².

The Longford River within Bushy Park

²¹ Archer, J. and David Curson, D. (1993) *Nature Conservation in Richmond upon Thames*. Ecology Handbook 21, London Ecology Unit

²² Rodwell, J. S. (1995) *British Plant Communities Volume 4 Aquatic communities, swamps and tall-herb fens*. Cambridge University Press. Cambridge.

6.51 The Longford River enters the northwest corner of the Park at Pantile Bridge and leaves the site via Waterhouse Pond. Water from the Longford River feeds all the principal waterbodies in the Park and also flows through the Park to source adjacent Hampton Court Palace. The aquatic vegetation of the Longford within the Park varies along its course according to the presence or absence of artificial bank protection, and/or the degree of shading by riparian trees and other tall vegetation.

Most of the river within the Park is at least partially shaded by riparian vegetation, and reinforced by artificial hard bank protection in the form of vertical steel piling or wooden toe-boarding in various states of repair. In general, the river supports a relatively sparse and species-poor aquatic flora.

Artificial bank protection severely limits the development of emergent aquatic plant communities, and these areas are characterised by the presence of tall marginal plants growing in damp ground conditions immediately behind the reinforcement structure, and typically are characterised by abundant nettle *Urtica dioica*, together with locally abundant butterbur *Petasites hybridus* and Japanese knotweed *Fallopia japonica* (SL 14 only). Opportunist species growing in gaps and crevices in the toe-boarding typically included occasional hard rush *Juncus inflexus*, remote sedge *Carex remota* and the naturalised alien orange balsam *Impatiens capensis*. Although orange balsam is spreading throughout England in suitable semi-natural habitats, it is not considered a highly invasive plant species. Its presence within the Park is not considered to be of great conservation concern, however its distribution and abundance should be monitored to assess potential future spread. Other characteristic marginal species recorded close to the river included locally abundant marsh woundwort *Stachys palustris*, and frequent pendulous sedge *Carex pendula*, great willowherb *Epilobium hirsutum* and willow *Salix spp.*

Sections of the Longford channel which lack hard bank protection (or areas where protection is dilapidated) that are not densely shaded, typically support the most luxuriant emergent aquatic floras. The best example of which occurs immediately upstream of Cobblers Bridge, where emergent aquatic plants are abundant. Two emergent species with local distributions in the London area²³, purple loose-strife *Lythrum salicaria* (locally abundant) and water dock *Rumex hydrolapathum* (rare) were recorded near Cobblers Bridge.

This area of the river and its adjoining floodplain is characterised by locally dominant reed sweet grass *Glyceria maxima*, and greater pond sedge *Carex riparia* and is most closely referable to **S5 *Glyceria maxima* swamp**, and **S6 *Carex riparia* swamp**. In addition, this areas possesses locally abundant patches of lesser pond sedge *Carex acutiformis*, bulrush *Typha latifolia* and reed canary-grass *Phalaris arundinacea* that are referable to **S7 *Carex acutiformis* swamp**, **S12 *Typha latifolia* swamp** and **S28 *Phalaris arundinacea* tall-herb fen**.

Free-floating aquatic plant growth in the Longford is limited by shading, but in unshaded conditions in stream vegetation is often locally abundant. The most abundant floating species is yellow water-lily *Nuphar lutea* (**A8 *Nuphar lutea* community**) typically associated with still or slow moving eutrophic waters. A single stand of floating amphibious bistort *Persicaria amphibia* (**A10 *Polygonum amphibium*²⁴ community**) was observed rooting through a section of dilapidated

²³ Burton, R.M. (1983) *Flora of the London Area*, London Natural History Society, London

²⁴ *Polygonum amphibium* now referred to as *Persicaria amphibia*

toe-board. Submerged vegetation is uncommon with rare occurrences of fennel pondweed *Potamogeton pectinatus* (**A12 *Potamogeton pectinatus* community**).

Branches of the Longford River including the Boating Pond Ditch

6.52 The Longford River feeds two separate channels to the east of Waterhouse Pond. The northern channel passes through the remainder of the Woodland Gardens before making its way towards the eastern boundary of the Park via Boating Pond, Heron Pond and Leg-of-Mutton Pond.

The southern channel flows through the Park's grasslands under the Diana Fountain Pond, from where it leaves the Park near Hampton Court Gate. Both channels have some of the richest assemblages of aquatic vegetation in the public areas of the Park, with the less shaded southern channel containing five submerged vascular plants; the most recorded in a single sample location.

North Branch of the Longford River

6.53 Riparian trees and shrubs restrict the development of aquatic vegetation along much of the river west of the Chestnut Avenue. The channel's vertical earth banks are fringed by amenity grassland and occasional marginal species including nettle and alder saplings *Alnus glutinosa*. Orange balsam is also well established and locally abundant in places.

Free-floating and emergent vegetation is restricted to open woodland glades within less formal areas of the Woodland Gardens, and are characterised by occasional floating communities of common and least duckweed *Lemna minor* and *L. minuta* (**A2 *Lemna minor* community**), and occasional emergent species, including water mint *Mentha aquatica*, water forget-me-not *Myosotis scorpioides*, flag iris *Iris pseudacorus* and water-cress *Rorippa nasturtium-aquaticum*.

This section is culverted under Chestnut Avenue, re-emerging into open parkland before joining the Boating Pond. This section of channel has a relatively natural bank profile with no artificial bank reinforcement and frequent hard and soft rush *Juncus effusus*, together with frequent orange balsam, and occasional skullcap *Scutellaria galericulata* growing among the tussocks along the bank top. True aquatic emergents are present along the water's edge and include locally abundant stands of common spike-rush *Eleocharis palustris* (**S19 *Eleocharis palustris* swamp**), water forget-me-not, and water-cress.

South Branch of the Longford Watercourse

6.54 This section between the Woodland Gardens and the Diana Fountain Pond culvert, is relatively unshaded with little bank protection and thus is one of the most richly vegetated lengths of watercourse in the Park containing fennel pondweed growing among abundant strands of filamentous algae, together with frequent occurrences of rigid hornwort *Ceratophyllum demersum* (**A5 *Ceratophyllum demersum* community**), occasional horned pondweed *Zannichellia palustris*, and rare occurrences of curled pondweed *Potamogeton crispus*

and lesser pondweed *Potamogeton pusillus*. Lesser pondweed is currently declining in England as a result of water pollution²⁵.

Free-floating communities of locally abundant duckweed were recorded in association with tall stands of emergent vegetation characterized by locally abundant branched bur-reed *Sparganium erectum* (**S14 *Sparganium erectum* swamp**) reed sweet-grass and common spike-rush.

Marginal vegetation was represented by tussocks of frequent hard rush, and locally abundant remote sedge. Orange balsam occurs frequently together with occasional wet grassland herbs including greater bird's-foot trefoil *Lotus pedunculatus*, clustered dock *Rumex conglomeratus*, field horsetail *Equisetum arvense* and skullcap.

Connecting Channels and Boating Pond Ditch

6.55 The north branch of the Longford continues east via three ponds (Boating, Heron and Leg-of-Mutton). The connecting channel is slow-flowing and canalised with wooden toe-boarding. In-channel vegetation was represented by the alien aquatic Nuttall's waterweed *Elodea nuttallii*, with free-floating common duckweed occurring occasionally in sheltered locations. Gaps in the bank protection were colonised by occasional gypsywort *Lycopus europaeus*, and clustered dock, remote sedge, and alder saplings.

The channel to the east of the Leg-of-Mutton Pond has degraded wooden toe-boarding) and dense stands of bracken *Pteridium aquilinum* growing on both banks which restricts public access. Submerged vegetation is absent, but free-floating aquatics are locally abundant in sheltered spots and include common and greater duckweed *Spirodela polyrhiza*, and rafts of white water-lily *Nymphaea alba* (**A7 *Nymphaea alba* community**). Emergent vegetation is limited by the shading effect of bracken but deer appear to regularly use the area as a crossing and drinking point and have created open gently sloping ground at the waters-edge colonised by emergent locally abundant common spike-rush and rare occurrences of nodding and trifid bur-marigold *Bidens cernua* and *B. tripartita*. The former is considered to be rare in the London area²⁶. The presence of bracken has greatly reduced opportunities for marginal species to establish, but occasional plants of orange balsam, hard rush, gypsywort and skullcap were recorded.

The Longford flows under the Diana Fountain Pond in a culvert and re-emerges in a canalised, wooden toe-boarded channel. With the exception of small stands of locally abundant branched bur-reed and greater yellow-cress *Rorippa amphibia*, there is relatively little emergent vegetation growing in this section of the river. Submerged and free-floating aquatic vegetation, however, was well developed and was characterised by frequent rigid hornwort and Nuttal's pondweed growing entwined with filamentous algae. On the waters surface free-floating communities of common duckweed were frequent. Marginal species occurred between gaps

²⁵ Preston, C.D., Pearman, D.A. and Dines, T.D. (2002) *New Atlas of the British and Irish Flora*. Oxford University Press, Oxford.

²⁶ Burton, R.M. (1983) *Flora of the London Area*, London Natural History Society, London

and crevices in the toe-boarding, and included occasional hairy sedge *Carex hirta*, orange balsam, hard rush, gypsywort and skullcap.

The Boating Pond Ditch possesses gently sloping, largely unprotected, banks that supported a range of occasional emergent aquatic plants including fool's water-cress *Apium nodiflorum*, common spike-rush and water mint, and rare occurrences of nodding bur-marigold and arrowhead *Sagittaria sagittifolia*. Dense submerged stands of rigid hornwort were abundant, and common duckweed was also locally abundant. The banks were fringed by frequent tussocks of soft rush together with skullcap.

Hampton Hill Pond: a Seasonal Pond

- 6.56** Hampton Hill Pond has gently sloping earth banks, and was characterised by a seasonally fluctuating water level, with a substantial draw-down zone. The damp margins supported a relatively diverse range of marsh and inundation plant species, together with free-floating and rooted aquatics in the lower lying permanently wet areas. The draw-down zone was dominated by floating sweet grass *Glyceria fluitans* (**S22 *Glyceria fluitans* water-margin vegetation**) that formed a grassy mat with frequent marsh foxtail *Alopecurus geniculatus*. Other plant species found in association with floating sweet grass included occasional jointed rush *Juncus articulatus*, and rare common water starwort *Callitriche stagnalis* agg., marsh cudweed *Gnaphalium uliginosum* and amphibious bistort.
- The permanently wet central area of the pond that retains permanent open water, supported a stand of abundant white water lily, together with occasional floating patches of common and greater duckweed.
- This pond is also a recent site (2010) for great crested newt (*Triturus cristatus*) a European Protected Species.

Diana Fountain Pond, Heron Pond (including Boating Pond) and Leg of Mutton Pond

Diana Fountain Pond

- 6.57** Prior to the draining of the Diana Fountain Pond in order to refurbish the fountain, the 2004 survey (LUC 2005) found it to be devoid of floating and emergent aquatic vegetation but with a submerged flora dominated by fennel pondweed and rigid hornwort growing among abundant filamentous algae. The concrete retaining wall supports a range of semi-aquatic and ruderal plant species, including frequent nettle together with occasional gypsywort, skullcap, curled and broad-leaved dock *Rumex crispus* and *R. obtusifolius*.

However, no recent survey has been conducted and the pond requires resurvey.

Heron Pond, including Boating Pond

- 6.58** Heron Pond, which includes its eastern extension referred to as the Boating Pond, is in effect a shallow lake with vertical (15-30cm) earth banks (some of which are toe-boarded) that possesses a relatively species-poor and sparse aquatic flora.

The lake is associated with high levels of recreational use and is a focus of waterfowl activity and grazing.

The lake margins, particularly along the southern shore, are fringed by short amenity grassland, while the northern bank is characterised by locally abundant tussocks of hard rush. The lake regularly overflows its bank along the northern shore, and in low-lying areas that retain shallow water, patches of marginal species including frequent nettle and skullcap, together with occasional great willowherb, gypsywort, orange balsam and toad rush *Juncus bufonius* occur. It was in this location that the nationally scarce plant mudwort has been recorded.. Around the main body of the lake, emergent species are restricted to occasional plants of water mint with rare occurrences of a limited range of other species, including nodding bur-marigold.

The submerged and free-floating aquatic flora are restricted to occasional occurrences of fennel pondweed, growing among frequent strands of filamentous algae. Locally abundant patches of common duckweed and least duckweed occur in sheltered locations close to the waters-edge.

Leg of Mutton Pond

6.59 The Leg of Mutton Pond is similar in ecological character to Heron Pond with a soft, shallow (25-35cm) vertical earth bank, shallow water lacking in submerged aquatic flora. Common duckweed, greater duckweed and white water-lily is locally abundant, but emergent vegetation is limited to water cress and rare occurrences of nodding bur-marigold. The marginal vegetation is characterised by frequent occurrences of hard rush, skullcap and orange balsam along the bank edge.

A single plant of marsh pennywort *Hydrocotyle vulgaris* was recorded in 2004 on the northern bank, this plant is uncommon in the London area. Rare occurrences of damp ground specialists Mind-your-own business *Soleirolia soleirolii*, a frequent garden escape, and navelwort *Umbilicus rupestris* (more commonly found in south-west England) were also recorded in crevices of the brickwork around the eastern culvert.

Other Ponds and Water Features

Ponds and Channels in the Conservation Area

6.60 A series of relatively recently constructed ponds (the Conservation Area) with inlet and outlet stream channel from the River Longford supported a relatively well developed emergent and marginal aquatic flora. The ponds contained abundant free-floating and rooting aquatic plant species, including common duckweed and rigid hornwort, with horned pondweed frequent throughout. The margins of the ponds have been planted with a variety of emergent vegetation including, frequent reed sweet grass, bulrush and purple loosestrife. Further back from the waters edge, a range of marginal semi-aquatic and tall ruderal species occur along the banks, including, frequent great willowherb, nettle and creeping thistle *Cirsium arvense*, together with occasional water mint, gypsywort, water

figwort and orange balsam. In addition, occasional tree species appear to have been planted, including grey willow *Salix cinerea*, alder and hazel *Corylus avellana*. A single plant of the nationally scarce marsh mallow *Althaea officinalis* was also recorded in this location. This plant species is typically found growing on the banks of ditches containing brackish water, in brackish pastures, and in the transition zone between the upper saltmarsh and freshwater habitats. It is also known to occur as a garden escape and is unlikely at this location to represent a native population.

Bartons Cottage Pond and Channels

- 6.61** Bartons Cottage Pond is a small turbid ornamental pond with a vertical brick retaining wall that lacks emergent aquatic vegetation. Marginal vegetation is represented by occasional plants of clustered dock, hard rush, remote sedge and alder saplings growing out of cracks in the brick wall. Floating and submerged aquatic vegetation was restricted to rare patches of white water-lily, greater duckweed and curled pondweed.

The channel that connects to Barton's Cottage Pond from the west consists of vertical banks faced with wooden toe-boarding. Here the water was also turbid and dominated by a carpet of common duckweed and, abundant lesser duckweed that appeared to suppress the growth of submerged aquatics. Emergent vegetation was also absent, but along the margin of the toe-board, rare occurrences of semi-aquatic species occurred including hairy sedge, hard rush and rough meadow grass *Poa trivialis*.

The channel crosses under Upper Lodge Road in a culvert and re-emerges in a toe-boarded channel that proceeds west towards the Longford River (SL 18). The water was turbid in places and submerged and free-floating plant growth was represented by the frequent curled pondweed, locally dominant common duckweed, and frequent fat duckweed *Lemna gibba* (**AI Lemna gibba community**).

Emergent vegetation was restricted to occasional dense tussocks of lesser pond sedge growing out of the toe-boarding. Similarly, marginal vegetation included frequent remote sedge and occasional clustered dock, alder saplings and nettle which were also growing out of gaps in the toe-board.

Canal Plantation Pond

- 6.62** The Canal Plantation consists of a densely shaded shallow lake like water feature, with gently sloping earth banks fringed by frequent alder trees, and an abundant, understorey of bramble *Rubus fruticosus* agg.. Other marginal species were scarce and only rare plants of water mint, clustered dock and hard rush were recorded. The water was shallow, and extensive accumulations of silt, leaf litter, and fallen dead wood dominated the substrate. Emergent, submerged and free-floating aquatic plants were absent.

Channels, Ditches and Ponds in the Woodland Gardens, including Waterhouse Pond and Fishers Pond

- 6.63** The network of watercourses within the Woodland Gardens contains a variety of bank types; including sections of vertical earth bank, wooden toe-board and brick. Many of the waterbodies have been planted with non-native ornamental aquatic species and are managed as part of the wider formal garden.

Due to dense ornamental planting, a high degree of shading from surrounding riparian trees, and intensive management of grounds close to the water's edge, opportunities for native aquatic plant growth are limited in the Woodland Gardens.

No submerged plants were recorded, however, a number of free-floating species were present and included frequent rafts of white water-lily, locally abundant common and lesser duckweed. Emergent stands of occasional bulrush and yellow flag iris, and locally abundant branched bur-reed together with a wide range of occasional marginal plants, including gypsywort, pendulous sedge, skullcap, orange balsam, water figwort *Scrophularia auriculata*, meadowsweet *Filipendula ulmaria*, great willowherb and alder were also recorded. In addition, rare occurrences of two plants not recorded in other aquatic samples were found - wild angelica *Angelica sylvestris* and marsh bedstraw *Galium palustre*.

Channel south of Lime Avenue

- 6.64** Aquatic vegetation was well developed within this unprotected 'natural' channel, with frequent submerged stands of rigid hornwort and locally abundant mats of floating duckweed. Emergent stands of fool's water-cress, and common water-cress were also locally abundant. Above the water's edge, frequent tussocks of hard rush were also present.

Ditch near Coleshill Road Gate

- 6.65** A stagnant ditch overgrown by abundant bramble and great willowherb, together with frequent cleavers *Galium aparine*. Emergent vegetation was restricted to occasional emergent fool's water-cress, and rare occurrences of yellow flag iris.

Ditch section north of Bartons Cottage

- 6.66** A newly dug drainage ditch connected to Barton Pond. With the exception of occasional greater pondweed, it was largely un-colonised by aquatic vegetation at the time of survey.

Wetland Area habitat in Brewhouse Meadows

- 6.67** A wetland area was created in the Brewhouse Meadow area creating habitat which could support the reintroduction of water voles to the Park. The habitat creation project was funded with £100k raised from Esmee Fairbairn Trust. This wetland uses a small outflow from the Longford River to feed a series of eight basins connected by narrow channels. Six of these basins are designed to house reedbeds, principally comprised of common reed (*Phragmites australis*). Once mature, the intention is that the reeds in these basins will be cut back on a rotation (probably in non-adjacent pairs in a 3 year cycle) to prevent further

succession and to create structural variation in the reedbed stands while ensuring continuity of habitat (a maximum of one third to be cut at any one time). The wetland also contains two kingfisher banks and offers approximately 950 metres of bank providing habitat suitable for water voles. A kingfisher pair nesting in the southern bank raised two broods in 2012. At the northern end (downstream) of the wetland, the outflow feeds Barton's ditch which also provides valuable habitat for wetland species of animals and plants. In times of flood, Barton's ditch now carries water, via a restored ditch, to a new seasonal woodland pond in Round Plantation.

Adjacent to the southern end of the wetland system is a wet scrape created in the winter of 2010/11 to provide a seasonally drying habitat for the benefit of wading birds and those plants and invertebrates adapted to exploiting seasonally fluctuating water bodies. The creation of this habitat was a key recommendation in Leeming's (2010) report on the invertebrates of the new Brewhouse meadow wetland. A separate management plan will be developed by 2012 for this stretch of the Longford and its associated wetland areas, including these new areas and the Nature Trail ponds with its channels.

Water voles were present in Bushy Park, along the Longford River and associated waterbodies within the Park, until about 2004. As part of a long-term plan to reintroduce water voles the area has been monitored for mink over the last 4 years; fortunately with negative results. The proposed project is to project plan and carry out the re-establishment of water voles in this renovated and enhanced habitat within their former range in the Park. Suitable post-release monitoring would be essential.

Ditch in Brewhouse Meadows

- 6.68** A ditch which is fed from the wetland area created in the Brewhouse Meadows so remains permanently wet when it was previously dry. Near its confluence with the Longford River, select areas retained water and supported a mixture of semi-aquatic plant species and ruderals. These included locally abundant water plantain *Alisma plantago-aquatica*, and redshank *Persicaria maculosa* together with occasional great willowherb, floating sweet-grass, yellow flag iris, gypsywort, water mint, reed canary-grass and nettle.

Channel near Upper Lodge (SL 24)

- 6.69** A shallow and densely shaded unprotected channel with aquatic vegetation limited to rare occurrences of yellow flag iris.

Conclusions

- 6.70** There is a diverse aquatic plant assemblage in the Park consisting of 89 aquatic and wetland higher plant species (82 native, and 7 alien species) representing 16 NVC types see **Table 3.1**.

Recommendations

- 6.71** Most of the Park's aquatic habitats consist of historic structures originally designed as formal landscape features, and typically do not support large or abundant stands of aquatic vegetation. As outlined in more detail in Chapter 4, future work to maintain the structural integrity of these habitats should be based, wherever possible in the context of maintaining the integrity of the historical landscape features, on the use of more environmentally friendly soft engineering designs to protect river and lake banks to encourage aquatic plant growth.

Management Issues: Wetlands and Aquatic Habitats

- As a result of climate change, the Park is likely to become increasingly short of water in the summer but may conversely be subject to flooding after intense rain, especially in Winter but also at other times of year. TRP will continue its programme to increase ecologically functional wet areas in the Park
- The TRP should continue to manage wetland areas to improve their value for wildlife and to provide ecosystem services as flood storage areas
- Water Monitoring - monitoring of water quality using measures of water chemistry, physical and biological parameters is carried out by a specialist contractor for The Diana Fountain pond, Heron Pond and Leg of Mutton Pond and the Longford River as it enters the Park. Management plans for each of these water bodies were produced in 2005.
- Water Vole reintroduction project to be progressed.
- Monitoring and action on invasive species.
- Manage bank shading.
- Maintenance of valves.

Horticultural Areas

Although Bushy Park is first and foremost a deer park, previous generations of park managers have had the foresight to recognise the opportunity that the Longford River offered the park and enabled the creation of the woodland gardens at the Pheasantry and Waterhouse Plantations.

The many secondary streams that criss-cross the Plantations offer one of the best opportunities to create a quite unique horticultural showpiece. There were initially many superficial similarities in planting styles between this garden and the Isabella Plantation, but topography and water serve to make the gardens distinctly different.

ponticum and pests and diseases. The gardens at Bushy Park have, for years, suffered from a lack of direction as well as being under-resourced. Whilst the HLF restoration carried out some necessary structural work in the Pheasantry, little has been done in the Waterhouse Plantation. Recent plantings have been made in front of the Rhododendron screen and will surely rapidly encroach on pathways providing dense, forbidding evergreen screens. Elsewhere tree planting has remained un-thinned with the resultant loss of structure at ground level.

The opening of the Pheasantry Cafe has introduced large numbers of new visitors and this rise has not necessarily been welcomed by the traditional user profile.

Most recently an opportunity has been taken to create a small nursery area adjacent to River Lodge. This is intended to give the garden staff and volunteers the opportunity to propagate and grow on suitably sized stock to enable the substantial replanting that will be required over the next few years.

Management Issues: Horticultural Areas

- Horticultural plantings were originally far more extensive. New plantings need to be carried out at a level commensurate with the likely ability to manage them to a high quality in future years as resources may continue to decline.
- Tree planting in the last 50 years has been rather random with little thought given to the needs of ornamental planting below.
- The garden management plan which forms an annex to this document is in need of being thoroughly updated, with aspirations towards creating a unique horticultural showpiece for the future.
- In 2011 Oak Processionary Moth was discovered for the first time. Himalayan Balsam is present and *Rhododendron ponticum* is extensive. A co-ordinated plan to remove, control and manage pests, diseases and other alien species is required.
- TRP should consider how best to engage support, both in financial and human terms to enable the gardens to be enhanced.
- Consideration needs to be given to understanding how the garden can perform for a wider range of native flora and fauna than is currently the case.
- Over use of garden areas in the vicinity of the Pheasantry Cafe. Refined path layouts and structured replanting need to be considered.
- The Longford River on the western fringe of the garden is elevated and the banks are sheet piled creating a harsh edge and limited interface for wildlife. The piling is life

expired and consideration needs to be given to an appropriately designed softer edged replacement.

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Invasive Species

6.72 TRP has an Animal Pest Control Policy (2006) and Integrated Horticultural Pest Management policy (2007) updated 2010. These adopted policies guide the management of pests throughout the Parks. Prevention and control measures are also monitored as part of ISO14001 particularly relating to the use of pesticides.

6.73 The control of invasive plant species is tailored for each park situation. In Bushy Park the principal invasives are bracken (*Pteridium aquilinum*), rhododendron (*Rhododendron ponticum*), ragwort (*Senecio jacobaea*), creeping thistle (*Cirsium arvense*), giant hogweed and aquatic invasives New Zealand pigmy weed (*Crassula helmsii*), Nuttall's pondweed (*Elodea nuttallii*), Floating pennywort (*Hydrocotyle ranunculoides*) and water fern (*Azolla filiculoides*). All such species are normally managed by targeted manual removal or reduction methods.

6.74

Deer

Stocking Density

As part of standard deer management the deer are culled to maintain a healthy deer population of a relatively constant size, with a roughly constant ratio between red and fallow and with balanced age classes and sex ratios. The deer herd is maintained at approximately 325, comprising 125 red deer and 200 fallow. The objective is to maintain a sex ratio of 1 male to 3 females - similar to other deer parks managed for amenity and venison. Male cull is in September, and the female cull in November. The park is closed to the public during culling from 10.30pm to 8am.

6.75 Work carried out by LUC in 2004 in Richmond Park suggests that the deer, though effectively preventing the development of invasive scrub are not exerting sufficient grazing pressure on the sward in acid grassland areas. This is very likely to be equally true for Bushy Park as both show the same relatively low frequency of positive indicator species (wild flowers) and an over-long grass sward. The grazing ecology of the Park (i.e. the interaction between the deer and the

grassland resource) is not fully understood. In particular the following may need further study:

- the effects of additional grazing pressure on the grasslands using cattle is being investigated in Richmond Park. A 5-year, 4 hectare cattle grazing trial concluded in 2012. Provisional indications are that winter grazing by cattle does help to address issues of sward height and improves the abundance of positive indicator species, however, the cattle did little to reverse bracken encroachment. The feasibility of introducing cattle grazing to areas of Bushy Park should be investigated further (Policy N7).
- the impact of the social structure and social interactions of the deer herd on grazing;
- the impact on grazing caused by the disturbance of the deer herd by increasing numbers of visitors and interactions with dogs;
- the likely impacts of climate change (for example drought stress as a result of climate change could affect the rate of sward recovery and palatability as well as the deer's choice of plants and rates of consumption).

Genetic Management of Deer Stock

6.76 Enclosed deer populations are subject to the threat of inbreeding and reduced viability (inbreeding depression) because of a lack of genetic exchange with outside populations. Red deer naturally have a polygynous mating system, with male-biased dispersal. Females typically remain close to their area of birth and consort with their maternal relatives throughout their lives while males disperse from their natal area before reaching maturity (Clutton-Brock *et al.*, 1982). Sound genetic management of isolated deer park populations therefore requires occasional imports of new animals (particularly males) from other sites, as was done historically in the Royal Parks. Without detailed genetic studies such as that conducted on Rhum by Nussey *et al.* (2006) to investigate stock origins and to reveal genetic variance in the population, there can be no prescription of how often such introductions should take place. However, it is generally understood that, when modelling the conservation management of isolated populations of threatened species, that even very occasional introductions of new individuals can achieve significant improvements in long-term population viability.

Deer Distribution

6.77 The deer are excluded from certain areas of the Park (see Figure 6.3).

Deer Performance: At the end of the 1985/86 winter there was a sudden and unexpected heavy mortality amongst the deer population in Richmond Park. The subsequent Southampton University study concluded that lack of winter-feeding (which should commence in November) had made the deer susceptible to other stresses, in this case very severe winter temperatures, followed by late spring and

delayed new grass growth. As a result of these findings the deer are now fed through the winter.

Public use of the Park does not appear to have any lasting effects on the performance of the deer herd as a whole. However, it does temporarily disturb the deer and can lead to individual mortalities, especially as a result of:

- **dog chases** - deer deaths continue to be associated with dogs (see section on Dogs). Particular problems associated with dogs include deer being forced to run into moving traffic and young deer being separated from their mothers;
- **traffic** - at the peak of the breeding season, the Park gates are open until 9.00pm. When the deer are very young their mothers hide them in the bracken during the day and at dusk fetch them out. At this time the deer are very active and so vulnerable to being run over. In 2007 the speed limit was reduced to 20mph.;
- **human handling of deer** - close human contact and handling of the deer results in disturbance.

Since enclosure, deer have been moved in and out of the Park. Most recently in 2004, after a 20-year gap, a stag and buck were introduced to the Park from Gunton Park, Norfolk.

Management Issues: Deer Management

- The TRP should maintain an appropriate stocking density of deer in the Park. Although public use of the Park does not appear to have any lasting effects on the performance of the deer herd as a whole, it does temporarily disturb the deer and can lead to individual mortalities
- In order to maintain long-term genetic viability in these isolated populations of red and fallow deer, TRP should, from time to time, introduce new well-provenanced individuals to the Park herd
- Management need to consider how to counter negative perceptions of deer
- Increasing negative impacts of deer vs dog/human attacks
- Review sex structures in herd – to reduce damage
- Change view on keeping high levels of males for display
- Management need to consider how to counter negative perception of deer.

7.0 BUILDINGS AND HARD LANDSCAPE FABRIC

- 7.1 This section describes those buildings in the park and the main elements of the parks built fabric including the boundary wall, gates and entrances, road and path network and other artefacts.
- 7.2 Archaeological research has uncovered evidence of several former buildings in the Park dating from or before the sixteenth century. These include a lodge attached to the wall forming the boundary between Hare Warren and Middle Park (Travers Morgan, 1981) and a lodge just to the east of Chestnut Avenue (Greeves, 1991). At the time of its enclosure Bushy Park orientated around the Great Palace at Hampton Court, and contained no notable buildings itself. Subsequent construction during the seventeenth and eighteenth century means that today the Park provides the setting for several buildings - although the most important of these, Bushy House and Upper Lodge are no longer under the control of the Royal Parks. These two buildings and the issues concerning them are described in more detail in Chapter 2 (Areas of the Historic Park not Managed by TRP) and Chapter 9.

Buildings and Artefacts

- 7.3 Lying north of Hampton Court Palace, Bushy Park is inextricably linked to the palace, with its history of deer park and axial avenues. Within the park there are a number of listed buildings and structures that make a substantial contribution to the character of the park, yet at the same time retaining its own distinct rural identity. A number of post war buildings, primarily built to accommodate maintenance and sporting needs, are often not that well integrated into the landscape, and tend to detract from their surroundings.

- 7.4 TRP is responsible for the following buildings and structures:

White Lodge (18th century), occupies a focal position at the western end of the Lime avenue. The building has been refurbished and now forms the administrative base for the Royal Parks at Bushy.

The Stockyard comprises mostly Victorian farm buildings with a number of additional modern storage buildings and a large modern barn housing the Manège for indoor horse riding. One grain store is grade II listed. The buildings were upgraded under the HLF project and are in a reasonable condition, accommodating a range of educational and community uses in the new Stockyard Education Centre (see Section 8) as well as providing for TRP workshops, Field Studies Council base and storage. The City of London Mounted Police occupy the Stable Yard. *The Old Brewhouse* (1710): two story red-brick building on the west side of the Longford River. Substantial restoration works were undertaken through HLF in 2008, also providing electricity services and pedestrian access (via the Brewhouse Bridge from the Water Gardens). The building now supports a display about the restoration of the Water Gardens and is open on a daily basis to

public access in conjunction with the Water Gardens. *Hampton Court Gate Police Station* (c. 1930s): formerly a lodge residence now police station for the MPS.

River Cottage (late 19th century): first shown on 1898 OS map, possibly as replacement for nearby under keeper's cottage. Refurbished in 2013 under the TRP Better Buildings programme for rental. *Keeper's Lodge* (19th century): shown on 1851 plan as 'under keepers cottage' provides living accommodation for the Bushy Park Wildlife Officer/Gamekeeper.

The Weirhouse (19th century): small brick building next to the Waterhouse Pond, used as store for the Longford Rivermen.

Teddington Gate Lodge (current building 1827): built on the site of an earlier lodge, providing living accommodation for the Richmond Park Wildlife Officer.

Diana Fountain, Grade I listed, forms the centrepiece to the Chestnut Avenue. Set in Bushy Park 1712-13 under the supervision of Sir Christopher Wren, it incorporates bronze figures by Hubert Le Sueur.

Buildings within the historic extent of the Park and which are not Managed by TRP

7.5 *Bushy House* (1664-5): important late seventeenth century house built for Charles II (known as Lower Lodge) and later extended for the occupation of the Duke of Clarence in the early 1800s. In 1900 the National Physical Laboratory was established at Bushy House where it remains today.

Guns Lodge (1827): attributed to Decimus Burton, at the south driveway to Bushy House – there were formerly guns displayed at this entrance.

Upper Lodge (c. 1710): attractive early 19th century house occupying the site of an earlier house built for the Earl of Halifax, Ranger of Bushy Park, in the late seventeenth century and surrounded by elaborate water gardens (see Chapter 9, Character Area E). The property was used as a World War I hospital, school, World War II offices and subsequently as a Ministry of Defence Establishment. The landholding rests with The Crown Estate and is under residential leasehold.

Upper Lodge Mews (18th and 19th century): range of mews buildings, east side 18th century, west side and clock tower later. Part of the mews provides residential accommodation for TRP employees and ex-employees. The rest are under residential leaseholds.

Barton's Cottage (early 19th century): site shown on plans in the early 18th century, but current building dates from later, it belongs to the Royal Household and is now a grace and favour residence.

Hawthorn Lodge (19th century): appears as a building on maps in the mid/late 17th century, present building later, belongs to the Royal Household and is now a grace and favour residence.

Clubhouses

Management Issues: Buildings

- Major buildings within the park outside of TRP control
- Brewhouse needs suitable use and associated access improvements
- Sports Clubs need consideration in quality of design, clearance of clutter, unpermitted floodlighting

Boundary Wall, Fencing, Gates and Entrances

The Boundary Wall

- 7.6 The boundary wall is an important part of the historic landscape fabric of the park and is a grade II listed structure. It encloses and defines almost the whole of the historic park boundary of some 9Km, but because responsibility also includes the full enclosure of the Royal Paddocks (along Kingston Road and along the publicly accessible park boundary to the North side of the paddocks), Royal Parks maintain a total of 11,790m of wall.

The Historical Survey (Travers Morgan 1981) shows that the wall is of mixed age spanning a period of some 460 years. Henry VIII had several miles of less elaborate wall built from the north west corner of Hampton Court Green along the north side of Hampton Court Road to Hampton Wick and much of this section remains today. Surviving lengths of wall also remain from Stuart and Georgian times. The Park's enclosure by a wall was completed in Victorian times. Throughout this time the wall has been progressively renewed and replaced. Consequently, the appearance of the wall varies greatly along its length. For example, the handmade Tudor bricks contrast with the machine-made bricks of the last 150 years. The hardness and colours vary, as do the bonding and other construction details and mortars vary from the soft white sand and lime of Tudor times to the hard cement mortars used in more recent times.

The current planned basis for maintenance of the wall has in recent years been reduced to reactive maintenance to specific incidents (e.g. localised failure, damage by falling trees etc.). A large proportion of the wall is technically in arrears in terms of its maintenance and this is clear to see in areas where lime mortar is in need of repair and where vegetation is becoming established in the brickwork. A recent estimate for the quadrennial survey identified catch up works in excess of £3 million to bring the whole wall up to realistic rolling programme condition. A recent programme of ivy removal has helped to allow areas of wall to be accurately surveyed for condition. Extension of wall heights by adjoining owners are noticeable in some instances where park buildings have been demolished. The original heights need to be reinstated in line with heritage status.

Railings

- 7.7 Part of the boundary of the park alongside the Hampton Court Road comprises Victorian railings. These are in need of attention: replacing lost finials and some

replacement of sections by the car park, although re-painted in 2013. In some areas of the park the wall has been extended and heightened to accommodate adjacent developments. If future opportunities arise to return the wall to its original height, this should be addressed.

Fencing

- 7.8 Fencing is a key component of the landscape structure of the park, partly defining boundaries of non public areas within the park but more extensively providing enclosure of plantations to protect them from deer (e.g. The Woodland Gardens) and in certain circumstances to exclude public access (e.g. Round Plantation). Overall there are some 14,900m of fencing in the park. The majority of fencing is oak palisade which gives a more rural feel, although the Flexella (line wire) type is visibly more open and is cheaper, but requires regular renewal/repair.

Much of the oak palisade fencing which encloses the main woodland and other enclosed areas is now more than thirty years old and is in very poor state of repair. In some cases the fence life has already been prolonged by inserting concrete foot posts, bolted on to the oak posts, but in practice the palisade panelling is now brittle, weak and broken. Some sections of fencing are crudely propped to prevent them falling over; and localised gaps have been infilled with “temporary” “Heras” mesh panels. The net effect is visually poor, conveying a message of lack of care and leaving areas vulnerable to incursion by deer and public with further consequences of damage. Flexella deer fencing (metal post, 16 line wire construction) is also used in some areas (boundary belts and Round Plantation). It is generally in better condition but still requires attendance and repair. Whilst the worst sections have been temporarily repaired a comprehensive renewal of timber fencing remains an essential priority.

Gates

- 7.9 There are sixteen gates into the Park. Of these, fourteen are pedestrian gates while two gates at either end of the Chestnut Avenue (Teddington Gate and Hampton Court Gate) provide vehicle access. The Victorian ironwork of pedestrian gates is a distinctive feature of Bushy Park and for the most part they are considered to be in a reasonable condition, with some decoratively poor. Some of these gates do not allow access by wheel chair because of their width and/or adjacent steps. However the large number of gates and their fairly even spread around the perimeter of the park means that there is still a good level of access for those with disabilities provided that pedestrian links are provided with surfacing suitable for use by the less physically able and those with wheelchairs. Improvements have been made to improve access and gate operation at Church Grove and Hampton Gate as examples. Further improvements are proposed at Hampton Wick Gate and should be considered if funding allows.

At Hampton Court Gate, which is intended, with the Lion Gate opposite, as the main entrance and exit between Hampton Court Gardens and Bushy Park, the environment is poor, with spatial conflict between pedestrians and vehicles and is in need of a more detailed design study and resolution, dependant in part on the

freebord at Lion Gate Hotel. The hotel has recently closed and the extension that blocks access on the east side of Hampton Court Gate is in very poor condition. Steps must be taken to work with partners to create a pedestrian entrance on this site as planning gain.

Management Issues: Boundary Wall, Gates and Entrances

- Ongoing backlog in maintenance of boundary wall, railings and fencing
- Keep walls clear of vegetation
- Chestnut Avenue entry point – at Hampton Court Gate: pedestrian safety / Lion Gate hotel freebord.

Park Furniture and Signage

7.10 A variety of furniture (litter bins, benches and signage) has been introduced to the Park to facilitate public use. In Bushy, account should be taken of the rural nature of the Park compared to the other London Royal Parks.

Litterbins of a number of different styles are present in the Park, mostly concentrated in car park areas and entrances. There are few bins in the wider Park and those considered to be in inappropriate locations are being removed. There are about 75 litter bins in the Park. The majority of these have been made inhouse during the last 5 years by TRP carpenters (at the rate of 10 bins a year) to a low key, standardised, letterbox design.

There are adequate levels of dog bins which are the standard TRP cast iron design. Consideration should be given to future removal or replacement with design that complements litter bins.

Benches are widely distributed throughout the Park, in the region of 180 benches, a number of which have been donated by the public. They are distributed over the whole Park but include clusters in the Woodland Gardens, along Chestnut Avenue and on Hampton Hill. There are several different styles of benches including “Orchard” style slatted benches, simple plank benches and converted logs. Although requests for commemorative benches are still received, the Park Manager has generally ceased to add to the stock in this way. The locally made carpenter’s benches are widely distributed in the park and are particularly suited to the open parkland areas where the more municipal style benches look out of place. The stock of benches was increased through the HLF project, focussing on the most frequently used circuits and cluster points. In addition roughly one third of the existing benches was repaired or replaced in 2008. Consideration should be given to the replacement of formal benches in the open landscape with simpler alternatives. A programme of maintenance and replacement should continue.

Signage within the Park includes mapboards, information boards, advisory notices and traffic control. All entrances are equipped with The Royal Parks map boards (replaced 2009) and glass fronted information boards. These latter give information on events within the park. They are subject to occasional vandalism

The current approach to information is relatively low key, and seeks to avoid disturbing the rural character of the park but does not allow occasional or first time visitors to find the information they need to make the most of their time in the park. A major refurbishment of signage was achieved in 2009 as part of the HLF project, in conjunction with provision at the Welcome Centre which provides a focus for information and advice, through the Friends, on park matters and interests.

Lighting. There is no formal external lighting within the Park in relation to buildings e.g. White Lodge, except the Stockyard and the Pheasantry. Streetlights around Diana circle need to be bat friendly LED and also within sports clubs.

Management Issues: Park Furniture and Signage

- Benches suffer wear and tear, including that by the deer, and need to be regularly inspected and repaired.
- Signage, replaced in 2009, is in good order but needs to be kept up to date with respect to information.
- Need to manage the problem of unauthorised lighting installed by some sports clubs.
- Need to move to bat friendly LEDs.

Other Artefacts

7.11 There are a number of other small-scale structures and artefacts that form part of the built landscape of the park. These include historic monuments as well as several ornamental features.

- *Totem Pole (1992)*: by Nishga carver Norman Tait, donated with the assistance of the Canadian High commission. Sited as part of the Canadian Glade in the Woodland Gardens.
- *USAAF Memorial*: installed by the RAF in memory of colleagues from the US 8th Army Air Force who occupied the camp site during WWII (demolished 1962).
- *SHAEF Memorial and trail (1994)*: commemorating Camp Griffiss, Eisenhower's base for the preparation of D-Day (Supreme Headquarters Allied Expeditionary Forces). A ground plaque marks the site of Eisenhower's former office and a short trail, marked by 'open book' ground plaques,

identifies specific features of the camp. These are now becoming overgrown and difficult to locate in the grassland.

- *SHAEF Gate (1994)*: a gate commemorating SHAEF and its veterans.
- *Pump (c. mid 19th century)*: cast iron pump, mounted on a brick pier capped in Portland stone, drinking trough now missing, sited half way along Chestnut Avenue.
- *Drinking Fountains*: one (c. 1900) of granite located in Chestnut Avenue; a wall fountain fixed to the exterior wall at Sandy Lane Gate inscribed 'erected by Mrs Mary Wilkins ... in memory of her son' (1889).

Management Issues: Other Artefacts

- World War II commemoration low key and in some cases no longer clearly visible

Road and Path Network

7.12 The road and path network at Bushy Park is illustrated in figure 7.1

Roads

7.13 Chestnut Avenue and the spur road serving the Pheasantry Welcome Centre and Upper Lodge Road car park are the only roads open to public traffic in Bushy Park. The vehicular gates at Hampton Court Gate and Teddington Gate are open between 06.30 and 24.00 hours throughout the year, except during the two deer culls when all the gates, including pedestrian, are closed overnight until 8.00 a.m. The road provides a short cut for through traffic between Sandy Lane and Hampton Court Road. There are several other metalled roads in the Park that are only open to authorised users, for example providing access for residents, grounds maintenance contractors and to a special needs car park at River Lodge. Many of these also form crucial sections of the path network and are used extensively by pedestrians and cyclists. A barrier has been installed on the road towards Upper Lodge to prevent its use by unauthorised traffic. The central section of Chestnut Avenue between the Diana basin and Cobblers Walk is closed on Chestnut Sunday to enable the event while still allowing access to the car parks. Future consideration could be given to extending such closure on an experimental basis to weekends.

7.14 The road surface of Chestnut Avenue was last resurfaced in 2004-05.

Bridges

7.15 There are a number of pedestrian / maintenance access bridges in the park ranging from the early 20th century red brick bridge at the south of Ash Walk to the simple bridges over channels near the boating lakes in the Woodland Gardens and as the older Iron Bridge over the River Longford at Duke's Head Passage. The bridges are generally of appropriate materials and low key character.

Paths

- 7.16 There is 1.8 km of metalled footpath in Bushy Park largely of compacted gravel (apart from the tarmac service roads noted above). The footpaths are generally considered to be in a fair condition, mainly requiring routine upkeep such as occasional (5 year) topdressing to the compacted gravel surfaces in areas of high wear such as the outer perimeter path.
- 7.17 The surface and extent of paths is generally appropriate; and walking ‘off road’ is part of the experience of Bushy Park. A few carefully selected additional links have been made through HLF such as alongside the NPL boundary with a surface suitable for those with disabilities – also enhancing access from a key public transport link.

Car Parks

- 7.18 There are currently three main car park locations at: the Diana Fountain, at Brooms Clumps (adjacent to the Pheasantry Welcome Centre), and the Clapperstile car park accessed from outside the park from Queen’s Road. The car park at Upper Lodge, which was to have been removed, is currently still open at weekends and bank holidays. The long term objective remains to remove this car park. Special needs parking is at River Lodge with direct access to the Woodland Gardens. The access to this car park is along a considerable length of footpath and the continued provision of this car park should be reviewed now that alternative special needs parking is available at the Broom Clumps car park.

Management Issues: Road and Path Network

- Access roads also significant part of pedestrian network
- Possibility of extending closure of Chestnut Avenue as through route at weekends
- Need to preserve rural ambiance in materials and style of paths but still enable a good level of access for the less mobile.
- Aim to close Upper Lodge car park eventually.
- Unauthorised access to sports clubs at weekends and evenings needs to be addressed.
- Review the actual need for special needs parking at River Lodge.

Figure 7.1 Road and Path Network

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8.0 PUBLIC USE

- 8.0 This chapter describes the existing public use of Bushy Park and considers the volume and profile of park visitors, the range of activities within the Park and the level of satisfaction with the visitor experience. It also summarises information from the most recently published visitor survey (Bushy Park Visitor Survey Report 2009).

Public Access

- 8.1 With its origins as a Royal deer park, the Park was officially 'managed for the pleasure of the public' by 1853; however, it only became truly 'public' in the early 20th century.
- 8.2 The park is open every day and can be accessed via thirteen pedestrian or two vehicular / pedestrian gates. Vehicular gates are closed at dusk although pedestrian gates are normally left permanently open except during the annual cull periods when all are closed between 22.00 and 08.00. A public right of way (Cobblers Walk) extends across the Park from the Dukes Head Passage Gate to Hampton Wick Gate. There is one play area which is open when the park is open for visitors (toilet facilities are also available at the playground). The Woodland Gardens and the Water Gardens are locked at dusk until 9am. Additionally the Water Gardens are closed on Mondays (except at Bank Holiday Monday).
- 8.3 The Park is served by good bus services around its perimeter and, more remotely, by 4 rail stations. Car parking is currently provided free of charge in three locations within the Park and with additional parking now provided at Clapperstile Gate on the Park boundary. These are clearly marked on the maps. Parking for disabled visitors is available at the Woodland Gardens (River Lodge). Parking is not permitted on the roads or grassland.
- 8.4 Information boards and orientation maps are provided in key areas of the Park.

Visitor Profile

- 8.5 Bushy Park receives approximately 3.2 million visitors every year - not including several million who simply drive through the Park. This number is based on studies carried out in the inner parks where visitor numbers increased by approximately 50% since the 1995 survey.
- 8.6 A 2007 survey indicated that the majority of visitors to the Park are predictably from London (77%) with the rest being from the South East England region. 77% visit the park at least once a week with 30% visiting 5 or more times a week. For 2% of respondents it was their first visit to the Park.

Origin of Visitors (2006)	%
London	77% (72% in 2003)
South East England	22% (20% in 2003)

South West England	0% (5% in 2003)
Outside UK	0% (2% in 2003)

- 8.7 Most visitors travel to Bushy Park by car (83%), 9% by bicycle and 7% on foot. 8% of staying for 30 minutes or less, 40% staying between ½ hour and 1 hour and 52% for over 1 hour. Visitors come to the Park for a range of reasons, around 47% mention ‘fresh air’, as their main reason for coming to the Park, 29% and 30% respectively mention ‘walk/stroll’ and ‘peace and quiet’. ‘Walking the Dog’ (47%), to ‘Bring Children’ (22%) and ‘Exercise (not formal sport)’ (19%) were other popular responses.
- 8.8 The 68% took between 5 and 15 minutes travel time to the park.
- 8.9 When asked what would help increase their enjoyment of the Park 31% said it was ‘fine/good as it is’. 7% would prefer more better/cleaner toilets and 7% would like to see more seating and 6% responded that they would like more parking, improved natural environment and play facilities.
- 8.10 It was also found that 77% of respondents felt ‘Very Safe’ in the Park and a further 27% felt ‘Quite Safe’.
- 8.11 There has been a steady increase in dog walking leading to conflict.

Management Opportunities: Visitor Profile

- *The research indicates that the majority of visitors are local regular users. It is encouraging that the park is used by the local community as a local resource.*
- *The potential need to widen the diversity of visitors and seek to engage with new audiences, notably national and international visitors that currently do not visit the Park*
- *Need to re-run visitor counts. Up to date visitor counts are required and this is being undertaken in 2014.*

Events

- 8.12 In general Bushy is not well suited to major events which threaten the tranquillity and ambience of this rural scene. However occasional events in specific areas bring positive interest, animation, and participation into the park. The annual parade and events of Chestnut Sunday are of long standing tradition, successfully promoted and managed in recent years; and commemorative events associated with D-Day and SHAEF proved memorable and were a positive recognition of more recent history. There are also smaller events and entertainments of puppet shows, music and outdoor theatre which fit the scale of the park without undue disturbance.

Management Issues: Events

- *Bushy unsuited to large scale events*
- *Small scale events cater mainly for local audience*

Visitor Facilities

- 8.13 **Refreshment Facilities:** are provided inside the park at the mobile catering facility in the Diana car park and (seasonally) an ice cream van close to the playground. The Welcome Centre provides refreshments, a visitor information point, and toilet facilities.
- 8.14 **Playground:** There is one playground and several playful spaces. The playground is at the centre the park while fallen logs and 'beaches' provide playful spaces throughout the park.
- 8.15 **Toilets:** are similarly provided at the playground (refurbished in 2013) and at the Pheasantry Welcome Centre.
- 8.16 **Cycle Parking:** Bicycles can be parked on bespoke cycle parking racks at key locations throughout the park.

Management Opportunities: Visitor Facilities

- *Over a third (31%) of visitors feel that the Park does not need to be improved.*
- *More/better/cleaner toilets were suggested improvements (7% of respondents).*
- *Overall satisfaction with Bushy Park is very high, with 97% of visitors expressing an opinion in 2006 rating the quality of the Park as either 'excellent' or 'good'. Of these, the majority (77%) rate the Park as 'excellent' with just 20% giving a 'good' rating. No visitor rated the Park as 'poor' or 'very poor'.*
- *In 2006, there was no specific aspect of park improvement that over 10% of visitors mention as something that could increase their enjoyment, which suggests that areas to be addressed are fairly wide-ranging (and particular to individual circumstances/needs) but that there is no one central area of concern.*
- *This is to be updated in 2014.*

Organised Sports and Facilities

- 8.17 The Park accommodates a considerable range and extent of sports facilities, including cricket, junior football, rugby and lacrosse, which are provided through leases to 4 clubs within the main body of the park (see below). There is further provision for football, in-line skating and tennis on the King's Field (this area is under licence to the London Borough of Richmond upon Thames) and tennis,

cricket, football, hockey, bowls on the NPL sports field to the east of Bushy House. Fishing is allowed under permit in the lower section of Heron Pond, in Leg of Mutton Pond and the Diana Basin.

8.18 A number of sports clubs hold pitches under a licence with the Royal Parks; they are responsible for their own maintenance, and upkeep of pavilions. The sports fields are concentrated along the boundaries at Coleshill Gate, east of Bushy House at Hampton Hill and at Hampton Wick. They are summarised below.

- Hampton Wick Royal Cricket and Hockey Club is situated adjacent to the allotments. It is the oldest of the sports clubs. It has recently introduced football.
- Hampton Hill Cricket Club lies to the north-west of the Park adjacent to the Hampton Hill New Gate. A new clubhouse will be opened in 2013 to replace that lost in 2013. Teddington Town Sports Club has as a clubhouse and pitch just to the west of Coleshill Gate. The pitches are used by Teddington Cricket Club in summer and the Antlers Rugby Club in winter. The licence allows service access to the pavilion via the Upper Lodge Road. Parking for club members has been transferred to Clapperstile with access via Coleshill Gate. Planning consent for a new clubhouse has been gained and fundraising is underway with build expected in 2014.
- Teddington Cricket and Hockey Club has two pitches and a large pavilion adjacent to the western boundary of the NPL. [TRP are in the process of encouraging the clubs to transfer their respective parking to Clapperstile or other areas rather than within the site.]
- The National Physical Laboratory Sport Club have enclosed facilities include football, hockey, bowling green and tennis courts in an area of about 12 ha to the west of Teddington Gate. New changing rooms will be constructed in 2013.

8.19 There are also two football pitches, previously maintained by the Royal Parks near Hampton Hill, although demand for use has greatly reduced. Hampton Youth FC are preparing to take them over including maintenance.

8.20 The open air swimming pool at Dukes Head Passage is licensed to Hampton Pool Ltd. It is open to the public 365 days per year. A series of concerts are held during July to raise funds.

Management Issues: Organised Sport and Facilities

- Substantial areas of the park are devoted to organised sports
- Fencing and pavilions, associated storage and parking are visible to differing degrees in the landscape. Unregulated , ugly
- Unlicensed floodlighting
- Change of use – The clubs introducing other sports which can result in different imprints on the park

Formal and Informal Activities

8.21 Informal and formal activities that take place in the park are:~~~~~

- Football,
- Running,
- Jogging,
- Walking,
- Kite flying,
- Frisbee,
- Model boat sailing,
- Dog walking,
- Children’s play and
- Horse riding.

8.22 The Park is well connected to long distance walking and cycling routes such as the London Loop.

8.23 The recent success of free to enter runs such as parkrun,together with other unlicensed events, serves to increase wear and tear on the fabric of the park and potentially conflicts with other users.

Cycling

8.24 Bushy Park by its flat nature is suitable for low key, casual cycling – particularly family groups with young children. Although cycling is officially limited to specific routes (including some restricted roads), The Royal Parks take a relaxed view to accommodate the modest and generally unthreatening levels of use. With such use of the almost continuous perimeter track, this has given the park a pattern of shared pedestrian/cycle paths without the need to form a specific cycleway/leisure way as at Richmond Park (where scale and topography attract a more mixed range of cyclists).

8.25 Bushy has good connections into the local cycling network. This has recently been formalised through the London Cycling Forum’s proposal confirming the route

from Church Grove Passage to Hampton Hill as part of their published London cycle network. This essentially low key route uses the existing surfaced roads of Cobblers Walk and Upper Lodge Road and has benefited from upgrade of surface and gate access at Church Grove Passage.

8.26 This is also in line with proposals set out in the Richmond-upon-Thames UDP, that defines two routes for future cycle tracks:

- Hampton Wick Gate along Cobblers Walk, across Chestnut Avenue to Hampton Hill New Gate;
- Coleshill Gate across the Park to Dukes Head Passage Gate

Horse Riding

8.27 Horse riding is a popular activity in the Park. There is no specific Horse Track in the Park, but horses are permitted to use the park under the Park Regulations. In practice the Horse Rangers make positive and regular use without intrusion and, like the police horses, are generally seen as positive asset. Other use by horse riders is very minor, generally without problems, and contributes positively to the rural scene.

Management Opportunities: Formal and Informal Activities

- *Use of the park for sports/games can disrupt the peaceful, historic character of the landscape – current provision limits more active uses (e.g. ballgames) to less sensitive areas.*
- *Need to ensure repair and management of landscape fabric for areas with highest visitor pressure, and potential need for enhancement works to increase the capacity of these areas, for example the perimeter path.*
- *The range of activities enlivens the park; providing public enjoyment and health benefits. Good management practices can reduce conflict.*
- *Take steps to minimise the visual impact of clubhouses, unregulated parking and clutter.*
- *Recognise that unrestricted expansion in running and other forms of event can degrade the fabric and conflict with other park users.*
- *Steps should be taken to remove unlicensed floodlighting from the park which is seriously detrimental to wildlife.*
- *If sports clubs wish to undertake their activities, then the impacts of these activities need to be reviewed and agreed in advance to ensure that there are no unforeseen negative impacts on the park*
- *Guard against club takeovers*
- *There is only limited potential to expand the range of appropriate activities which take place in Bushy Park and improve facilities but this is likely to be at the expense of and possibly in the face of biodiversity thresholds and integrity. With careful management a more appropriate balance could be achieved whilst ensuring the peaceful character of this historic landscape is retained. However this would need to be tested and monitored if changing from existing patterns and distributions*
- *Expanding range of educational activities requiring accommodation and management....*

Children's Play

8.28 The only formal provision for children's play is the playground located some 250m south of the Diana Car Park. This is a well used facility and has recently been refurbished. It is sited on the southern edge of the park against the wall of the Royal Paddocks. The "lawn" area between the playground and the Cross Avenue also forms an informal and often intensely used area for family ball games.

Educational and Community Activities

8.29 **The Environmental Education Centre** at the Stockyard, was originally set up in 1992 and refurbished with the help of a Heritage Lottery Grant in 2009. To expand the service with ever decreasing funding TRP carried out a procurement process in 2011 and engaged the services of the Field Studies Council (FSC) to take the environmental education provision forward for the next 7 – 10 years. The FSC is working closely with the park to ensure volunteers from the Trail Blazers are integrated within the new programmes. The FSC delivered KS1, 2 and 3 to primary schools during the summer term 2012 and are currently planning the adult education programme which became active in September 2012 for an initial 18 months. The FSC will be extending their programme to include KS 4 and 5 during 2013.

Management Opportunities: Educational Activities

Expanding range of educational activities requiring accommodation and management.

8.30 **Schools project:** a group of trained volunteers, who enable school groups to experience the natural world through guided nature walks and pond dipping and bird watching, using the 1.7 km of trails, streams and ponds. These volunteers will continue to work within Bushy Park but will now be directly working with the FSC.

8.31 The partnership between TRP and the RSPB is being strengthened and a programme entitled 'A date with Nature' currently runs throughout all of TRP's. In Bushy Park this engages people in understanding the deer, bats and any other wildlife which is discovered on the 5/6 public engagement days per year.

8.32 In September 2012 a programme of conservation work began engaging the Youth Challenge programme. 60 young people will be involved in clearing and general maintenance work on the nature trail.

8.33 The gardening volunteers who work in the woodland garden will also be involved in regular maintenance of the nature trail site.

Management Issues: Educational Activities

- Expanding range of educational activities requiring accommodation and management

8.34 The Stockyard provides the base for community activities in the park. It provides a base for schools and community projects to begin their visit to Bushy Park, to hold their personal possessions and to collect equipment and resources for their activity. The Pheasantry Welcome Centre remains as a meeting point.

- 8.35 The Stockyard provides a safe haven for those with special needs where they can enjoy outdoor activities, including horse riding, nature studies, cycling and camping. Community activities are:
- 8.36 **The Horse Rangers Association:** within the safe environment of the centre the Association offers horse riding to those with special needs using both the outdoor sand school and purpose built indoor riding school.
- 8.37 **Companion Cycling:** providing opportunities for those with special needs to enjoy the park through the use of specially adapted bicycles.
- 8.38 **Historical Records:** here a wide range of materials are available for public view by appointment - ranging from historical maps to the archaeological survey of the park to World War II Camp Griffiss. The collection is constantly expanding and considerable work is undertaken by the research volunteers in sorting and recording material on many aspects of the rich history of Bushy Park.
- 8.39 As well as these specific projects both centres are also used as a meeting areas and events venue, not only for local associations but also for national charity bike rides and walks. Scouts, Guides and other groups also use the safe environment for short stay camping activities.

Allotments

- 8.40 There are two areas of allotment gardens within the historic park boundary. Hampton Hill Allotments Association is managed by the London Borough of Richmond upon Thames via a licence from TRP and occupies some 6 ha (310 plots) on the Western boundary of the Park. The Hampton Wick Allotments Association (approximately 6 ha, 209 plots) has a licence via TRP under a Royal Warrant located at Sandy Lane.
- 8.41 By their nature both sets of allotments have taken up land which was formerly open parkland within the historic extent of the deer park. Both Associations have long-standing relationships with the local community and are presumed to continue. Indeed there is good potential, in conjunction with other sustainability initiatives promoted and demonstrated by TRP, for both Associations to forge stronger links, promoting green gardening and sustainability-for-all as community outreach and in seeking new membership and participation. Some informal initiatives already underway are school visits and gardening for those with disabilities. There may be scope to make better use of longer term vacant plots to create and manage small nature conservation pockets, community orchards and other beneficial community based land uses within the legal status of the Association holdings.

Management Opportunities : Community Activities

- Working closely in partnership with agencies will ensure environmental education is still available for lifelong learning programmes. These partnerships will continue to be developed over the coming years.

Significance: Public Use and Enjoyment

- *Greenspace especially accessible to and valued by local people*
- *Established events are mainly low key with outstanding large scale occasion of Chestnut Sunday*
- *Range of formal sporting activities based in the park through longstanding sports clubs*
Rapid expansion in running to the detriment of visitor enjoyment
- *Wide opportunities for informal exercise and enjoyment including track cycling and horseriding*

The Pheasantry Welcome Centre

Water Gardens – Historical Interpretation

Figure 8.1 Photo Sheet

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9.0 LANDSCAPE CHARACTER

- 9.1 This section describes the visual and aesthetic characteristics of the park and associated issues. These aspects are considered in relation to specific views and vistas - within the park, of the park and from the park – and the variation in character across the park as a whole. Because ‘character’ is in effect a combination of the different elements that make up the landscape described in the previous sections, many similar issues are raised. This approach highlights where particular areas of concern occur and indicates where combinations of issues cumulatively impact upon landscape character or quality.

Views

- 9.2 The visual character of the park is dependent upon the quality and nature of views. There are three key relationships to consider:
- 9.3 **Inward views to Bushy Park** (from outside): Due to the flat topography of the site the main views of Bushy from the surrounding streets are limited by the solid nature of the boundary wall. From outside, the park is mainly perceived as greenspace by the walled boundary and by trees visible above the wall. Views along the western section of Hampton Court Road are more open as here the boundary comprises of railings mounted on a low brick wall.
- 9.4 The entrance gates provide important views into the park. Most of the entrances are Victorian ironwork pedestrian gates. These add to the quiet, almost secret, quality of the park by limiting and framing views in and out. The main gates at either end of Chestnut Avenue provide linear views along the grand scale avenue, also focussing on the Diana Fountain.
- 9.5 **Outward views from Bushy Park** (beyond the boundary): Most of the boundary of Bushy Park is well shielded by a narrow tree belt which, together with the wall, maintains the sense of enclosure and rural ambiance within the park, with the exception of the planned axial view from the Diana Fountain to Hampton Court Palace. However in some areas, for instance at Sandy Lane, gaps in the trees allow views of intrusive modern buildings. There are at present no high rise buildings in the vicinity of the park apart from a single tower at Kingston (seen eastwards along the Lime Avenue), although there are more proposed in Kingston. This comparative absence of views of built development is a key component in the character of Bushy Park. That there has been a recent increase in tall buildings in the centre of Kingston is of huge concern. These tall buildings are detrimentally affecting the character of Bushy Park and should be resisted.
- 9.6 The modern light coloured buildings of the redeveloped National Physical Laboratory (NPL) are partly seen in views across the Teddington Cricket Club fields and at the eastern end of the canal. Some recent tree planting has been undertaken to create longer term screening, but more is needed.
- 9.7 **Views within Bushy Park:** There are highly diverse views within Bushy Park. The Chestnut Avenue and Lime Avenue are grand formal vistas centring on the

Diana Fountain. The Lime Avenue also has an 'eyecatcher' in the White Lodge at its west end,. To the east the Lime Avenue peters out although the view extends further to the boundary belt beyond.

- 9.8 Views in the main body of the park are, in the main, open, extensive and varied with the wide areas of grassland punctuated by occasional plantations and parkland trees. In these settings, views of the car parks, sports fields, pavilions, associated storage and boundaries intrude on the otherwise rural character of the parkland, but bring their own character variations and animation.
- 9.9 The Woodland Gardens provide contrast with short range intimate, small scale views of glades, ponds and streams.
- 9.10 Bushy House, White Lodge and Upper Lodge provide important landmarks, as does the Diana Fountain as a focal point in the landscape. Other lodges (Barton's Cottage, Hawthorn Cottage, River Lodge) provide local reference and blend into the parkland context.
- 9.11 The parkland landscape of Bushy has relatively few fixed points of focus. This means that there is an enormous range of attractive and worthy views which, because of the disposition of tree groups and the "underview" of the browse line created by the deer, means that views are often long distance and relatively panoramic across the park.
- 9.12 There are no designated or protected views as such. However, a number of significant and representative views are identified here and in Figure 9.1.. In the interest of monitoring the protection of landscape qualities, these viewpoints provide a suitable suite as follows:-
 - i) **Structural views:** These are formed by the main avenues and include:
 - A. Chestnut Avenue: views north and south, also focussing on Diana Fountain
 - B. Lime Avenue: view to east and west , also focussing on Diana Fountain
 - C. The east – west axis through the Water Gardens from Pantile Bridge to the NPL boundary wall (East end of the canal) and observable at intermediate points in the Water Gardens, Grooms Paddock etc
 - D. Duke of Macclesfield's Avenue, focussing on Upper Lodge, but partially obstructed by other trees / fencing to south.
 - E. Chestnut Avenue through Lion Gate to Hampton Court Palace

ii) Open parkland views to specific reference points:

Viewpoints 1a and 1b: Bushy House: from parkland areas along the north side of the Pheasantry Woodland Gardens

Viewpoints 2a and 2b: Hampton Court House: from areas to the south side of Lime Avenue (West)

iii) General and typical views across open parkland (nos. 3 – 10 on fig.9.1):

3. Old park from Donkey Corner; view south including Round Plantation and Barton's Cottage
4. Ash Walk north: panorama north to east
5. Hare Warren filtered view east from Heron Pond – towards Royals Clubhouse and beyond to Kingston Skyline.
6. Hare Warren: to north east from Cobblers Walk towards Sandy Lane boundary
7. Hare Warren: to north east from overflow at Heron Pond
8. Hare Warren: from Church Grove Passage Gate to north west
9. Water Gardens: Bogdani view to the Brewhouse.
10. Iron bridge (Duke's Head Passage) to Hampton Church.

iv) Other views

View back from Hampton Wick over skylark nesting area

Management Issues: Views

- Gaps in boundary tree planting allow intrusive views of modern buildings (substantially addressed through HLF 2008, but will take time to form screening function). Since 2008 some new planting has failed and other losses through disease will require continuous replanting.

- Need to screen Kingston skyline due to new tall buildings build-up , particularly near the Royal cricket club, with further planning applications on the inner terraces. The impact is also particularly noticeable near the Hampton Wick cricket club.

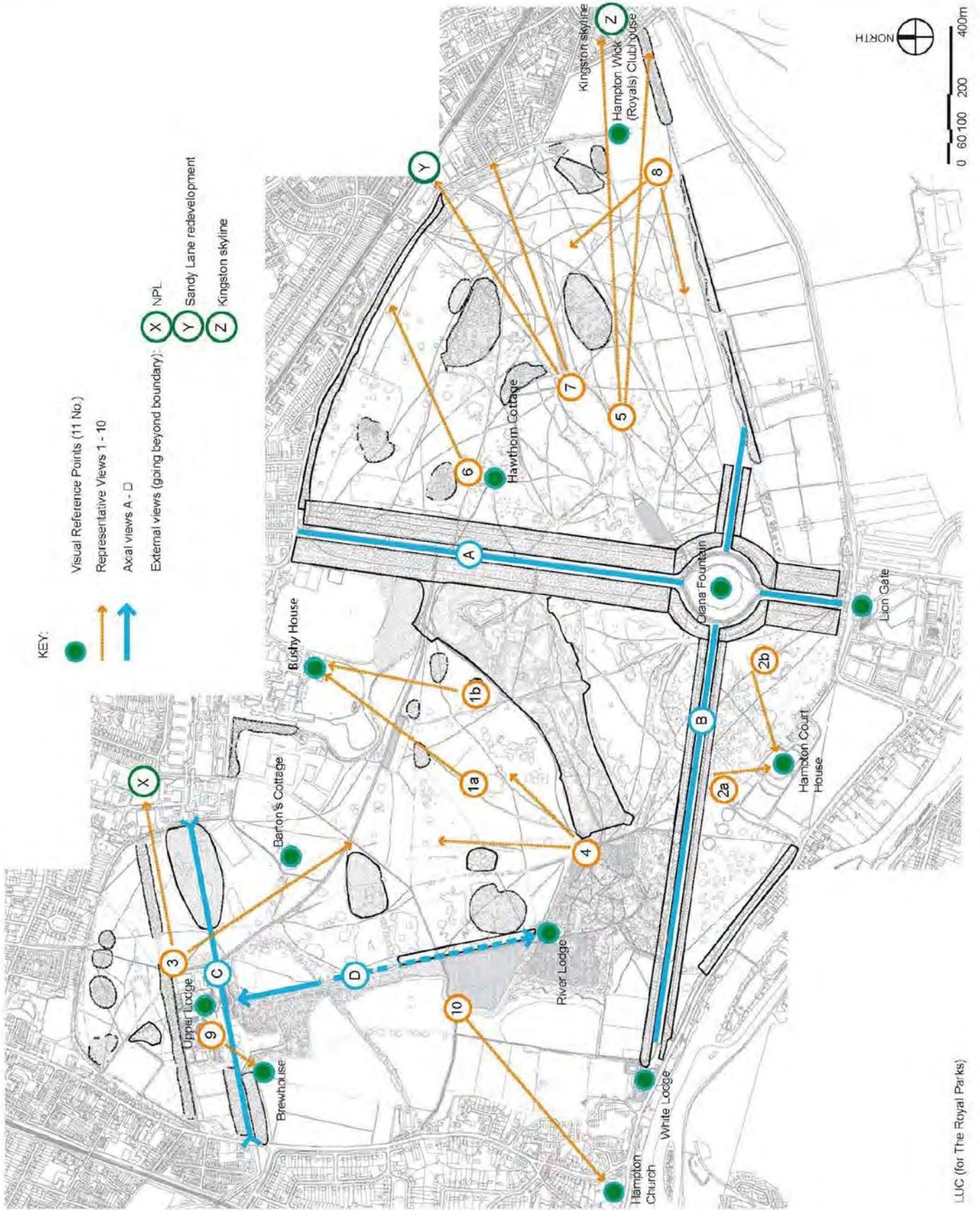
- Sandy Lane

Pond circuit with view of John Lewis in Kingston Centre. Thorns to be planted.

- Visual connectivity of key buildings could be improved.
- Monitor landscape quality in representative views on regular basis.

Lion Gate obscured by hotel extension

Figure 9.1 Views



Character Areas

- 9.13 To describe the features and discuss the issues in more detail the site has been broken down into character areas. The definition of character areas has been based largely on historic divisions, reflecting the Tudor emparkment of Bushy in four separate entities (Old Park, Middle Park, Hare Warren and the addition of the Court Field) overlaid in places by later developments such as the Chestnut Avenue, the Royal Paddocks, the grounds of Bushy House and the enclosures of the Woodland Gardens.
- 9.14 The eight character areas are bounded mainly by (often historic) geographical features such as walls and fences or defined by patterns of vegetation, land use and management. For instance the original Middle Park is effectively sub-divided into two by the Woodland Gardens and so is assessed here as two separate character areas with its eastern boundary defined by the (later) alignment of Chestnut Avenue.
- 9.15 In some cases definition of an area is clearly and crisply related to geographical features (e.g. the Waterhouse Woodland Gardens) while in others the boundary and interface between character areas is relatively loose and even arbitrary. Figure 13 shows the divisions used in the Management Plan.
- 9.16 Character areas provide a useful basis to appreciate the origins and evolution of particular areas of parkland and to appraise their presentation and use in the present day. This also provides an appropriate foundation from which to determine long-term objectives for the management of the character and content of each area and to determine specific opportunities for restoration and enhancement.

Area I: Chestnut Avenue

- 9.17 The Chestnut Avenue, originally planted in 1689 to make a grand approach to Hampton Court. It was adapted and, in effect, extended to its present form (with 10 rows of trees) in 1699 and now forms the central spine of the park dividing Hare Warren to the east side from Middle Park to the west. The Avenue is 1.5km long and approximately 190 m wide between its outer line of trees and containing the wide mown ride with its central causeway carriage drive.
- 9.18 The avenue consists of four outer rows of lime trees and an inner row of horse chestnuts on either side. The form of the avenue has changed little since its 1699 planting (see figure 7, plan c. 1709) although most of the trees have been renewed and are second or third generation.
- 9.19 Near to its southern end the avenue is punctuated by the circular pool of 120m diameter. The Diana Fountain forms a major landmark in the park heightening the grandeur of the Chestnut Avenue and adding focus to the views from north and south as well as forming the intersection with the east-west Lime Avenue.

- 9.20 A major planting campaign through the 1990s responded positively to some 300 gaps at that time, with the avenues being brought back to full stock for the tercentenary of 1999. The mixed age structure of the avenues is however such that gaps will continue to develop incrementally over future years and renewal planting will be required as gaps evolve. Clear felling for renewal is not a realistic or desirable prospect here. The avenue is in reasonably good condition overall but there are concerns about the potential impacts of bleeding canker affecting the dominant inner rows of horse chestnut trees. Incremental losses to date have not been severe, but there are significant risks that more widespread losses may prevail and would require a careful strategy for replacement. The situation remains relatively unpredictable and may require urgent management responses. A “Bushy Park Avenue Tree Strategy” has been commissioned.
- 9.21 The Chestnut Avenue is a highly significant element both in the park and in the wider landscape context in its relation to Hampton Court. It is a major heritage feature in its own right and part of the wider pattern of 17th century avenues at Bushy and Hampton Court. It is of particular historical importance as the approach to Wren’s proposed new entrance to Hampton Court. The Avenue also forms a central element in the character of Bushy Park in contrast to the flowing open parkland. The two most important entrances lead into the Avenue, making it the first area seen by most new visitors to the park.

Management Issues: Chestnut Avenue

- The level of through traffic on Chestnut Avenue has a detrimental effect on the historic character of the avenue and to some extent the wider park through the visual intrusion of moving vehicles, traffic noise and effects on air quality. Consideration of 20 mph limit.
- Pedestrian safety and visual quality diminished by Park Gate Hotel extension on east side of the Hampton Court Gate.

A strategy for the maintenance and replacement of diseased chestnuts needs to be addressed..

Area 2. Hare Warren

- 9.22 Hare Warren is broadly the area of most of the easterly of the three Tudor Parks. It is bounded by Chestnut Avenue to the west, the Royal Paddocks to the south and the park wall to the north and east.
- 9.23 Although still largely retaining its open, parkland character, Hare Warren has been modified by additions ranging from the 17th century Heron and Leg of Mutton Ponds, to major 19th century plantations (Warren, Oval, Half Moon) and smaller 20th century ones, to the site of the World War II SHAEF camp and the visitor facilities of playground, boating pond and Diana Car park.
- 9.24 The largest open parkland area in Bushy, Hare Warren is a flat landscape of acid grass land and bracken (with the latter relatively dominant) punctuated by mature parkland trees and clumps, giving long views towards boundaries. The mature oak plantations are important landmarks contrasting with the bracken and grassland in

form, colour and texture. Individual and small groups of thorn trees are also prominent but have been much weakened by age and losses, and more recently supplemented by planting within the HLF project. It is also significant for ground nesting birds.

9.25 The three ponds (two Cromwellian and the smaller twentieth century boating lake) are fed by Longford Water, adding variety to the area, and Cobblers Walk. The area of the SHAEF site (former Camp Griffiss to the North) is significant in terms of twentieth century history and is used occasionally for events. At the eastern extremity of Hare Warren, the separately enclosed Hampton Wick Allotment Association is operated under a Royal Warrant. It is part of the Park, though largely screened from pedestrian view by (mainly) walled enclosure and serviced from Sandy Lane. Bracken encroachment is being managed by a mixture of physical and chemical methods. The important access corridor of Church Grove Passage, which gives access from Church Grove between the King's Field and the Royal Paddocks Allotment Gardens, has been upgraded and is part of the London Loop. Limes are to replace the Horse Chestnuts to match the limes on the eastern boundary visually screening Kingston town centre.

9.26 Hare Warren is a historically significant element within Bushy as a large area of open parkland with its strong, simple, unified character given orientation and interest by the added layers of the ponds, plantations and SHAEF camp. The eastern spur of the Lime Avenue forms part of the 17th century pattern of avenues linking to Chestnut Avenue. Detracting from the visual quality of the area are the intrusions of car parking and unscreened boundary views. The Avenue Strategy will address the replacement of the horse chestnuts.

Management Issues: Hare Warren

- Wear and tear on the intensively used circuit in the immediate surroundings of the ponds. The extension of paths along the southern edge of ponds should be considered.
- Hampton Wick Allotment Association appears to have some vacant and abandoned plots and its strategic position with the Kingston skyline behind, deserves careful consideration with view to boundary planting for the benefit of the park.
- Intrusive views of modern buildings beyond the park boundary, and the Diana Car Park detract from the peaceful rural character of the area. (Both have been partly addressed by recent tree planting). Further thorn planting and crab apples to be progressed. A future tree planting strategy to address screening is to be progressed.

Hawthorn regeneration – existing hawthorn scrub should be protected from grazing to allow it to regenerate.

Disturbance of birds – Consideration will need to be given to protecting ground nesting birds by dogs if breeding success continues to decline.

Bracken incursion- The extension of bracken into high quality grassland needs to be checked and reversed.

Area 3: Middle Park South

- 9.27 The original Middle Park (emparked c.1500) which formed the central part of the Tudor parks has been split in half by the creation and extension of the Victorian plantations which later became the Woodland Gardens. The enclosed grounds of Bushy House have also reduced publicly accessible territory to the North.
- 9.28 To the south and imposed on the original deer park are the 17th century additions of the Longford River, the enclosures of the Woodland Gardens, and the western arm of the Lime Avenue. These break up the open parkland of bracken and acid grassland producing a series of compartments which are more enclosed and intimate in scale compared to the open landscape of Hare Warren and Middle Park North. The predominance of bracken and the stands of thorn particularly to the north of the Lime Avenue combined with the Longford River give this area a complex, natural, richly textured character, contrasting with both the larger open areas of grassland and the enclosed, shady woodland gardens. To the south of the Lime Avenue the views towards the park wall and the dominance of the bordering buildings (most notably Hampton Court House) give a more varied and locally urban character to the parkland.
- 9.29 The Lime Avenue, part of the late 17th century pattern of avenues, is a formal element echoing the Chestnut Avenue on a smaller scale, defining views to White Lodge and the Diana Fountain.
- 9.30 Lime Avenue to the west of the Diana fountain should have a pro-active management plan – the younger very vigorous trees at the eastern end require

lifting while many of the mature trees at the western end are showing signs of advanced fungal decay with deadwood and dieback in the crown. Damage to trees may lead to opportunity to re-evaluate.

9.31

9.32 The avenue, its terminus at the White Lodge, the setting of Hampton Court House on the southern boundary and the Diana Fountain provide good reference for orientation. There is limited hard surface path (Lime Avenue and spur to Red Bridge/Ash Walk) and many delightful and varied opportunities for “off-road” walking.

9.33 The Longford River, raised above the level of the park on the remains of medieval field baulks and the expression of ridge and furrow marks in the Lime Avenue and to the North of the Queen’s (Longford) River, enrich the landscape, adding to the sense of antiquity and to the informal rural atmosphere.

9.34 This small area of the park is particularly significant within the park for its archaeology and its fine textured visual variety of historical origin.

Management Issues: Middle Park South

- Poor condition of the river banks (some repairs undertaken)
- Loss of important groupings of thorns (some replacements planted)

Deer protection – long term need. The need to protect lime trees from damage from the deer herds over a long period needs to be addressed

Area 4: Middle Park North

9.35 The northern area of Middle Park is bounded by Bushy House grounds to the north and the Woodland Gardens to the south. This is a unified area, typifying the open parkland character of Bushy, consisting of acid grassland with isolated patches of bracken, scattered thorn trees and small plantations. There is good expression of medieval field baulks, ridge and furrow, and the trace of former water-courses – an earlier alignment of Barton’s stream running south to Ash Walk.

9.36 The core of the Middle Park North has changed little from its original emparkment in 1500. Areas to the north and west were enclosed for agriculture under the Duke of Clarence leaving relic lines of hedgerow / hedgerow trees; and the north area is now sports fields. Additions are the small plantations dating from the 19th and 20th centuries.

9.37 Middle Park North forms the heart of the western side of Bushy, mainly set back from the park boundaries with views largely enclosed by the surrounding woodland belts and with few features to aid orientation. Bushy House is a landmark in this area with potential for enhancement of its visibility from the wider parkland by careful management of trees in its grounds.

- 9.38 The area contains the visually exposed car park on Upper Lodge Road. The road itself is very well used by pedestrians and cyclists, as well as serving the special needs parking near River Lodge.
- 9.39 The significance of Middle Park North is in its highly rural character as one of the largest areas of relatively undisturbed deer park at Bushy. In this it forms the heart of the park and its most peaceful and remote area.

Management Issues: Middle Park North

- Visibility of moving cars, the car parking and more extensive storage of sports equipment detract from the rural atmosphere of this area.
 - Need to dilute / phase out some 20th century planting of ornamental tree species (whitebeam and purple leafed Prunus) to the south west which is out of character with the historic parkland.
- Historic hedge line to be reinforced to match hedge and ridge features.
- Floodlighting of pitches has become incrementally more intrusive and needs to be removed completely.

Area 5: Old Park

- 9.40 The Old Park forming the North West corner of the present Bushy Park was emparked in 1537. The character area boundary follows the historic circular shape, apart from the subtraction of the Brewhouse Fields to the south and west (part of character area F) which have retained the more distinct agricultural character imposed by the Duke of Clarence in the early 19th century (see figure 9).
- 9.41 To the north the Old Park retains something of its original character of open deer park albeit with an ambiance slightly apart from the rest of Bushy, and with a more local “village green” atmosphere. The central area is dominated by Upper Lodge and the Duke of Halifax’s 18th century Water Gardens and avenues. To the south of Upper Lodge the parkland opens up, extending with gradual transition into the more extensive space of the Middle Park.
- 9.42 The earlier Tree Survey (Travers Morgan Planning 1982) indicated that this area included some of the oldest oaks in the park, forming part of the line of boundary trees planted as part of Henry VIII’s improvements in the 1530s.
- 9.43 At the centre of Old Park is Upper Lodge, part of which remains in the hands of the Crown Estate, restored and developed (1998 – 2002) for residential use and with no public access within its walled garden and immediate grounds. However, the Water Gardens created by the Duke of Halifax in 1710 have been restored (2008 – 09) providing increased public access
- 9.44 The Water Gardens originally extended across the full width of Old Park from Pantile Bridge through Upper Lodge to the Canal forming the eastern end, and

using three separate sources of water. The Canal is now largely enclosed by the 19th century Canal Plantation of mixed woodland, and with restricted public access. The Canal itself suffers from silting and its banks are dominated by Alder which have been coppiced to open up the views of the remnants of the former banks and octagonal pool at the centre. Further tree works and de-silting commences in January. The matching trilobate pond and westward extension of the canal were filled in after World War II, but are potentially restorable.

- 9.45 Another part of the historic pattern is the Hampton Avenue which runs west to east just to the north of Upper Lodge. Consisting of replanted Horse Chestnuts this avenue follows the original pattern but on a parallel alignment, displaced a few metres to the North. The former early eighteenth century avenues leading North from Upper Lodge, and South as an off-set to the canal have been lost. The line of the Duke of Macclesfield's Avenue (c.1702, and predating Lord Halifax's Rangership) has been partly replanted in 2008 in its northern section. It is a very small section and in poor condition. There is a danger of losing the view to Upper Lodge due to recent planting. The Avenue Tree Strategy advocates restoring the avenue.
- 9.46 To the north of Hampton Avenue the Old Park is a semi-circular area of mainly acid grassland enclosed by the park wall. There are small plantations and a limited area of bracken. In places modern buildings beyond the park boundary are visually intrusive in winter, particularly to the north and east.
- 9.47 The Hampton Hill Pond adds interest to the area, set into the grassland and surrounded by young willows, with the characteristic browse line of the deer park. The pond which is unlined and is ground water fed, is fluctuating accordingly, being prone to overtopping in winter and shrinking in summer draw-down conditions.
- 9.48 The homely atmosphere of this section of the park is reinforced by the informal games pitches of improved grass to the west of Upper Lodge and by the Hampton Hill Cricket Club field, but detracted by increasing clutter.

Management Issues: Old Park

- Visual intrusion of boundary buildings – due to gaps in tree planting (partly addressed by recent replanting; potentially vulnerable to further losses)
- Maintenance of veteran trees – refer to tree strategy
- Possible reversion of underused football pitches for biodiversity balance if current use by youth football club ceases
- Poor condition of Hampton Hill Pond
- Improvement needed in presentation and servicing of Teddington and Teddington Town clubhouses through combination of encouragement and enforcement, and housekeeping of clutter.
- In order to restore Macclesfield Avenue, move fence in advance

Canal plantation

Area 6: Brewhouse Meadows and Stockyard Fields

9.49 The area of the Stockyard Fields and Brewhouse Meadows forms the western flank of the Park, to the west of the Longford River which acts as a limiting boundary for public access. The fields are sub-divided by the fence / hedge-lined footpath of Duke's Head Passage – part of the historic Cobbler's Walk which links Hampton High Street to the open park at the northern end of the Woodland Gardens.

9.50 Historically, the Brewhouse Meadows are part of the Old Park, as reflected in the curving alignment of Duke's Head Passage forming the South West quarter of the Old Park boundary; the Stockyard Fields were incorporated into Bushy Park as part of the 1620 acquisition of Old Court Field also known as Hampton East Field. The medieval status of this land as arable in the great field system of Hampton is still preserved in the surviving landform of former field baulks and headlands. According to Greeves (March 1993 – Archaeology in Bushy Park) a survey of 1653 describes the then recently acquired area of the present Stockyard Fields:

“next unto the sayd Towne of Hampton, wherein standeth a small
Lodge with a Barne and yard belonging to the same.....”

9.51 In the eighteenth century both areas were part of the deer grazed parkland, with Lord Halifax's Brewhouse sited (c.1710) at the northern end, close to the Longford River, and White Lodge of slightly later date at the southern end. Under the Duke of Clarence's Rangership both areas were cleared of parkland trees and laid out as agricultural fields with hedgerows, incorporating and respecting the established right of access of the Cobblers Walk (1752). The Stockyard developed as one of two service farms (the other near Barton's Cottage was subsequently demolished after 1850) with outbuildings, barns and paddocks. Later

land exchanges and licences brought changes in acquiring Garrick's Mound (1902) by local resiting of the wall around Garrick's Villa, and by development of the Hampton Field Allotments and Hampton Open Air Swimming Pool along the western boundary. The extent of the allotments has subsequently been reduced to its present extent, restoring land on the Brewhouse side to hay meadow.

- 9.52 The Stockyard Fields (approx. 18 ha.) form a series of horse grazed paddocks and others, together with a main open field (the gymkhana field) used for occasional events. The Noelle Leigh Nature Trail (created 1995-2000) runs along the eastern boundary, making use of the Longford River west bank, the Pixie Mead Meadow and a series of pools linked by an off take stream from the Longford. This diversity of functional and educational uses works well and is conveniently related to the Stockyard which provides stabling for the City of London Police, classrooms and education support buildings, carpenters workshop, Bushy Park Management Team, the Horse Ranger's indoor riding centre, the Field Studies Council and storage and activity areas for other community and volunteer initiatives of which 'Companion Cycling' deserves special mention for its worthy objectives and appropriate use of the Park.
- 9.53 By contrast the Brewhouse Fields are more remote, largely screened from both public view and public access, and are little visited. They contain some of the older hedgerow trees, are beneficially managed for hay meadow and have areas of ecological significance in pools, ditches, margins and a more recently created area of pools and reed beds (2008). There is considerable existing nature conservation interest here and further potential to be realised, with carefully controlled access. The Brewhouse building itself is part of Lord Halifax's 1710 redevelopment around Upper Lodge and contemporary with the Water Gardens. Dual designated as a Scheduled Ancient Monument and Grade 2 listed, it was restored in 2008 and is used for interpretive use in conjunction with and accessed from the Water Gardens.
- 9.54 The Brewhouse Meadows and Stockyard Fields are significant within the park as the major legacy of the Duke of Clarence's adaptation of Bushy for agriculture. As well as the historical and archaeological interest of the area, the former agricultural buildings of the Stockyard now form an important community and educational resource. The Brewhouse and the White Lodge are key landmarks in the park, of historic significance in their own right.
- 9.55 The Longford river forms the eastern boundary of this area providing an important corridor for wildlife. It is elevated for much of its length with the river retained by sheet piles. These are nearing the end of their design life and will require a programme of replacement.

Management Issues: Brewhouse Meadows and Stockyard Fields

- Potential for further enhancing biodiversity value.
- Protection of Brewhouse Meadow habitats from public access.

Opportunity to re-establish water voles. To consider the case for a programme to re-establish the water vole on the Longford river.

Condition of Longford River revetments.

The introduction of reedbeds and the nature trail have increased the management resource required to effectively manage the wildlife corridor.

The fence bordering the Brewhouse fields will need to be moved to facilitate any further restoration to Macclesfield Avenue.

Address the build up of silt in the management of canal water body.

DRAFT

Figure 9.2 Bushy Park Character Areas Plan

DRAFT

Area 7: The Woodland Gardens

- 9.56 The Woodland Gardens span the western side of the park from the Chestnut Avenue to the Stockyard Fields and are very different in character to the rest of the park. These enclosed areas are based on largely 19th century plantations but were developed as gardens during the 20th century particularly under the management of two Park Superintendents: Mr Hepburn, who used a scheme to give employment after the First World War to clear undergrowth, to form a dell in the Waterhouse Gardens and to create the cascades and winding walks; and, after the Second World War, Joseph Fisher (commemorated in Fisher's Field and Fisher's Pond), introduced rhododendrons and azaleas among the grassy glades and also enhanced the Pheasantry Gardens.
- 9.57 A Pheasant Yard was first established on the current Pheasantry site in Stuart times, and a Keeper's Lodge is shown on the Gough drawing of 1709 (figure 7). Enclosed grounds are indicated on the 1710 General Plan of the Royal Palaces and Parks of Hampton Court. In the 18th century Lady Catherine Douglas, daughter of Lord North, refurbished and enlarged the Keeper's Lodge into a villa where she lived for the latter part of the century. There had been some tree planting around the lodge by 1734 and this had expanded considerably to the north and west by 1823 as shown on the Warren Plan (figure 9). On this plan there is an additional enclosure marked 'Deer Pen'. In 1836 William IV ordered the Villa, which had become derelict, to be demolished. By the publication of the 1st Edition OS 6" map in 1869 the deer pen had been removed and the current boundary in this area established. In 1880 an avenue of coniferous trees had appeared flanking the western perimeter and by 1913 the Pheasantry had become almost completely wooded, forming the basis for the enhancements made by Park Superintendent Joseph Fisher after the Second World War. The site of the demolished Pheasantry Villa offers potential for interpretation of this phase of history within the Woodland Gardens.
- 9.58 The character area is made up of three distinct sections of enclosed woodland (Pheasantry, Waterhouse and North Woodland), Ash Walk separates the first two of these as a narrow corridor of open parkland allowing people and deer to pass between the two main enclosures, from Middle Park South to Middle Park North. At the north-eastern end, the Pheasantry plantation continues into the separately enclosed Broom Clumps – a more degraded section of woodland which also contains the Grounds Maintenance Contractor's service yard, storage areas, green waste recycling yard, and silt lagoon. Part of this area had been used for park waste tipping in the past and has been reclaimed as the new Broom Clumps car park servicing the Welcome Centre. *Rhododendron ponticum* now dominates the northern and eastern sections at the expense of the understory vegetation. It has good potential for future recovery through selective management initiatives, as set out in the Pheasantry study by Atkins 2013.
- 9.59 The Pheasantry Garden largely follows the form of a corridor centring on a branch of the Longford River (known as Keeper's River) which runs through the gardens from west to east, and opening into Triss's Pond and the Taxodium river. The river develops into a meandering course of pools in riverine form at the eastern

end with two bridges – important and popular reference points. The gardens are under partial tree canopy with informal lawns bordering the water and with clumps of ornamental shrubs, typified by *Rhododendron* and *Azalea* species. There is varied ornamental tree planting beneath the original canopy of oaks. A particular feature in this section is that of the swamp cypresses with their intriguingly shaped aerial roots lining the banks of the eastern waterway. The Pheasantry Gardens have a more open canopy than the Waterhouse Gardens to the West.

9.60 Ash Walk, between the Pheasantry and Waterhouse Gardens, is a narrow gap between the fenced enclosures, with scattered trees. Long standing drainage problems have been addressed, but need seasonal attention. The corridor receives heavy use in its role as one of only two routes (for deer and people) from north to south linking the open parkland areas of the Middle Park; it also links the Pheasantry to the Waterhouse Gardens from east to west. Recent improvements to paths, drainage and tree density have made this a more pleasing and purposeful gateway connecting the contrasting areas of the park, although can still be a problem in wet weather.

9.61 The Waterhouse Gardens form the westerly section of the character area. A series of interconnected glades, heavily wooded and enclosed, interwoven with braided streams, cascades and pools. This area projects a more labyrinthine character. Although based on the mature 19th century oak plantations, the gardens have a variety of later tree and shrub planting giving identity to walks and glades (for instance the Silver Birch and Bluebell Glades, Camellia Walk, Canadian Lawns, the Meadow and Fisher's Field); but the former more exuberant character (comparable with but different from that of the Isabella Plantation in Richmond Park) is in patchy condition, much affected by rabbits, by invasive *Rhododendron ponticum*, and loss of sharpness. As in the Pheasantry, the northern perimeter is characterised by sycamore and rhododendron regeneration.

9.62 To the west and north of the Waterhouse Gardens the area has reverted into mixed and later woodland with a more natural and partly abandoned ambiance. The area has been improved with the introduction of additional paths that create a circuit. Additional planting has been added to create interest with emphasis on biodiversity.

9.63 Opening up spaces within the woodland could provide additional opportunities for children to explore through adventurous and imaginative play – using the natural resources of the park rather than manmade equipment. There are also opportunities for employing volunteers with consequent benefits in education, health and fitness and an added sense of involvement with the park. However, proper assessment and protection of the nature conservation resources should underpin such initiatives.

9.64 The Woodland Gardens contains areas of different historical origin and significance. The Pheasantry and Waterhouse Woodland Gardens are good examples of 20th century horticultural design and which have relationship with the Isabella Plantation at Richmond Park. Part of the Broom Clumps has been redeveloped to provide the car park for the Welcome Centre, and the

horticultural context and expression has been upgraded through combined HLF and volunteering activities.

9.65 The Pheasantry and Waterhouse woodland gardens would benefit from more proactive management, including the staged removal of *Rhododendron ponticum* and gradual replacement of Oaks suffering from AOD. The removal of *ponticum* will help to reduce the risk of Sudden Oak Death affecting the collection.

9.66

Management Issues: The Woodland Gardens

- Maintenance of basic infrastructure, planting, fences, paths, waterways, boundary fence alignment, revetments on Truss's pond.
- Continuation of horticultural and conservation enhancements with volunteering activities in particular areas. Extend opportunities for volunteers to become actively involved in horticulture and conservation activities.
- Prioritising areas where ecological management should prevail and general access discouraged / deflected.
- Recognising the change in atmosphere created by the "honeypot" effect of the Pheasantry Welcome Centre and seeking to contain such impacts, if necessary by adaptation and design, in order to protect the quiet ambience of the wider gardens area. Consideration needs to be given to erection of appropriate interpretation to facilitate public understanding.

Former Historic Extent of Bushy Park

9.67 The following descriptions apply to areas largely outside of the direct control of TRP. They therefore deal only to the relationship between the public park and its historic context, largely excluding other matters (such as structural or tenure considerations), which are outside the remit of care of TRP.

Area A: Bushy House

9.68 This area consists of Bushy House, its grounds and the NPL Sport Club field which together sit at the northern edge of the Historic Middle Park and to the west of the Chestnut Avenue. This site lies wholly within the original park wall which can still be traced through the grounds to the North of the House. TRP retain responsibility for managing trees within the area of licence to the NPL Sports Club.

9.69 Bushy House has its own complex history, originally built in the 17th century, remodelled in the 18th and 19th centuries and becoming the base of the National Physical Laboratory in 1900. Its grounds contain traces of all these stages: a substantial complex of buildings used by the NPL cluster around the north side of the main house; remnants of the gardens are the 17th century clockhouse set in a walled garden and various early 19th century buildings including the listed

conservatory and a pair of gate lodges (Guns Lodges) at the end of the curved south drive. The grounds are well wooded, with some artificial mounding, specimen trees, the largest veteran sweet chestnut in any royal park, a rotunda temple and a southward vista out over the ha ha into the open parkland, affording positive views in reverse from the parkland of the House in its setting. The East front looks out across the NPL sports ground; but from public vantage on Chestnut Avenue, this important view back to the East elevation of the House is partly obstructed by security fencing, erratic regeneration of vegetation along the fence line, storage of equipment and the disposition of tennis courts, bowling green and associated sheds. It forms an unpromising prospect and denies the visual enjoyment of the setting. To the west, tree and shrub planting together with some surviving workshops form a fairly solid screen between House and parkland in the vicinity of the Teddington C.C. fields.

- 9.70 Although currently severed from the park and in separate ownership, Bushy House is a highly significant element at Bushy, for its own heritage importance (the house listed Grade II* and the garden house and lodges Listed Grade II), for its associations such as with the Earl of Halifax, Lord North and the Duke of Clarence, and as a rich component in the evolving landscape of the park. The latter aspect ranges from the now lost avenue approaching the east front of the house (part of the pattern of avenues shown on the 1709 plan, figure 7) to the distant views of Bushy House from the wider park.
- 9.71 There are inevitably a number of continuing constraints for the future integration of the Park with Bushy House, its grounds and the sports field, and a range of potential options for increasing both visibility and potential timetabled access to some or all areas. This will require considerable effort in resolving land holding interests, obligations, liabilities and security issues, and is interdependent with leases through The Crown Estate. There are many positive elements to work with here, not least the history and qualities of the house, its restorable gardens, the grounds, the NPL's own museum and interests in community liaison and participation. On the Park's side there are considerable potential benefits here not only in the in-site resources of House and grounds but also in carefully controlled and potentially wider visibility of the House – as an icon and reference point within the Park. This applies not only to the East front/sports field area but also to the South and West fronts where careful treatment of enclosing vegetation at the ha-ha vista and a newly defined vista to the South-West could provide important reference glimpses to the House.

Management Issues: Bushy House

- Boundary to Chestnut Avenue – poor interface obscuring relationship with park
- Views to Bushy House from the parkland obscured by trees in the grounds
- Changes and development plans at NPL, need to maintain the relationship with the NPL to ensure future developments on the site are not detrimental to its relationship with the parkland.
- View of Ha-ha

Area B: The Royal Paddocks

9.72 This character area is in the possession of the Royal Household and, framed by walls, remains largely out of public view. It was historically part of the area within Hare Warren laid out as the new warren (by about 1550), later marked as the "course" by 1653 presumably used for coursing, and taken in to form paddocks by 1680 and developed as part of the Royal Stud by the Prince Regent before 1820. This area is part of the historical entity of the park outside TRP's areas of responsibility and management, apart from the wall and verge along the southern boundary (Hampton Court Road) which remain under TRP's obligations.

9.73 The area is subdivided into some 12 paddocks with a number of stable buildings, barns and residential quarters.

Management Issues: The Royal Paddocks

- Wall ownership- The Royal Parks need to continue to work with the Royal Paddocks to continue appropriate management of the boundary walls which remain TRP's responsibility
- The grass verge abutting the A308 road from Hampton Court gate to the junction at Church Lane is part of Bushy Park. The verges are managed by the Historic Royal Palaces Agency whilst TRP manage the trees.

Area C: King's Field

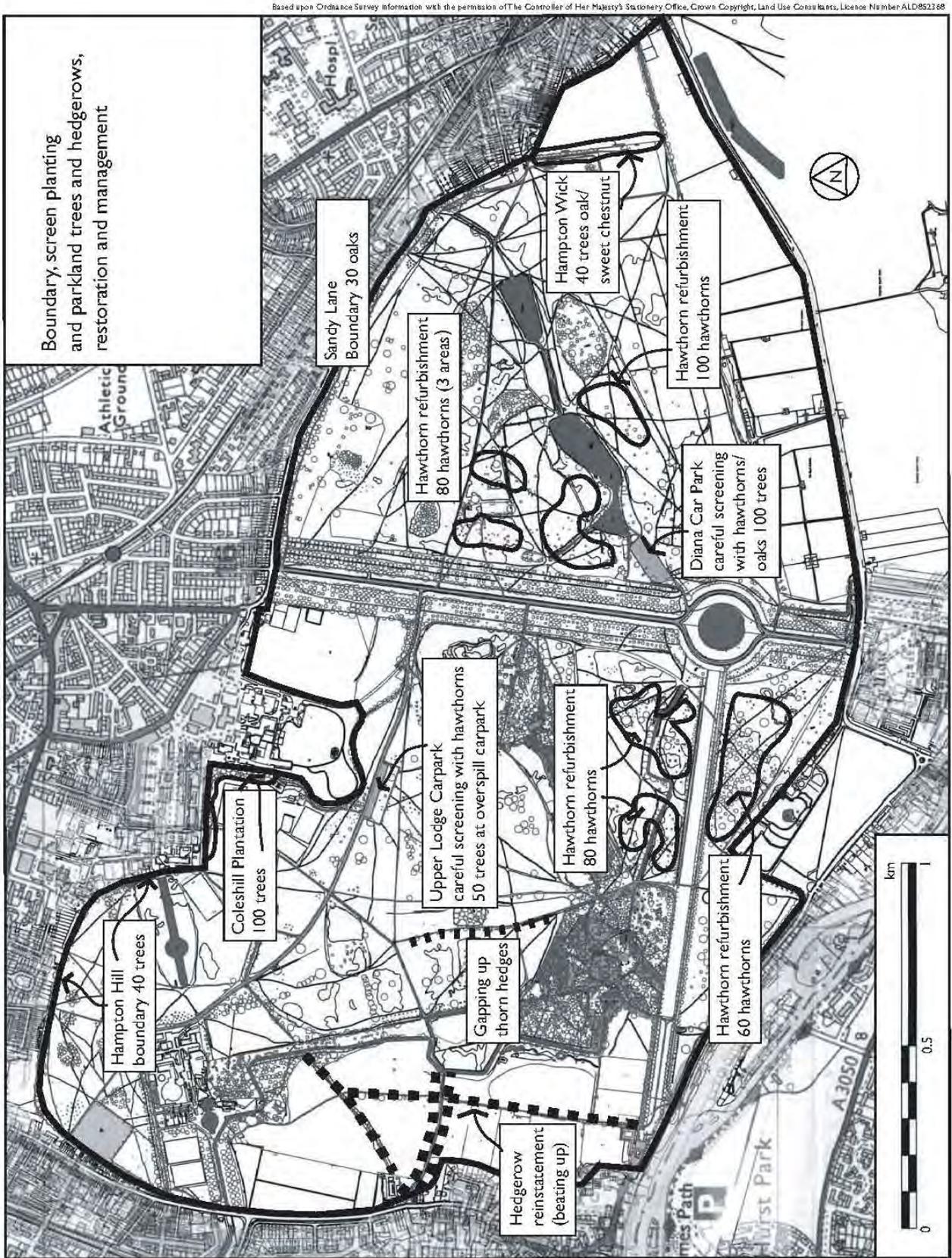
9.74 The King's Fields form the south eastern corner of the park and were created under Royal Warrant from George V to provide recreation ground for children

and the land was provided to the local authority (now the London Borough of Richmond upon Thames) to manage accordingly. Its earlier history was as part of the course and it was probably enclosed and managed with the Royal Stud as described above. The area is now managed through the Borough with several junior pitches and used by clubs in conjunction with the Hampton Wick Royals Club which manages the artificial turf pitches. At the eastern boundary the tennis courts have been partly adapted for in line skating and skate boarding with a play area alongside and the refurbished pavilion serving these interests as a café and youth centre. Although there were initially a number of problems with these new uses, they have evolved to be a well used facility which responds positively to the original purpose and objectives of the Royal Warrant.

Management Issues: King's Field

Tree management responsibilities remain with TRP

Figure 9.3 Boundary screening, plantings (20148) and remaining target areas



PART 3: LANDSCAPE STRATEGY

10.0 SIGNIFICANCE

The Statement of Significance

- 10.1 The statement of significance explains what matters, why it matters and to whom. It sets out why the site is unique and what is important or 'significant' about it. The statement of significance draws together the site evaluation to set out those features that define the essence of the place. It is the basis for developing policies, management guidelines and identifying projects to ensure that the positive aspects of Bushy Park are conserved in perpetuity whilst weak or declining aspects or features can be enhanced in the most appropriate manner. The statement of significance encompasses all the principal values of the site including cultural, historic, aesthetic, recreational, ecological, social and economic values. The previous stakeholder workshop and HLF project work was particularly valuable in providing a wide range of views on the significances of the park.

Summary of Key Significance

- 10.2 Bushy Park is a historic landscape of national importance recognised in numerous national historic and landscape designations including the English Heritage Register of Parks and Gardens and listed buildings.
- 10.3 Its primary historical significance is as a deer park, established mainly in the early 16th century, and managed as such more or less continuously through the last 500 years and manifested in wide open spaces of deer grazed grassland and bracken with parkland oak and thorn trees, overlaid by formal avenues and watercourses. This long use as parkland has also preserved a highly significant archaeological resource at Bushy with the survival of elements of the medieval open field system which predates emparkment.
- 10.4 The Park has been closely associated with Royalty since its amalgamation from three parks by Henry VIII. Many notable figures have lived in or are associated with the park, including Cardinal Wolsey, The Duke of Halifax, Sir Isaac Newton, Prime Minister Lord North, the Duke of Clarence, and General Eisenhower. The Park possesses particular and notable features including the Longford River, the Great Chestnut and Lime Avenues, Diana Fountain, Bushy House, Upper Lodge and the Water Gardens.
- 10.5 Increased public access in the later nineteenth century led to Bushy becoming a popular destination for Londoners. It remains a greenspace especially valued by local people. Bushy is host to expanding and innovative educational and community activities with particular focus on enabling those with special needs to enjoy the park.
- 10.6 The Park is significant in the context of Greater London for its nature conservation value, particularly its acid grasslands, ant hills, varied woodland, parkland trees and waterbodies.

10.7 Assured water supply from the Longford River and careful management of the river corridor remain critical to the well being of the Park.

History and Culture

10.8 The tradition of the enclosed deer park is unique to Britain. Bushy Park is a remarkable example of this form of land management, providing also an extensive tract of relict rural landscape containing visible evidence of human activity over some 6000 years, encapsulated within greater London. The national significance of this landscape is evident in its designation as a Grade I historic landscape on English Heritage's Register of Parks and Gardens of Special Historic Interest. In addition, the Park contains a number of listed buildings and artefacts, and a Scheduled Ancient Monument. The scale, extent and range of features in its surface archaeology are remarkable and of great significance (to date 13 features are included on the Heritage List- see appendix 2).

10.9

10.10 The Park is also of considerable significance for its biodiversity, and is being actively considered for SSSI status by Natural England.

DRAFT

11.0 KEY MANAGEMENT ISSUES

- 11.1 The challenge for TRP is to respond to the increasing complexity of overlapping pressures placed on the way that the Park is managed due to the need to protect its significant value for both biodiversity and heritage and taking account of the views of stakeholders and visitors concerning the Park's role, function and character.
- 11.2 In addition, the Park is affected by a range of external pressures and stresses. For example the likely impacts of climate change on the Park are warmer winters, more extremes in drought, gales and local flooding with potential repercussions for the parkland ecosystems. There is therefore a need to monitor the Park so that such changes can be detected and to plan in advance for any action that may be required.
- 11.3 The paragraphs below highlight the main management issues faced by the Park, these are arranged under headings which relate to preceding sections of this plan.

Physical Context

Geology, Topography, Soils and Drainage

- 11.4 Water management (in the passage and delivery of water through the park) and conservation (in the balanced usage of water supply resources) remains critical for the Park. There should be full recognition to maintain the diversity of habitats for wildlife which these conditions support.

Biodiversity

- 11.5 TRP should continue to consider how it manages the Park to realise its biodiversity potential and how it contributes to the objectives in the national, Greater London and Richmond Upon Thames Biodiversity Action Plans. This includes work to conserve and enhance priority habitats and species as required by the NERC Act 2006

TRP should consider how to further progress systematic biodiversity data collection, particularly in order to monitor the outcomes of enhancement projects, and to ensure adequate resourcing for the information systems, data management and reporting that underpin TRP's biological records system). Moving to an accessible GIS system for the whole organisation would be beneficial.

Although further studies will be required to monitor progress and fill data gaps, sufficient baseline data now exist to develop detailed management plans and, given appropriate resources these can be developed and implemented.

Bushy Park is a proposed SSSI and should be managed as if it were of a status similar to Richmond Park. TRP should continue to work proactively with Natural England to progress the notification of the site.

TRP should prioritise a re-introduction programme for water voles in conjunction with suitable habitat enhancements and a monitoring programme. A survey will need to be carried out.

TRP should consider how management should respond to the impacts climate change will have on ecology and wildlife in the Park

Trees and Woodland

- 11.6 The population of trees in the Park needs to be managed to maintain a dynamic and evolving landscape which respects historical patterns and assemblies
- 11.7 Management of woodlands could be improved to benefit silviculture and wildlife, as appropriate
- 11.8 The veteran tree and dead wood resource need to be managed to maintain their importance to biodiversity in the future
- 11.9 Veteran trees not only provide habitat for wildlife but are also maintained for the landscape and historical interest within the Park

Parkland Ground Cover

- 11.10 The parkland ground cover of predominantly acid grassland and bracken is mostly managed by deer grazing. The lowland meadows of unimproved neutral grassland are maintained as hay meadow.

Water and Wetlands

- 11.11 The creation of new reedbeds and control of invasive species to continue in the management of the water and wetland landscapes.

Natural Succession and Deer Management

- 11.12 Deer have been essential in maintaining the extensive areas of open grassland, in limiting natural succession and in creating the distinctive browse line which contributes so significantly to the "Englishness" and visual fluidity of the landscape. The continued presence of deer is essential to maintain this historical continuity, to provide appropriate management of the vegetation, as a living embodiment of a deer park and for the ready visibility of the deer in the landscape.
- 11.13 On the other hand, as revealed by past historical events, too many deer (beyond the natural carrying capacity of the Park) would be to the detriment of biodiversity (including drainage and nutrient enrichment). It is essential, therefore, that the correct balance is retained such that there are sufficient deer to hold back succession and to maintain a strong but sometimes elusive visual presence TRP should maintain an appropriate stocking density of deer in the Park. The appropriate number of deer for the Park is currently assessed as 125 red deer and 200 fallow deer (pre-breeding population).
- 11.14 Although public use of the Park does not appear to have any lasting effects on the performance of the deer herd as a whole, it does temporarily disturb the deer and can lead to individual mortalities. Current stocking rates in the deer herd are higher than would generally be expected in an enclosed deer herd. Consideration should also be given to altering the gender distribution which is currently biased in favour of males.

Buildings and hard landscape fabric

- 11.15 Park management must recognise the threats to the predominantly rural scene that are caused by often well intentioned proposals to increase built infrastructure, new paths, traffic controls, signs and the like. Such proposals should continue to be resisted.

Buildings and main structures

- 11.16 The impacts of any proposed alterations to or the establishment of new uses for existing buildings needs to be carefully considered, ensuring positive benefits for the Park.

Monuments and main artefacts

- 11.17 The installation of additional monuments or artefacts would have a negative impact on the wilderness landscape character of the Park

Boundaries and gates

- 11.18 A considerable proportion of the built estate, including the boundary wall (Grade II Listed) requires continued maintenance and upgrading

Park Furniture and Signage

- 11.19 A review of Park furniture in 2008 lead to the development of the Royal Parks Landscape Design Guide. Clear guidance is set to agree the appropriateness of bench styles, numbers and locations, together with an agreed policy on sponsorship and plaques.

Road and Path Network

- 11.20 Although roads and paths in the Park are generally well used and can reduce erosion of the wider parkland, they add urban qualities into the natural and informal character of the Park
- 11.21 The intrusion of traffic noise and traffic related deer fatalities have been reduced dramatically through the introduction of speed restrictions. The speed restriction should continue to be enforced.
- 11.22 The road network requires considerable investment to maintain it to the safe standards expected by visitors. The use of the roads should be monitored regularly including origin and destination studies and the analysed results reviewed to inform management decisions regarding financing their maintenance, which could be achieved by reducing through traffic and ensuring no more additional paths are introduced. Recent improvements have been undertaken for the footpath network, providing primary circulation for pedestrians, but no further extensions are considered necessary at this time.

Archaeology and Cultural Landscape

- 11.23 The Park contains important archaeological remains, and further research could add significantly to our understanding of its history, although the costs of undertaking research and the impacts of any invasive works need to be considered.
- 11.24 The archaeological remains of the Park tend to be subtle and integrated with the wider historic landscape. Certain features are obscured by vegetation growth or by loose timber. These features could be of great interest to visitors if interpreted. The digitised map of the Greaves 1993 survey has potential for interpretation. (Refer to policy BUILD 7)
- 11.25 Although no major threats to archaeology have been identified, archaeological remains are at risk from ongoing activities such as disturbance of the land surface, localised groundworks, and temporary or off road maintenance access by vehicles, which can obliterate features of interest and erosion.

Public Use

- 11.26 The Park is threatened by its own popularity. Increasing pressure, and particularly in the rise of dog ownership, can lead to erosion of both physical fabric and sense of place, as well as disturbance to deer and wildlife, and conflicts between different users and user activities. The challenge for TRP is to satisfy the dual aims to offer peaceful enjoyment, recreation, entertainment and delight, and to enhance, protect and preserve for the benefit of this and future generations.
- 11.27 Park Management aims to ensure that the intensity of any particular recreational activity does not conflict with the landscape or ecological qualities of the park which remain our core values. The views of different user groups are considered in park management decisions. Priority is not given to any particular user group or activity.
- 11.28 TRP to monitor public perception and satisfaction with surveys and engaging stakeholders and other interested parties as part of the management process.

Landscape character

- 11.29 The landscape framework of the Park is not static, but changes over time. Older areas of woodland have thinned out and become wood pasture and open parkland; open parkland has been enclosed to become recognised as woodland. The informal and fluid character of this landscape is an essential aspect of the Park. However, due to the increasing diminution of semi-natural habitats nationally, the Park is becoming increasingly significant for both biodiversity and historical importance. Rather than being viewed as a restriction to change, the biodiversity of the Park should be used as an incentive for new actions.
- 11.30 Many regular visitors to the Park have strongly established views about its role, function and character, and may be averse to significant changes. The challenge therefore is to maintain the Park's essential character borne from an inheritance of changing distributions of trees and open ground.

- 11.31 TRP's objective is to conserve the essential character of the Park against changes in its character and fabric while resisting fossilisation, recognising that flexibility has been fundamental in the evolution of the Park's landscape. Some of the more specific issues are highlighted below.

Landscape and Views

- 11.32 The informal, natural and wilderness qualities of key views and vistas could be eroded as a result of changes within the Park (in particular by placement of urban elements into the landscape) or by development beyond the Park boundary. TRP need to monitor, make representations and intervene where such threats are unacceptable.

Open Parkland Landscape

- 11.33 The recognition of zones for different activities helps to balance competing activities and to reduce conflicts between different users.
- 11.34 However, the major extent of the Park is in open landscape (albeit with variations in canopy, ground flora and ground conditions), and the deliberate manipulation of zones has the potential to lead to fragmentation or dilution of this whole. Therefore, whilst TRP recognises the 'special' qualities of the inner parkland area and the separate identity of the distinctive areas, the fragmentation of areas will be avoided and TRP will work towards maintaining the continuity of character of the whole Park.

PART 4: MANAGEMENT POLICIES

12.0 GUIDING POLICIES FOR MANAGEMENT

Park Management Policies

POLICY PMI: Park Management

Objective

To manage the Park to high standards, sharing best practice, monitoring progress, improving community involvement and managing external influences.

Recommended Actions

PMI.1 Park Management

The Park's management should continue to review management practices, keep up-to-date with latest industry standards, and incorporate environmentally sustainable practices.

PM 1.2 Database and Archive

TRP to transfer data to electronic records (e.g. Arbortrack for tree management), support biological data management and ensure information is recorded and is in a format that is consistent with good industry standards (e.g. National Biodiversity Network standards).

PMI.3 Community Involvement

TRP will seek to maintain community engagement through the established stakeholder channels which were established as part of the HLF process.

PM 1.4 External Influences

TRP to work in partnership with organisations such as Greenspace Information for Greater London (GiGL), the Metropolitan Police, Local Authorities, Transport for London and Natural England to share best practice and disseminate information with organisations and professionals.

PM 1.5 Safety and Security

TRP to work with Police and the Safer Parks Panel to protect the natural environment – particularly Wildlife Protection.

PM 1.6 Landscape Maintenance Contractors

TRP to manage the Landscape Maintenance Contract in conjunction with self-monitoring, and using KPIs to deliver a high quality service.

PM 1.7 Marketing, Promotion and Revenue

Marketing Strategy & Social Media – working with local organisations to develop co-operative strategies and to take advantage of joint marketing opportunities about the Park. Encourage production of high quality leaflets and information for the Park. Utilise The Royal Parks website to promote activities and provide up-to-date information.

PM 1.8 Sustainable Practices

TRP to deliver sustainable practices and improvements through The Royal Parks Sustainability Action Plan, and Green housekeeping (part of the ISO 14001 accreditation) including Forest Stewardship Council chain of custody for wood products.

PM 1.9 Development

TRP should review, participate in and advise on planning applications for developments adjacent to and within the Park to ensure that proposals avoid detrimental effects on the Park. E.g. visual intrusion of tall buildings or light pollution and its effect on wildlife.

GUIDING POLICIES FOR CONSERVATION

POLICY CON1: LANDSCAPE CHARACTER

CON1: The Park will be managed to conserve and enhance its landscape character whilst maintaining and complementing its diversity of historical, natural and recreational settings. The key views and vistas to, from, and within the park, will be protected and, where necessary, strengthened. Built features contributing positively to landscape character will be conserved, although the introduction of new features will be carefully considered in relation to impacts on landscape setting and the historic character of the Park.

Management Guidelines: Landscape Character

13.1 Most policies which follow relate to a greater or lesser extent to landscape character and therefore specific management guidelines are not listed here.

POLICY CON2: HISTORIC LANDSCAPE

CON2: Bushy's essential layout as a deer park of extensive rural ambience will be conserved, enhanced and where appropriate restored along with its overlay of majestic formal avenues, its component areas of individual importance – the Water Gardens from the eighteenth century and the Woodland Gardens from the twentieth century and the settings of Bushy House and Upper Lodge within the landscape.

Management Guidelines: Historic Landscape

CON2.1: Parkland Layout

13.2 Preserve the generous spatial layout of Bushy Park as a 16th century deer park including the open deer grazed grassland and the distribution of parkland trees.

CON2.2: The Formal Avenues

13.3 Conserve, renew, and, where appropriate, restore the pattern of late 17th and 18th century

formal avenues in the park.

CON2.3: The Longford River

13.4 Ensure that the Longford River, its channels, ponds and controlled water flow are conserved

and enhanced to protect its varied and rural character.

CON2.4: Key Buildings

13.5 Seek to restore the relationship of key buildings (Bushy House, Upper Lodge) to the park as a

whole through re-opening of views and selective restoration of avenues and circulation links.

CON2.5: The Plantations and Woodland Gardens

13.6 Conserve, enhance and selectively restore the 19th century plantations and the 20th century

development of the Woodland Gardens.

Con2.6: Lost Features

13.7 Seek to restore significant lost or degraded features of the Park (eg. Duke of Macclesfield's Avenue).

POLICY CON3: ARCHAEOLOGY

CON3: Conserve and protect the extensive archaeology in situ, and develop closer understanding and wider interpretation and educational use of this resource.

Management Guidelines: Archaeology

CON3.1: Consideration of Archaeology

13.8 Ensure that the conservation of archaeological remains is considered both in relation to major work such as new buildings or routes and in day to day maintenance operations.

CON3.2: CAD Database

13.9 Incorporate all available (and future) information on archaeology into a CAD database to act

as a reference for design work and for ongoing management and maintenance to reduce the risk of potential damage to the archaeological features.

CON3.3: Archaeological watching briefs

13.10 An archaeological watching brief will be prepared for any new works in the park which may

uncover archaeological remains.

POLICY CON4: BIODIVERSITY

Policy CON4: The existing natural assets of the parkland will be conserved and enhanced and the park will be managed to realise its biodiversity potential within the constraints of the historic landscape and public use. The aim will be to create an appropriate balance of the various habitats (grassland, trees, woodland, etc.) and within these to encourage as much structural and species diversity as possible and to maintain the balance of succession. A further aim will be to develop links with wider local and regional biodiversity objectives in London and the London Borough of Richmond upon Thames.

Management Guidelines: Biodiversity

CON4.1: Ecological survey

13.11 An ecological survey of the whole of Bushy Park shall be commissioned (Phase 1/GLA Habitat Survey with detailed parcel notes). This will map existing habitats and include a survey report with key species lists and outline management recommendations. Notes of

any areas or species requiring more detailed survey in the future will also be included.

CON4.2: Recording

13.12 The Royal Parks Biological Recording System shall be established within Bushy Park and used to store all ecological data for the park. All records collated for the park in the past e.g. specialist surveys, bird records, other fauna/fl ora surveys and anecdotal wildlife records will be held in this central system and used to inform management and as a baseline for monitoring the changes in the biodiversity of the park. Public access to selected information using the biological recording system is also encouraged.

CON4.3: Monitoring

13.13 An ecological monitoring strategy will be implemented which aims to collect standardised, repeatable information to allow managers to detect changes in the ecological condition of the park. This strategy should include monitoring the balance between bracken and grassland, parkland bird populations, ponds and wetlands, and the deer herd.

POLICY CON 5: SUSTAINABILITY

Con5: The RPA will strive for the highest standards of environmentally sustainable management throughout the parkland and will support wider sustainability objectives and agendas, such as maintaining urban quality of life.

Management Guidelines: Sustainability

CON5.1: Use of Chemicals

13.14 The use of chemicals – insecticides, molluscicides, herbicides, etc. will continue to be kept to the minimum necessary, in compliance with good horticultural standards and requirements for public health and safety.

CON5.2: Water and drainage

13.15 The use of water for irrigation will be kept to the minimum possible within the constraints of maintaining high horticultural standards. Wherever possible water will be dispersed on site in preference to piped systems and the potential for sustainable drainage systems will be considered in any new built development.

CON5.3: Energy and recycling

13.16 On site and off-site energy consumption and emissions will be minimised to the greatest extent possible through encouraging sustainable forms of transportation within the park, encouraging public transport to reach the park, and minimising the need for transport of goods and waste to/from the site, for example through on site recycling.

CON5.4: Energy opportunities

13.17 The Park management team will explore opportunities for sustainable energy generation both for RPA use and as a visible demonstration project.

Physical Context Policies

POLICY PHYI: Physical Qualities

Objective

To conserve and enhance the physical qualities of the Park and to harness natural resources and research sustainable opportunities. The reliance on mains supply water for irrigation in the Park will be minimised. The Park will investigate ways of making better use of water captured on site.

Recommended Actions

PHY1.1 Assess surface water storage

TRP should continue to investigate the ways of making better use of water in the Park and the options for rainwater harvesting and additional storage of run off from the Park.

PHY1.2 Soils

Soil plays an important part of the parkland ecosystems and should be conserved. Soil profiles should be retained and considered in any development proposals. The importing of soils should not be permitted. If soil is brought onto site in exceptional circumstances it should be properly screened and samples supplied prior to delivery to Park Manager's satisfaction.

PHY1.3 The Longford River

Consider the presence of the Longford River, its channels, banks, sluice controls, offtakes and ponds in drainage works.

PHY1.4 The Longford River Flow Controls

Continued vigilance required to control variations in flow including flood management and discharges but with greater emphasis on delivery in "low flow" conditions to key channels through the Woodland Gardens to maximise visual and biodiversity benefits. The flow to Hampton Court Palace must be maintained as this is the core purpose of the river since built in 1639.

PHY1.4 Drainage Network

Map the location of the drainage network of small ditches in the park and selectively restore to full working order to assist drainage of problem areas (i.e. south of Upper Lodge Road) and for biodiversity benefit.

POLICY PHY2: WATER

Objective

The water environment shall be managed to ensure it meets appropriate high standards of quality and pollution control.

Management Guidelines: Water

PHY2.1: Water Quality

Continue to monitor and take action to reduce water pollution, including regular removal of debris, dredging and sediment control operations.

PHY2.2: Water Body Maintenance and control

Continue to conserve the infrastructure of the water bodies including de-silting, maintenance of culverts, maintenance and operation of valves and sluices to control

flow, and maintenance and repair work to banks using methods appropriate to the historic landscape and rural ambiance.

Natural Fabric Policies

POLICY NI: Landscape and Views

Objective

The Park will continue to be managed to maintain its informal, natural and wilderness qualities. Key views and vistas in and from the Park (as listed in section 9) will be maintained and internal visual connections will be subtly promoted/reinforced through appropriate management. Special landscape features in the Park (as listed in section 9) will be protected, although the creation of additional features will be carefully considered in relation to impacts on the informal character of the Park.

Recommended Actions

NI.1 Liaise with local authorities

Park Management should continue to liaise regularly with the London Borough of Richmond upon Thames to ensure planning policies in the relevant local plans take into account key views from the Park and to ensure that TRP are consulted on all development proposals with potential impacts on these views. The neighbouring boroughs of Kingston upon Thames and Elmbridge should be consulted at least annually.

NI.2 Monitor key views

The audit of the key views within the Park should be referred to (refer Figure 9.1 and para 9.2-9.12). The key views should be monitored and Park management adjusted accordingly to maintain and protect them (see Policy NI.3 below).

NI.3 Review Park's work programme

The Park's works programme should be reviewed annually to ensure that the informal and natural character of the Park is not eroded and that views continue to be protected. Even small-scale changes such as tree planting could have a significant effect and should be reviewed.

POLICY N2: Managing the Park for Biodiversity

Objective

TRP will continue to manage the Park to realise its biodiversity potential within the context of maintenance of the historic landscape, public access and recreation. The aim will be to support an appropriate range of different habitats and within these to encourage as much structural and species diversity as possible. The ancient trees and deadwood habitats and acid grassland, which are the most important features of the Park, will not be compromised.

Recommended Actions

N2.1 Continued involvement with Biodiversity Strategies

TRP should continue their involvement as partners in the local Biodiversity Action Plan for the London Borough of Richmond upon Thames. The Park should also, in liaison with Natural England, play a role in the London and National Biodiversity Action Plans.

N2.2 Habitat management and enhancement/creation

TRP will aim to manage the Park to support an appropriate range of the different habitats found in the Park (e.g. parkland, woodland, ancient trees, grassland, bracken, wetlands, bare ground etc.) and to enhance these habitats to encourage as much structural and species diversity as possible. Natural regeneration will be used where appropriate and practicable.

TRP, in consultation with Natural England and other organisations and groups as appropriate, will carefully consider the potential benefits to wildlife of the creation of new habitat areas within the Park, such as hedgerow, scrub, ponds and heathland.

N2.3 Species introductions

There should be a general presumption against species reintroduction in the Park, since if the correct habitat management is undertaken (and there is a nearby source) the species should return naturally. If a nearby source is not available, some reintroduction may need to be carefully considered.

N2.4 Protection of species and habitats

TRP will work to ensure that protected species and habitats of conservation importance in the Park will not be adversely affected by any management works undertaken. TRP will consult, as relevant, with Natural England, Defra, the Environment Agency and other organisations and individuals as appropriate in order to follow best practice in planning works. TRP will seek to enforce the Park Regulations and other legislation to ensure that there is no collection / removal of any species unless part of an agreed survey or other scientific study.

N2.5 Climate change

Adaptation measures are essential to accommodate the inevitable effects of climate change over the next 50 years or more. Without such measures, biodiversity losses in addition to those already being experienced will occur. TRP will attempt to assess likely impacts through monitoring and assessment of observed changes and through anticipation of the projected impacts of climate change on biodiversity and will develop specific actions in response. TRP will aim to manage the Park's habitats to optimise ecological resilience in order to buffer perturbations in the climate and to facilitate natural adaptation of wildlife communities.

POLICY N3: Ecological monitoring requirements and data storage

Objective

TRP will continue to develop and implement a framework for effective monitoring and assessment of the biodiversity of the Park to enable development of informed long term management policies.

Recommended Actions

N3.1 Collate existing ecological information

Existing ecological information concerning the Park should be collated with a view to storage of the information in the Royal Parks database (see section 9).

N3.2 Habitat and species surveys

A number of surveys have been commissioned and carried out, including a survey of ponds See Appendix 6 for a summary of the surveys carried out .

N3.3 Prepare management prescriptions

The survey information should inform and be used to update detailed management prescriptions for the principal habitats in the Park (woodland, parkland ground flora, aquatic habitats and veteran trees). The management prescriptions should take account of Biodiversity objectives for the Borough, London and nationwide.

N3.4 Design a monitoring programme

A regular monitoring programme for the Park's key habitats and wildlife should be designed. Monitoring and/or surveys covering birds, butterflies and flora are already undertaken by TRP and in partnership with the Bushy Park Wildlife Group. However, monitoring of other taxa needs to be added with additional support from specialist surveyors being commissioned when required.

N3.5 Develop an ecological database

A central, organised system for storage of ecological data has been developed that is both secure and accessible internally. A central computer database for Royal Parks species records, in conjunction with Greenspace Information for Greater London (GiGL), has been developed from March 2007 onwards. All records collated for the Park in the past (e.g. Bird counts and other fauna/flora surveys undertaken by the Bushy Park Wildlife Group, consultants or third parties) should eventually be held within this central system. These data are publicly accessible via GiGL although some data access restrictions are in place to protect vulnerable species. The aim is to develop the information system within TRP so that the data are more accessible to internal and external customers.

POLICY N4: Tree Regeneration and Planting Strategy

Objective

The strategy will aim to maintain the park's informal, natural and wilderness qualities and the ratio of open ground, parkland and woodland to be maintained at current level. Although it is recognised that a certain amount of annual replacement planting will be necessary, it is not the aim for the park landscape to become fossilised wholly within its present pattern.

Recommended Actions

N4.1 Prepare a tree regeneration and planting strategy

A 10-year strategy should be produced for the park (2014-2024), based on the following guidelines:

- oak should remain the dominant species (60-70% of canopy), with other native species and early introductions (e.g thorn, sweet chestnut.);
- all new oak and beech planting should use local provenance;
- hawthorn regeneration;
- exotics and ornamentals should be restricted to garden areas and should constitute less than 5% of the trees of the park;
- a review of recent enclosures (which have aimed to exclude deer and rabbits) should evaluate the effectiveness of natural regeneration within these areas. This tool to create new woodland areas should be monitored and amendments to the method should be undertaken as required;
- avoid an increase in extent of woodland in the park;
- the park's archaeological features should be taken into consideration (see also Policies B1 to B3);
- sponsored trees should continue to be used, although the species, location and type of tree should be determined by the park management when preparing planting proposals;
- maintain boundary screens.

N4.2 Composition of tree species within the park

Ensuring that a variety of species (including scrub species) are well represented in the park would ensure a broad range of feed types. Blossoming species provide nectar sources for insects which are in turn food for birds and bats. Small seeds and berries feed birds and large seeds such as conkers and sweet chestnuts feed deer and other mammals.

N4.3 Maintain tree regeneration and planting records

Records of tree regeneration and planting should be maintained within a database together with the tree survey information held in Abotrack. Records of planting should be reviewed annually.

POLICY N5: Woodland Management

Objective

The woodland resource in the Park will be maintained and enhanced by placing an emphasis on management for nature conservation

The existing area of fenced and open woodlands will be maintained, although not necessarily in the same locations. The existing level of access to enclosed woodland will be maintained.

The Park management will control *Rhododendron ponticum* within the woodlands and enclosures, removal to be planned considering the benefit of wildlife within a ten year time frame

Recommended Actions

N5.1 Phase I survey

A Phase I survey of the woodlands should be undertaken (see Action N3.2 above) to:

- map the distribution of remaining areas of *Rhododendron ponticum* within the woodlands;
- identify actions for increasing the diversity of habitats in the woodland, such as single felling trees in order to create more light and provide some age range, undertaking coppicing in selected areas where appropriate, and provide glades and rides in the wood, with particular attention to the need to provide attractive habitats for birds, butterflies and other fauna;
- identify further survey requirements;
- TRP should consult with the Forestry Commission to consider which of the woodland in Bushy Park would be eligible for a woodland management grant to assist with the costs of rhododendron removal and re-planting.

N5.2 Woodland management plan

A woodland management plan should be produced for the Park (with each woodland compartment forming a management unit in the plan). The plan should identify trees for thinning and implement the recommendations of the ecological survey to improve habitat diversity in the woodlands. The removal of *Rhododendron ponticum* and possible replacement by other species should form part of the woodland management programme. Methods for the removal of *Rhododendron ponticum* should be researched and their effectiveness should be assessed with a view to establishing which areas will provide most immediate benefits.

The wholesale removal of *Rhododendron ponticum* should not be undertaken until alternative forms of undergrowth have been researched and are ready for in-planting, wherever desirable.

Consider applying for a woodland management grant.

POLICY N6: Management of Veteran Trees and Dead Wood

Objective

TRP aim to manage veteran trees within the Park to prolong their lives and enhance their constituent biodiversity. The next generation of veteran trees will be created, with the aim of maintaining at least the current population of veterans in the Park. TRP will aim to ensure a continuing supply of dead wood in the Park without compromising the open parkland landscape.

Recommended Actions

N6.1 Code of conduct for management of existing veteran trees

A **code of conduct** should be prepared for guiding work on veteran trees where undertaken by contractors. The trees in the Park are generally managed appropriately (for example pesticides and fertilisers are not generally used in the open park). The management guidelines should, however, be formalised to avoid the potential for mistakes to be made. General guidelines for management include:

- drastic changes to each veteran tree should be avoided;
- tree “hygiene” works such as the removal of dead wood, fungi, climbing plants (such as ivy) and semi-parasitic plants (such as mistletoe) should be avoided;
- keep any excavation or drainage works outside the area of the tree roots (at least as large an area as the full crown (*BS5837: 2012 – Trees in relation to design, demolition and construction*));
- do not allow soils or waste materials to be piled around the base of the tree and keep all toxic materials well away from the tree;
- protect the tree from bark stripping;
- prevent compaction of the ground around the tree either from trampling or parking of vehicles, by the judicious use of appropriate fencing;
- retain shrubs (e.g. hawthorn, blackthorn, rowan, holly, elder) in the vicinity of the tree where present and consider planting shrubs where none are present (these would need to be protected from the deer). The shrubs provide fruit and nectar sources for many of the insects in the tree. Very dense scrub or secondary woodland can however be too competitive and shade out important lichens on the tree.

N6.2 Veteran tree survey

Survey of all veteran trees was carried out in 2012. Those trees in need of urgent management will continue to be identified (i.e. those likely to be shaded out or likely to blow over). There will be a need for follow up surveys of specialist groups.

N6.3 Assess health and safety

The initial tree survey should assess the risk of branches falling from the trees. All trees are capable of shedding branches, particularly in high winds. However, this tendency is more pronounced in older trees with dead and dying limbs. This raises issues of public safety. Should a risk be assessed as relatively high during the survey (i.e. imminent risk of failure), access to the tree should be discouraged by re-routing any nearby paths and fencing. In such cases, *reactive* tree surgery should be careful and sensitive and should be undertaken in accordance with best practice and guidelines resulting from experience on similar sites (as in *Ancient and other veteran trees. Further guidance on management, The Ancient Tree Forum, ed. David Lonsdale. 2013*).

N6.4 Work on crown reduction/pollarding

Following the annual survey, *proactive* work on crown reduction or partial re-pollarding should be undertaken on veteran trees with the aim of reducing the likelihood of mechanical or structural failure and increasing longevity. The specification should take into account the flora and fauna associated with the tree. The prescribed work must be agreed with Natural England based on best practice and management guidelines as co-ordinated through the Ancient Tree Forum.

N6.5 Veteran tree management plan

The specialist survey of the veteran trees took place in 2008 and in 2012. The 2012 survey identified a total of 143 veteran trees. The survey produced comprehensive management plans for all these trees which should be implemented in a rolling programme as soon as possible and as funds permit.

N6.6 Assess feasibility of crown retrenchment of existing mature trees

The feasibility of retrenching the crowns of existing mature trees in the Park should be assessed. A survey of mature maiden trees is due to be undertaken to determine whether they are suitable for tree works. Following this survey, a trial should be undertaken in conjunction with Natural England based on knowledge of similar sites elsewhere.

N6.7 Increasing the scrub structure of the Park

Increasing the number and diversity of shrubs within the Park would increase the available nesting cover for birds. Options include the provision of enclosed areas of the Park to permit natural regeneration, as well as some thinning in the Waterhouse woodland gardens, Round Plantation and in the woodland south of the east-west stretch of the Longford within the Brewhouse Meadow. Half Moon Plantation, Warren and Oval Plantations probably management to be considered once the effects of Acute Oak Decline in these areas is clear. Species such as hawthorn,

blackthorn and gorse could be increased in planting mixtures, and would also provide “nursery” conditions for planting of tree species.

N6.8 Code of conduct for dead wood management

A code of practice for the management of dead wood has been developed and provided to the tree contractors. The aim is to increase the amount of dead wood in the Park. This is based on the following guidelines:

- the dead wood from veteran trees is particularly important and all dead wood from these trees should be left in situ;
- within the open parkland, as much deadwood as possible should be left under the tree in question. The ‘piles’ of small branches used in the past were out of character in the Park, therefore the aim should be to leave at least the trunk and larger branches together with a proportion of the smaller branches in situ. Piles of smaller branches should not be created in the open Park;
- wherever possible leave dead wood standing;
- in plantation woodland, as much deadwood as possible should be left where it falls;
- stump removal should be avoided where possible;
- den building is discouraged as it leads to the disturbance of dead wood drying out and potentially creates safety issues due to its weight and fire risk at base of trees;
- if wood has to be moved, it is best moved as soon as possible, as short a distance as possible and to similar conditions and habitat (preferably where it is unlikely to be disturbed by human interference);
- provision of shelter (for example light bracken and bramble cover) for fallen timber to protect from frost and grazing animals.

POLICY N7: Grassland and Bracken Management

Objective

TRP will manage the open parkland areas of the Park to:

- safeguard the areas of unimproved grassland to maintain the plant communities and associated fauna present;
- manage semi-improved/disturbed grasslands with the aim of providing fodder for the deer (although addition of nutrients will not be undertaken), for botanical interest or particular animal species. Should management needs conflict, a mosaic of management areas will be used;
- maintain but not increase the current area of playing fields as long as there is a demand;

- retain and, where possible, increase the area of damp grasslands in the Park and manage these habitats to encourage a diversity of wildlife, recognising that this may conflict with the need to maintain drains in certain areas of the park;
- reduce the area covered by bracken.

N7.1 Prepare a grassland and bracken management plan

Following the Phase II surveys carried out by LUC in 2004 and 2011, the objectives for each area of grassland should be determined and a detailed grassland management plan should be produced. The broad objectives for management are listed below. It is intended that the primary form of management should be grazing by deer, although rabbits may be locally significant. Hay-cutting will be continued within the Brewhouse Meadow, the areas adjacent to the paddocks in the stockyard and Lime Avenue.

Areas of unimproved/undisturbed grassland should be managed primarily to protect and enhance their botanical interest. Bracken encroachment should be controlled and a bracken management programme developed. In general, no additional tree planting should be undertaken in unimproved grassland areas. Winter supplementary stock feeding for the deer in winter months should not take place in these areas of grassland and these areas should not be recultivated, reseeded or used for events.

Areas of semi-improved/disturbed grassland may be managed for providing fodder for the deer, botanical interest or particular animal species or groups. In particular, the potential for use of temporary grassland enclosures for protection of ground nesting birds should be assessed as part of the management plan along with the provision of headlands for invertebrates. Where management needs for different groups conflict, a mosaic of grassland management will be used, based on a rotation of different cutting heights and seasons. Wherever possible, arisings should be removed. Any reseeded that is required should be undertaken using species to match the semi-natural ground cover (using seed harvested from the Park where possible) and no nutrient enrichment should occur.

The areas of semi-improved grassland offer the potential for change in land cover (e.g. bracken cover or tree planting) but the total area of grassland in the Park should be maintained. In view of the apparent under-grazing of areas of the Park, the grazing of other livestock (in particular cattle) should be considered in pilot areas of the Park.

Areas of improved grassland should continue to be managed for amenity, although headlands will also be maintained around mown amenity areas.

Areas of damp grassland and rush pasture should be retained and managed more effectively to encourage a diversity of wildlife by encouraging grazing to remove the litter layer and raising the water table/flooding during the winter months. In general an increase in this type of habitat will be encouraged.

POLICY N8: Ecology

Objective

TRP will manage the water bodies and flowing water of the Park to maximise the biodiversity overall, while retaining designated areas for recreational activities such as angling and model boating.

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N8.1 Further surveys

An ecological survey of water bodies in the Park has been completed as part of the general ecological survey in 2004 (LUC, 2005) and biannual monitoring of water quality has been conducted 1998-2012. Management recommendations were developed for Diana Fountain, Heron Pond, Leg of Mutton Pond, Longford river (at Pantiles Bridge) (Bureau Veritas, 2005). A wetland in the Brewhouse Meadow was constructed in 2005 with follow-up ecological surveys for water voles, amphibians and aquatic invertebrates (Leeming 2010) as well as butterflies, moths, damselflies and dragonflies (Freed 2010) Waterbodies should be periodically surveyed to ensure they are in good ecological condition and to establish:

- current wildlife value;
- the need for additional surveys of aquatic plants, invertebrates and amphibians;
- the extent to which pest or invasive species have colonised the ponds.

N8.2 Management prescriptions

Based on the ecological surveys, the management aims developed in 2005 for the river, ponds and ditches should be revised and updated management prescriptions prepared. Open ditches should be reinstated in favour of older piped drainage sections where appropriate.

POLICY N9: Deer Management

Objective

TRP will maintain the deer herds in Bushy Park as an integral and historic feature of the Park and an essential contribution to its unique landscape. Stocking density should meet the following objectives, wherever possible:

- deer should be visible to the public but elusive;
- stocking density should not exceed limits for a healthy deer herd and should not exceed a level where excessive supplementary feeding is required;
- stocking density should provide sufficient grazing pressure to maintain the floristic diversity of the grasslands and prevent natural succession of scrubland in parkland areas.
- TRP will encourage and promote sensible visitor behaviour to reduce disturbance of the deer.

Recommended Actions

N9.1 Deer feeding

Nutrient enrichment of grassland to improve the quality of fodder for the deer should not be undertaken. Supplementary winter feeding of the deer should continue as required to maintain a healthy herd.

N9.2 Encourage sensible visitor behaviour

Information regarding the deer should continue to be provided to the public, in particular highlighting the danger of disturbance to the deer, of deer handling and the deer cull. The information should be provided via the public notices and via guided walks/talks. This should be incorporated into the education and interpretation programme (see section on education and interpretation).

POLICY N10: Genetic Management of Deer Stocks

Objective

To maintain the historic Deer herds and ensure the health and vitality of the deer.

N10.1 Deer Population

TRP will follow established traditional good practice and, from time to time and as opportunity allows, introduce new well-provenanced high quality individuals to the Park herd on an occasional basis. The quality of the deer stock will continue to be monitored by TRP wildlife officers for any signs of reduced viability.

N10.2 Succession

There has been an unbroken presence of deer in The Royal Parks since 1637. Recent national outbreaks of Foot and Mouth disease have indicated a cull of the entire deer herd might take place in the event of an outbreak of this or some other disease. This would result in the direct loss of the historic bloodlines. The Royal Parks will investigate the feasibility of preserving samples of semen and ova from selected animals within the herd to be preserved *in vitro* off-site to enable a breeding programme and allow restocking to take place. Scanning for potential new threats to the herds such as Blue Tongue, Schmallenberg, Chronic Wasting Disease (CWD) should be instigated.

DRAFT

Buildings And Hard Landscape Fabric Policies

POLICY BUILD 1: Buildings and Main Structures

Objective

The existing buildings and gardens will be used and maintained in a manner appropriate to the Park. The Royal Parks will ensure the occupation of an appropriate number of Park lodges by key staff and appointed contractors.

TRP will maintain buildings and structures to a high standard of physical repair and visual quality, in a manner appropriate to the Park. Improvements will be made to buildings or structures which are out of keeping with the Park as opportunities arise. All proposals for alterations to existing buildings will respect their original character and setting of the Park. The Better Building Programme is generating income for the park.

TRP has a general policy against the provision of additional built structures. Additional buildings essential for public use and enjoyment of the Park will be considered but only when no existing building can be used and no alternative exists.

Recommended Actions

BUILD1.1 Review building use

The use of existing buildings should be kept under review. The potential for use of empty or redundant buildings as a visitor/ interpretative centre should be also kept under review.

BUILD1.2 Buildings surveys

Quadrennial surveys should continue to ensure all buildings are appropriately maintained. Surveys should also consider how buildings which are out of keeping with character of Park could potentially be altered.

BUILD1.3 Proposed alterations

The impacts of any proposed alterations will be carefully considered against the policies in this management plan.

BUILD1.4 Additional or replacement buildings

Generally there will be a presumption against the construction of new or additional buildings in Bushy Park and this will only be contemplated when these are considered essential to enhance public use, understanding and enjoyment of the Park where no existing building can be used and where siting is not physically or visually intrusive.

BUILD1.5 Historic Buildings and lodges

The historic buildings and lodges within the control of TRP such as White Lodge and the Old Brewhouse, will be maintained to a high standard and their settings managed to retain an appropriate relationship to the park. TRP will seek to ensure that the importance of other historic buildings in the park (for instance Bushy House and

Upper Lodge) which are managed by other agencies will be conserved and, where necessary, restored within appropriate parkland setting.

BUILD1.6 Later Buildings

Later buildings or structures that make a positive and historically appropriate visual contribution to the park (for instance the Police Station and the Keeper's Lodge) shall be maintained and refurbished (as necessary) and new uses found as appropriate.

POLICY BUILD 2: Monuments and Main Artefacts

Objective

The minimal presence of permanent monuments and artefacts is characteristic of Bushy Park and there will be a presumption against inclusion of additional artefacts unless they are considered essential, will enhance the visitor experience of the Park and will not compromise the natural and the wilderness character of the Park.

Recommended Actions

BUILD2.1 New monuments and artefacts

Additional monuments/sculptures/artefacts will only be introduced when they make a positive contribution to the Park landscape and are appropriate for their setting. In general, sculpture will be limited to gardens and formal areas and is not considered appropriate in the wider Park.

POLICY BUILD 3: Boundaries and Gates

Objective

Protect and conserve the historically and architecturally important Park boundary wall and associated gateways.

Recommended Actions

BUILD3.1 Existing gateways

The number and security of the existing gateways is generally adequate. Hampton Court Gate deserves detailed attention to resolve the congestion of vehicles and safety of pedestrians.

BUILD3.2 Boundary wall repair/restoration work

Ensure any future repair/restoration works are planned with reference to the original design details and the overall visual appearance of the historical wall.

BUILD3.3 Gateways/access

Review/monitor existing provision for pedestrian and vehicular access. Seek to enhance gates to improve access for the less able.

POLICY BUILD 4: Park Furniture and Signage

Objective

TRP will aim to provide sufficient sustainable parkland furniture to enhance public enjoyment and ensure that all bins, benches, signs etc are designed, sited and maintained in such a way which is sympathetic with the natural and wilderness landscape of the Park. There will be a presumption against any further provision of furniture within the core areas of the Park. All items will be maintained to a high standard and repair/replacement undertaken promptly as needed.

Recommended Actions

BUILD4.1 Audit site furniture and signage

An audit of benches was undertaken as part of the 2006 – 2008 HLF programme, leading to the provision of benches in some locations, removal and / or repair elsewhere. The Landscape Design Guide helps to co-ordinate and guide the procurement and installation of site furniture and signage in the Parks. The following key points are considered particular to the Park:

- bins should not generally be provided in the open park; they should be concentrated close to car parks, catering outlets etc;
- cast iron dog bins should be phased out and replaced with timber- if at all;
- seats should be chosen that have a design that will remain appropriate for their setting and the Park's character, where possible oak from the Park should be utilised;
- dedicated benches/seats should only be allowed in the agreed style and location following the guidelines set out in the Bench Audit;
- dedications on benches will be discouraged, though sponsoring replacement benches would be considered where appropriate;
- urban style benches should be replaced with rural style benches, utilising oak from the Park.

BUILD4.2 Park signage

Replacement of maps and signage was delivered in 2009 as part of HLF. The guideline for the design of the fabric of the signage is set out in the Landscape Design Guide.

Artwork will be revised and updated regularly.

POLICY BUILD 5: Road and Path Network

Objective

The extent of hard surfacing within the Park will be minimised and where possible reduced. Generally, any further increase in the extent of constructed paths should be resisted, unless there is exceptional justification (for example major scarring or spreading of erosion.) Adjustments to upgrade the existing path and road surfaces (particularly in terms of visual presentation and improving access for the less able) and to rationalise or reduce the extent of hard surfaces should be undertaken where opportunities arise. The construction of the path should be in keeping with the surrounding landscape (appropriate surface treatments) and should be the same pH as the adjacent natural soil and not add nutrients.

Recommended Actions

BUILD5.1 Extent of road and path network

The current extent of hard surfaced path and roadway should not be increased except where this positively benefits the park and then compensation made accordingly; opportunities for removal or containment of surplus roadway should be taken.

BUILD5.2 Accessibility

TRP to respond to improvements in accessibility through pre-visit information when this can be obtained.

BUILD5.3 Speed restrictions

The speed restrictions should continue to be enforced and the number of deer fatalities monitored.

BUILD5.4 Existing roads, paths and hard surfaces

The existing surfaces (tarmac, gravel, paved) shall be maintained to an appropriate standard, in parkland areas, maintenance and surfacing will be in keeping with the rural character of the park (while meeting safety requirements and providing for reasonable access for those with disabilities).

BUILD5.5 Additional Roads, Paths and Hard surfaces

Generally there will be a presumption against increases in the extent of hard surfacing and this will only be permitted where there are specific tangible benefits for public access, safety or needs.

Archaeology and Cultural Landscape Policies

POLICY BUILD 6: Protection of archaeological remains from damage

Objective

TRP will ensure that archaeological remains are protected in situ both from damage resulting from works undertaken (e.g. digging or dumping) and the wear and tear caused by Park visitors.

Recommended Actions

BUILD6.1 A code of good practice

TRP should ensure that the code of good practice for landscape maintenance contractors is followed for the protection of archaeological remains.

BUILD6.2 Annual review of the Park's work programme

The Parks Work Programme should be reviewed annually and any work identified for discussion with English Heritage which are likely to conflict with any archaeological remains. The archaeological survey plan (see Figure 7.2) should be used to guide land

management activities and as a reference to review work programmes for potential damage to archaeology.

BUILD6.3 Review of the most sensitive archaeological sites

The management of the most sensitive archaeological sites will be reviewed on a regular basis to identify any problems (such as increased wear and tear). Management solutions (such as the use of temporary fences) will be agreed with English Heritage.

POLICY BUILD 7: Archaeological interpretation

Objective

TRP will raise the profile of archaeology within the Park whilst maintaining archaeology as an integral part of the Park's historic landscape.

BUILD7.1 Improve visibility of archaeological features

Opportunities for the improvement of the visibility of the most significant features of the Park should be examined (for example by bracken removal or removal of loose timber). However, the natural "wilderness" quality of the landscape should be maintained and the nature conservation value of the Park should not be adversely affected.

BUILD7.2 Interpretative material

Generally, the use of permanent fences, signs or on-site interpretation for archaeology should be avoided in the Park (with the exception of inclusion of material in existing gate boards).

BUILD7.3 Digitise Archaeological Survey

The Greaves 1993 survey can be used to create an interactive map. This could provide a valuable management tool but also a potential means of interpretation.

POLICY BUILD 8: Archaeological research

Objective

TRP will balance the needs of archaeological research against its potential impact on the Park.

Recommended Actions

BUILD8.1 Research work

There does not currently appear to be any justification for prioritising the funding of additional research work into archaeology within the Park. However, TRP should aid professional and local archaeologists and historians in research work by making available any existing information. Proposals for invasive work to be undertaken should be considered on merit in consultation with English Heritage and taking into account the likely impact on the Park. A database of archaeological information collected should be held in the Park office at White Lodge and any new research data could potentially be added to this.

POLICY BUILD 9: Lighting

Objective

The current minimal level of lighting will be maintained but not extended.

Recommended Actions

BUILD9.1 Lighting Levels

Bushy Park is accessible to pedestrians after dark but is now closed to through traffic after 7 p.m. in winter and at dusk in summer. Further intrusion of lighting in the park should be avoided, especially with reference to sports pitches

Public Use Policies

POLICY PUB1: Visitor Management

Objective

TRP will provide open access to all areas of the Park except where this presents a risk to safety, conflicts with objectives for deer or nature conservation or where the area is required for Park management. TRP will continue to work towards education of visitors to the Park to minimise damage to the fabric of the Park, disturbance to wildlife and deer and conflicts between different users.

Recommended Actions

PUB1.1 Visitor surveys

In addition to the periodic visitor questionnaire surveys carried out across the Royal Parks, TRP should periodically collect information on:

- traffic movements particularly origin and destination surveys including information regarding use of car parks;
- visitor distribution, movement and use across the Park including mode of transport information.

PUB 1.2 Repair of eroded areas

A survey of the Park should be undertaken to every two years identify areas suffering from erosion and to identify where repairs are required. Visitor pressure should be deflected in ecologically sensitive areas (for example by use of wet areas, enclosures, dead hedging, fencing etc). Provision of additional permanent paths and hard surfaces should be avoided where possible.

PUB 1.3 Barbecues and Fireworks

Visitors should continue to be reminded of the damage caused to parkland through the use of disposable *barbecues*, as well as the risk of fire resulting from discarded cigarettes. The same applies to fireworks which are not permitted in the park. Any

potentially destructive activity should be prevented by the rigorous enforcement of park regulations.

POLICY PUB2: Disturbance Caused By Dogs

Objective

TRP will aim to reduce the disturbance of deer and other wildlife as a result of dog worrying to an absolute minimum. The wishes of dog walkers will not take precedence over the needs of wildlife.

Recommended Actions

PUB2.1 Code of conduct for dog walking

The TRP have a policy relating to dog walking which should be promoted to encourage good conduct in the Parks and help staff inform dog walkers and the Police to enforce as penalty notices have been introduced (2012) to deal with dog fouling offences. The information should inform dog walkers of the Park Regulations, promote increased education regarding the deer and wildlife and indicate local restriction areas.

PUB2.2 Dog Walking

The views of dog walkers should be considered by the Park management either through a liaison group or other mechanisms such as the Safer Parks panel (in association with the Metropolitan police). (Note: representation of dog owners and commercial dog walkers will be considered separately. Management will consider if additional controls are necessary for commercial dog walkers).

PUB2.3 Protection of sensitive areas

TRP should continue to identify areas of the Park that are particularly vulnerable to disturbance by dogs and ensure owners control their dogs accordingly. This would be of particular importance during calving and the rut, and the breeding season for ground nesting birds (March to July inclusive). The public are to be encouraged to walk dogs elsewhere in the calving and rut months. Alternative voluntary zones could be introduced where dog walkers are advised to keep their dogs on leads. An increase in controls on dogs would undoubtedly benefit wildlife, particularly ground nesting birds.

This could be promoted by placing information on the notice boards, website pages and placing temporary signs near to the gates and car parks. The RO OCU will be the most effective way of policing this strategy.

POLICY PUB3: Dog Faeces

Objective

TRP will work with dog walkers and the police to significantly reduce dog faeces in the Park. Dog walkers to be encouraged to use existing dog waste bins or dispose of faeces out of the Park.

Recommended Actions

PUB3.1 Dog waste bins

Dog waste bins are provided within the Park in strategic locations. Work to educate dog walkers (dog awareness) to the issues with dog fouling and the consequences for wildlife/ecology of the park as well as other park users. Recent studies indicate that 80% of all waste by weight removed from Bushy Park is dog faeces and consultation should be carried out as to whether it is necessary to separate waste streams.

PUB3.2 Poop-scoop day

The Park Management with RO OCU officers should organise a "poop-scoop" day once per year to encourage dog walkers to be responsible and pick up after their dogs and inform them of the effects of dog faeces on the natural environment. The day could also be used to spread the message about the Bushy Park Code of Conduct for dog owners (See PUB 2.1).

POLICY PUB4: Traffic and Car Parks

Objective

TRP will continue to work towards reducing the impacts of road traffic and car parks on the Park and educate users of the roads to have consideration for others. TRP will support the provision of improved public transport links.

Recommended Actions

PUB4.1 Level of car parking

TRP will seek to reduce the extent of car parking provision in conjunction with encouraging access to the park via public transport, cycling or walking.

PUB4.2 Promotion of sustainable transport

TRP should continue to promote the use of sustainable transport to the Park in consultation with the local boroughs and transport companies and the investigation possibility of a bus link TRP should work with Transport for London and the Local Authorities to improve sustainable transport links to the Park, and encourage participating groups / licenses to prepare and adopt Green Travel Plans.

PUB4.3 Location of car parks

TRP will seek to locate car parks where they will provide adequate levels of access for park users, including those with disabilities, while causing the minimum of visual intrusion in the landscape of the park. Where possible, parking options outside the park boundaries are encouraged, particularly for sports clubs users

POLICY PUB5: Facilities for Recreational Activities

Objective

TRP will liaise with the London Borough of Richmond regarding the provision of facilities in the Park. There is a general presumption against the provision of additional recreational facilities in the Park except where exceptional need is

demonstrated, or changes in response to statutory requirements. Any additional facilities will be concentrated in areas of existing use and will not detract from the essential nature of the Park.

Access for all and Disability Discrimination Act compliance is an objective throughout the Park and all its constituent buildings.

TRP will ensure that catering facilities in the Park are of a high standard, provide value for money and cater for a wide range of Park visitors. Opportunities for habitat creation or enhancement, as part of any development, should be considered. **(Reference: BUILD 1)**

Recommended Actions

PUB5.1 Children's play equipment

The Royal Parks will limit the area of designed play equipment within the Park. The existing facility should be inspected regularly and upgraded as necessary to ensure it is in keeping with the rest of the Park and conform to health and safety legislation.

PUB5.2 Maintenance of active formal recreational areas

The sports pitches should continue to be maintained as long as demand exists. Should demand for this facility reduce, a proportion of the pitch areas could be managed as semi-natural grassland. There should be no increase in the area of sports pitches. A reallocation of space for active pursuits may be appropriate such as the kite flying area. Where facilities are provided for specific exclusive activities the maintenance should be cost neutral.

PUB5.3 Disabled access

The Royal Parks should be guided by periodic access audits to undertake further improvements to areas identified and keep the process under review. TRP should continue to take into account access arrangements in the provision of future facilities.

PUB5.4 Toilets

The existing provision near the children's playground is in need of refurbishment and replacement. There is also provision at the Pheasantry Welcome Centre, which is managed by the concessionaire.

PUB5.5 Presentation of Sports facilities

Working in partnership with the sports clubs TRP will seek to improve presentation of sports facilities including fencing, pavilions, storage of equipment, parking and access routes, in order to minimise visual and biodiversity impacts of these facilities in the historic parkland.

PUB 5.6 Different User Groups

TRP acknowledge the pressures of the different and sometimes conflicting user group expectations. The needs of all user groups will be considered in relation to impact of the activities and the intensity of use. Changes in use as a result of internet and social media should be recognised and monitored.

POLICY PUB6: Events

Objective

TRP will aim to ensure that events do not damage the fabric of the Park or cause disturbance to deer or wildlife. Occasional events for promoting interest, education or public respect for the Park will be encouraged.

Recommended Actions

PUB6.1 Events policy

The Park should work in accordance with the current Royal Parks' Events Policy which sets guidelines regarding the size, location, times and season of events. Generally, TRP should continue to permit smaller scale events which should be monitored to ensure that damage to the fabric of the Park does not occur. Larger events, if acceptable, should generate significant income but large-scale events which will have the potential to have significant adverse impact on the Park should not be permitted. Chestnut Sunday is encouraged as resources permit and should showcase the work of TRP, other organisations associated with the Park and encourage an appreciation of the different aspects of the Park.

PUB6.2 Location of events and entertainment

Events and entertainments shall be located in a venue of appropriate capacity and character, with most events such as theatre, acoustic music and children's entertainments continuing to be accommodated in the Woodland Gardens.

POLICY PUB7: Education and Interpretation

Objective

TRP will recognise and maximise the Park as a resource for education and will provide an appropriate level of interpretation to enhance visitor enjoyment and understanding of the Park. The provision of education and interpretation will not have a detrimental impact on the landscape character or ecology of the Park.

Recommended Actions

PUB7.1 The Stockyard Environmental Education Centre

OPAL, 'Open Air Laboratories Project', provides for free sessions for local schools on a wide range of nature studies.

The Field Studies Council (FSC) runs educational sessions, lectures and workshops at The Stockyard. and half term and holiday clubs are also run by the FSC.

PUB7.2 Provision of interpretative materials

Interpretation should focus on booklets/pamphlets (e.g. describing 'trails' through the Park) and self guided walks/talks. Distribution of leaflets should be undertaken via the catering outlets and White Lodge and Welcome Centre. TRP should liaise with concessionaires regarding the use of catering outlets to provide educational and interpretation material, integrated with their function as refreshment outlets. The

potential for sale or distribution of booklets/leaflets should be investigated. The feasibility of introducing appropriately designed leaflet dispenser machines in car parks and near gates (associated with the notice boards) should also be examined, taking into account the risk and cost of such operation. TRP should continue to use the gate boards for dissemination of information.

PUB7.3 Provision of guided walks

The Friends of Bushy and Home Park organise a guided walks programme. The walks are lead by Friends volunteers, TRP staff, contractors and Friends. These are encouraged to continue and may be supplemented by other interest groups (e.g. Bushy Park Wildlife Group). Training TRP staff, Friends volunteers and contractors should continue so that a variety of formal/informal education interpretation can be provided.

PUB7.4 Provision of a reference library

A reference library of historical, geographical and environmental data (including maps past and present) should be maintained within the Park Office with potential availability for pre-booked access and study.

PUB7.5 The Brewhouse Interpretation Base/Resource

TRP will explore further opportunities for the use of the Brewhouse for education in connection with the Water Garden, for volunteer initiatives and other potential uses for income generation.

PUB7.6 Education to minimise management conflict

Information, including through social media, shall be used to inform visitors in order to minimise conflict with management objectives. This will include explaining potentially controversial management decisions (e.g. tree removal) and explaining to the public why their (often well-intentioned) actions may be creating management problems such as nutrient enrichment problems associated dog fouling.

Landscape Character Policies

POLICY CHA 1: Views

Objective

Important views from, within and to the site will be conserved and enhanced - particularly views through the historic avenues and the wide open views that characterise the parkland.

Recommended Actions

CHA1.1 Views of Bushy Park

Protect views of Bushy Park from the surrounding landscape/townscape, in particular the keyhole views into the park framed by the Victorian ironwork of the minor gateways and the two major view points in from the ends of Chestnut Avenue at Teddington and Hampton Court Gates.

CHA1.2 Views within Bushy Park

Conserve and enhance views within the park, particularly the dramatic views along the historic avenues to the eye-catchers of the Diana Fountain and White Lodge, the wide open views through the parkland and the intricate, contained views within the

Woodland Gardens. Strengthen the views to the key buildings within the park through management of surrounding trees and landscape (working in partnership with other bodies where these areas are out of TRP control such as at Upper Lodge and Bushy House) and on the boundary in the case of Hampton Court House.

CHA1.3 Views from Bushy Park

Enhance views from Bushy Park by strategic strengthening of the boundary tree planting to mask intrusive buildings and, through long-term cooperation with the local authority, to condition the scale and impact of buildings beyond the park boundary, including massing, height or design that would detract from the rural ambiance of the park. Seek to improve the view to and beyond the north end of Great Chestnut Avenue making it more in keeping with the grand axial avenue, such as with a formally tree framed screen of boundary planting to suggest a continued rural landscape beyond, blurring the early 20th century housing.

Specific Character Areas

POLICY CHA 2: Chestnut Avenue

Objective

The largely intact historic character of the late 17th century Chestnut Avenue will be conserved with positive management of old trees, continuous renewal as appropriate gaps develop and mown lawn setting.

Recommended Actions

CHA2.1: Management Objectives

Provide welcoming and clear routes into the park from the main gates and for key linkages crossing the avenue while keeping the extent and impact of such paths and signage to a minimum to protect the visual unity of the avenue.

Maintain the original tree planting pattern and spacing as shown on the c. 1709 plan and as interpreted in Travers Morgan's Historical Survey 1981.

Give consideration to the long term removal or reduction of vehicular through-traffic along Chestnut Avenue.

Minimize impact and intrusion of road signage with due regard to safety.

Consider and act upon the *Bushy Park Avenue Tree Strategy, Burns and Nice 2013*

CHA2.2: Specific Enhancement Opportunities

Work with the new owner of the Lion Gate Hotel to regain the freebord land at Hampton Court Gate (Eastside) currently occupied by the hotel extension to improve pedestrian safety and visual quality at this major entrance point.

POLICY CHA 3: Hare Warren

Objective

The historic character of the Hare Warren will be conserved and strengthened through enhancement of the natural fabric, containing and thereby reducing the visual impact of car parking.

Recommended Actions

CHA3.1: Management Objectives

Address maintenance issues including tree renewal, water bodies and water courses, surface erosion and repair and maintenance of paths (particularly around the ponds), responding sympathetically in design and implementation of works to the uncluttered and rural ambience of the park

Reduce the visual impact on the landscape of the Diana Car Park by limited tree planting to break up the interior layout and to foil with outer containment around the peripheries.

Remove the Diana Car park in the long term.

In conjunction with the Royal Paddocks Allotments Association at Hampton Wick, review opportunities for joint community projects, promoting sustainability within allotments and the Park, and considering use of vacated plots for nature conservation/community orchard projects. Also look at opportunities for specific boundary and limited in-park tree planting near the cricket-field boundary to mask the Kingston skyline.

CHA3.2: Specific Enhancement Opportunities

Enhance the ponds with bank side native planting.

Replant boundary trees in gaps to screen intrusive views, particularly of the towering flat developments of Kingston Town Centre

Ensure that isolated clumps of thorns are replenished and replanted.

The deeper bracken stands provide a good food source for threatened ground nesting birds. Bracken bashing should be limited to avoid damage for the species, including the Skylark.

Whilst bracken provides shelter for birds its encroachment into areas of acid grassland threatens the success of ground nesting birds. Bracken encroachment should be controlled to limit the loss of habitat for the birds.

POLICY CHA 4: Middle Park South

Objective

Conserve and enhance the historic character of the Middle Park South through improvements to infrastructure of waterbodies and natural fabric.

Recommended Actions

CHA4.1: Address the backlog of maintenance including tree removal in order to prevent shading and the Longford River desilting and camp-sheeting, using appropriate methods and standards of design and construction in line with the historic, rural ambiance of the park in this area. Consider alternatives to camp-sheeting and hard edges which at present deter wildlife.

POLICY CHA 5: Middle Park North**Objective**

Conserve and enhance the historic character of the Middle Park North by removing the visual intrusion of car parking (on Upper Lodge Road) and improving the visibility of the key landmark, Bushy House, within the parkland.

Recommended Actions

CHA5.1: Limit parking use of the Upper Lodge Road car park, eventually removing it, now that the new Clapperstile car park is in use.

Minimise and control the extent of permitted servicing at Teddington and Teddington Town sports clubs sites and visual intrusion caused by storage of sports equipment.

Unauthorised floodlighting is detrimental to wildlife and should not be permitted.

The Royal Parks should remain vigilant to ensure that sports' clubs do not introduce new activities without TRP's consent which could result in the negative impact on other park users and wildlife.

CHA5.2: Bushy House forms a strong reference point in the eastern part of the area, and, with careful management of trees within the grounds, its visibility could be increased specifically and beneficially.

Replace specific groups of inappropriate and poorly located ornamental tree planting in the south west section of this area with species more in character with the park.

POLICY CHA 6: Old Park**Objective**

Strengthen the historic character of the area through improvements to parkland fabric.

Recommended Actions

CHA6.1: Strengthen boundary planting to screen intrusive buildings.

Improve water retention in Hampton Hill Pond.

Improve visual presentation of Hampton Hill Cricket Club Pavilion with the control of clutter and storage placed internally and out of view.

CHA6.2: Restore the canal eventually to its original and full extent with trilobite basin at west end and restored octagon basin in centre as part of The Water Gardens. Undertake as phased transition in preparing and managing enclosed woodland areas to be retained at eastern end of canal only.

Look to replant and extend the Duke of Macclesfield's Avenue of c.1700 with appropriate species on the correct alignment, in accordance with the *Avenue Tree Strategy*. This will involve the moving of existing fencing.

POLICY CHA 7: Brewhouse and Stockyard Fields

Objective

The agricultural character of this area will be conserved and strengthened through improvements to infrastructure alongside further enhancement of ecological value, educational and community uses.

Recommended Actions

CHA7.1: Management: Continue to support/encourage other community based interest groups at the Stockyard.

Liaise with Hampton Field Allotments for joint promotion of community and sustainability, projects, possibilities of using unused plots for compatible nature conservation projects/community orchard.

Continue programme of nature trail development, hedgerow and boundary planting in Stockyard Fields in conjunction with paddock grazing.

Seek to establish a balance of controlled public access, including Park visitors, to enjoy and make use of interpretive facilities at White Lodge/the Stockyard.

POLICY CHA 8: Woodland Gardens

Objective

The character of the Woodland Gardens will be conserved, locally enhanced and selectively restored. Other degraded areas within the gardens will be upgraded to provide improved visitor access and enjoyment. A balanced assessment of available resources needs to be considered when assessing the proportion of the woodland gardens which are intensively managed.

Recommended Actions

CHA8.1: *Planting and maintenance strategy*

Continue with renewal of the basic fabric of the Waterhouse gardens: camp-sheeting, desilting waterbodies, repair of paths and bridges and renewal/new planting using methods and materials appropriate to the history and character of the gardens.

Continue to address the problem of invasion by sycamore and selective containment and eventual removal of *Rhododendron ponticum* and Himalayan balsam.

Repair and maintain boundary fencing to the whole perimeter including special attention to robust rabbit fencing.

Selective management of currently abandoned areas along the Northern perimeter of The Pheasantry and The Waterhouse enclosures, enhancing for wildlife by creating additional habitat.

CHA8.2: Enhancement

Upgrade the Woodland Gardens North, with native woodland planting, involving and expanding the use of volunteers where possible.

Seek opportunities for working with environmental artists to provide incidents (ephemeral sculpture) and interpretive signage within the fenced enclosures.

CHA8.3: Honeypot effect

Review the effect of the expanded Pheasantry Welcome Centre which has created a honeypot effect in beneficially drawing in a wider range and new visitors but at the expense of changing the quiet atmosphere in this part of the gardens.

Investigate mechanisms and design options for containing the negative impacts and promoting quiet respect for the Gardens and for other visitors.

POLICY CHA 9: Historic Extent

Objective

TRP will strive to ensure that the historic extent of Bushy Park is conserved and enhanced and that the visual (and where possible physical) relationships between the key buildings out of TRP management (Bushy House, Upper Lodge and Hampton Court House) and the body of the park are strengthened and public access increased.

Recommended Actions

CHA9.1:

Subject to liaison with The Crown Estate and NPL, TRP to promote controlled public access to Bushy House and its grounds for appreciation of heritage, and potential events usage.

CHA9.2:

Management of naturally regenerated *Sycamore/Rhododendron ponticum* in Cannon Gate Lodge woodland to enhance biodiversity (TRP land within Bushy House enclosure).

Potential restoration of reference points for East Front Avenue to Bushy House, requiring possible adjustment to sports facilities/layout but also dependent on integration/protection of NPL facilities.

DRAFT

PART 5: IMPLEMENTATION

This section describes a framework for monitoring the success of the management plan in meeting the requirements of policies; establishes opportunities to review the management plan and sets out a mechanism for implementing specific projects within the context of the management plan and wider Royal Parks policies.

- Monitoring and Review
- Next Steps - the Project Register

DRAFT

13.0 MONITORING AND REVIEW

The Operations Plan

- 13.1 The significant investments of the HLF programme have, in effect, caught up a good deal of the previously identified backlog in the physical condition of Bushy – fences, drainage, access paths, signage, furniture and planting - as well as provision of new facilities at the Welcome Centre, Broom Clumps and at the Water Gardens. This does not close the agenda but it means that the main emphasis at Bushy is now that of maintaining the improved base line. The Project Register identifies work to be undertaken in the Park through the course of the next 5 years (the plan period), based on delivering the objectives for management set out in this document.
- 13.2 Projects which involve improvements to buildings or hard landscape features or artefacts are managed by the Estates Management Team as part of the Works programme (which covers all the eight Royal Parks). A list of works is prioritised based on a set of criteria. Activities are identified as routine works, cyclical works, reactive works or one-off projects. The year in which one-off projects should be undertaken is identified.
- 13.3 The Operations plan contains an action plan which will feed into the annual work programme for the Park. The ability to carry such prescriptions depends, to a large degree, on financial, human and technical resources in management. The plan in itself does not secure financial resources. (In the 5 years to 2015, the government grant to TRP will have shrunk by at least 36%.) The management plan should assist in helping to identify priorities in forward planning, budgeting and expenditure.

Consultation and Adoption of the Plan

- 13.4 Subject to approval by the Executive Committee, the Management Plan will be distributed to key stakeholders for wider consultation.

Monitoring

- 13.5 Monitoring the effects of the management policies and projects is fundamental for the successful use and implementation of the plan. This should relate achievements to policies and provide information on which to base future amendments to the management plan or management policies.
- 13.6 In order to undertake successful monitoring the baseline information needs to be up to date and readily available. TRP is in the process of planning a Geographic Information System (GIS). This aims to provide up-to-date base plans, biological data and tree surveys information. The implementation of a biological data management system in partnership with GiGL is also necessary to help monitor, access and share important data to support good management practices.
- 13.7 The key areas for monitoring at Bushy Park are:
- Retention of landscape qualities, deer and trees;

Protection of archaeology

- Protection and enhancement of nature conservation value of the Park and designations;
 - Social inclusiveness; and
 - The Pheasantry Welcome Centre.
- 13.8 The achievements of this management plan will be reviewed on an annual basis through the Operations Plan action plan monitoring process. The review will involve assessing projects implemented against those contained on the action plan (derived from the management plan project register) and applied in prioritised form to forward budgets. Management projects successfully completed in the preceding 12 months will be recorded and projects from the register will be brought forward for implementation. It is probable that financial and human resource constraints and delays in timetable will mean that some projects will slip from the planned programme. These should become priorities for implementation in the next phase.
- 13.9 The annual schedule of capital projects should provide a useful tool for prioritising work and budgets.
- 13.10 The whole management plan should be reviewed at the end of the five-year period in 2019. The purpose of this review is specifically to:
- incorporate new information (e.g. ecological surveys, visitor surveys);
 - assess achievements over the first five years in terms of (a) policy (both successes and failures) and (b) projects.
 - update any statutory requirements;
 - take into account changing circumstances;
 - include the results of monitoring, with fine-tuning of projects where necessary;
- 13.11 The revised management plan should set out a further detailed schedule of work and a timetable for future planning.
- 13.12 It is essential that this management plan and the operations plan work together and are 'dynamic' and responsive to change. As new information becomes available through the monitoring process or circumstances change, consideration may need to be given to modifying or changing prescriptions while upholding the principles set out in the management plan.

I4.0 NEXT STEPS – THE PROJECT REGISTER

On the next few pages the following items are covered:

- A. Recent Achievements (in last five years to January 2014)**
- B. Projects (Current/under consideration)**
- C. Potential Projects**
- D. Ongoing Integration/Co-ordination with Neighbours**

Bushy Park Project Register

This register records projects that were started and/or completed during the period 2008 - 2013. The register is set out in chronological order, some projects, by nature, are ongoing and may well continue into future years. The projects are described in summary, the aims and objectives, and the period the work took place.

Project, Aims and Objectives	Dates
ISO 14001	
<ul style="list-style-type: none"> To further develop our ISO initiatives and in particular our responses to ISO 14001 standards. Built bases for composting creating a green waste recycling facility. Fairtrade and locally sourced products Develop markets for Woodland by-products 	2002 – ongoing
Brewhouse meadows wetland area	
<ul style="list-style-type: none"> Project funded by the Esmee Fairburn trust lead by the Ecology unit and supported with corporate volunteers organised by the Royal Parks Foundation 	2009-ongoing
Bushy Park Playground	
<ul style="list-style-type: none"> Refurbishment project funded by the London Marathon Trust to introduce additional play equipment, natural play features and planting was completed July 2012. 	2011-12
Bushy Park HLF Project	
<p>the creation of a wetland with reed beds in the Brewhouse meadows (This was specifically funded by a £100,000 grant from the Esmée Fairbairn Foundation and not by HLF. Also funded by Esmée Fairbairn Foundation was the creation of a woodland pond in the Round Plantation and the restoration of an associated ditch, also vegetation management of the Weir Pool on the Longford. All this was funded by Esmée Fairbairn and not HLF),</p> <ul style="list-style-type: none"> the introduction of a ha-ha along Lime Avenue Alterations to the detail of the Upper Lodge Car Park proposals. Parking capacity will be reduced from 240 spaces available full time to c100 spaces available only at weekends, bank holidays and the Christmas / New Year break. The retained capacity will be on a reduced area of tarmac surface as opposed to the grass overflow originally proposed. This is more sustainable in terms of maintenance and ecology. 	ongoing

<ul style="list-style-type: none"> • 	
Deliverables of the HLF Project	
<p>1. Objective: Improving access to and enjoyment of Bushy Park for a wider and more inclusive audience</p> <p>Delivery:</p> <ul style="list-style-type: none"> • Production of a project presentation capable of being tailored to a wide range of audiences. Subsequent extensive use of the presentation to a variety of audiences ranging from community groups to funders. • <p>Within the park the following improvements have been achieved:</p> <ul style="list-style-type: none"> • Visitor guides and new maps to supplement the new signage <p>2. Objective: Improving basic visitor facilities, toilets, catering and interpretation;</p> <p>Delivery:</p> <ul style="list-style-type: none"> • • Development of video stories of the Diana Fountain and Water Gardens projects <p>1. Objective: Reducing the impact of the car upon the park and its users;</p> <p>Delivery:</p> <ul style="list-style-type: none"> • Improved management and layout alterations in the Diana car park <p>2. Objective: Improving the appearance of the sports clubs facilities in the historic landscape;</p> <p>3. Objective: Enhancing the educational, volunteer and community involvement benefits;</p>	

<p>Delivery:</p> <ul style="list-style-type: none"> • Development and delivery of wider educational programme, implemented by FSC. • Creation of an exhibition about the project and the park at the Twickenham Museum <p>4. Objective: Enhancing the wildlife potential and visitors' enjoyment of it.</p> <p>Delivery:</p> <ul style="list-style-type: none"> • Creation of wildlife reserves with new planting and felled timber • Creation of a new semi-aquatic habitat within the Round Plantation 	
The Education Facilities	
The catering facilities and toilets. ○	

This Project Proposal Register sets out project priorities for 2012-2022. The register is set out in priority order. The projects are described in summary, the aims and objectives, and the period the work has been deferred.

Project, Aims and Objectives	Dates
Brewhouse Interpretation Signage	
<ul style="list-style-type: none"> • Brew House interpretation signage – now that a permanent visitor attraction use has been established, we should look to upgrade the temporary interpretation into a permanent exhibition. 	TRP Marketing and Communications (Simon Higgins)
Hampton Hill Signage	
<ul style="list-style-type: none"> • Signage to special needs parking at Hampton Hill – instructed but not installed TRP Marketing and Communications (Simon Higgins) 	
Water Gardens	
<ul style="list-style-type: none"> • Completion of Charles Cabot film about the Water Gardens – completed but still being reviewed by marketing team. Greg McErlean 	DVD produced

	FBHP sell days
Diana Pond	
<ul style="list-style-type: none"> Restocking of Diana pond to be actioned when water environment stabilised 	Bushy Park Management
Tiffany Drinking Fountain	
<ul style="list-style-type: none"> Installation of a 'Trumpet' Drinking fountain at the Welcome Centre funded as part of the Tiffany Across the Water Programme. 	2013-14
Teddington Gate Horse Troughs	
<ul style="list-style-type: none"> The opportunity to acquire a large stone horse trough from the Drinking Fountain Society will allow this to be installed at a new location adjacent to Teddington Gate Lodge to service not only horses but also drinking water available for the public. 	2013-14
Thorn Enclosures	
<ul style="list-style-type: none"> Hawthorn is a key component of the Bushy landscape and the enclosure of young plants from grazing allows thorn to develop on its own roots, usually as a result of seed dispersed from adjacent existing trees. Initial enclosures were made in 2013 and should continue as and when areas of seedling thorn are identified. 	2013 onwards
Veteran Tree enclosures	
<ul style="list-style-type: none"> Veteran trees – mostly oak and hawthorn are a key component of the saproxylic habitat for which Bushy Park is highly ranked. Enclosure reduces the risk to the public from falling branches whilst protecting rootzones from compaction and allowing dead wood to remain undisturbed by the parent tree. Enclosures constructed of either Sussex style chestnut or Chestnut paling should continue to be erected to protect this precious resource 	2013 onwards
Nursery development	
<ul style="list-style-type: none"> The allocation of River Lodge into the Better Buildings programme enabled the release of some land to enable the creation of a small nursery and holding area for stock. This will be developed to allow apprentice and volunteer gardeners to learn how to propagate plants. It will also allow more unusual plants to be brought in from nurseries and grown on until suitably sized for planting in the Woodland Gardens. The mothballed toilets will be brought back into use for staff and new stock beds laid out. The old garage will be developed as a potting shed and store. 	2013 onwards
Brew House Interpretation	

<ul style="list-style-type: none"> The Brewhouse is surprisingly popular with visitors considering its location to the side of the Water Gardens. A bespoke interpretation package should be developed to replace the existing ad hoc displays which are prone to being vandalized. 	2014
Tree Guards	
<ul style="list-style-type: none"> The study of Bushy Park avenues has identified the long term business case for replacing timber tree crates with metal tree crates. Initially Lime Avenue to be replaced 	2013-4
Hampton Wick Drinking Fountain The derelict drinking fountain at Hampton Wick Gate to be removed, conserved and replaced in working condition.	
Tree planting – Boundary screen	
<ul style="list-style-type: none"> Gaps in the boundary tree screen on the northern fringes, particularly along Sandy Lane should continue to be identified and gapped up with a diverse range of large trees. 2013 onwards 	
Implementing Avenue Strategy	
<ul style="list-style-type: none"> A specialist survey to identify the different varieties of Lime tree planted in Chestnut and Lime Avenues to be undertaken and records in Arbortrack corrected 2014. Identify original lime clones and undertake an exercise to propagate stock from these to create a resource for future replanting. 2014 Lift and formative pruning of Lime Avenue. 2013. Clear trees from Lime avenue adjacent to the Woodland Gardens as they fail to enable Lime replanting. 2013 onwards. 	
Dukes Head Passages	
<ul style="list-style-type: none"> Commence programme of hedge laying and gapping up to allow light into the path and encourage the herb layer to re-establish. 2013. 	
The Pheasantry	
<ul style="list-style-type: none"> Refurbishment of staff accommodation to bring up to modern standards and also to provide garden volunteers with adequate facilities as identified in the 2013 Pheasantry strategy. 2013-4. 	

APPENDIX I

REGISTER OF PARKS AND GARDENS OF SPECIAL HISTORIC INTEREST

BUSHY PARK
GREATER LONDON
RICHMOND UPON THAMES
Date Registered: 01 OCT 1987
NGR: TQ1569

Grade: I

Site Reference Number: 1208

Date of Print: OCT 2008

A royal deer park with C15 origins enlarged by subsequent monarchs and improved by, among others, George London and Henry Wise.

HISTORIC DEVELOPMENT

The history of the site as a deer park began in 1491 when Giles d'Aubrey enclosed 162ha of arable farmland in the area of Middle Park. By 1504 Cardinal Wolsey, while involved at Hampton Court, enclosed as one three separate areas of ploughed farmland: Bushy Park, Middle Park, and Hare Warren. He also enclosed the Home Park of Hampton Court Palace. When Hampton Court became the property of Henry VIII in 1529 the enclosed parkland formed his deer park there. In 1629 James I added a further 68ha (Court Field) into Bushy Park on the Hampton side and enclosed it with a wall. In the mid C17 a tributary of the River Colne was diverted through Bushy Park and new ponds were made.

In 1709 the first Lord Halifax, one of William III's most eminent financiers, became Keeper of Bushy Park and moved into Lower Lodge and in 1713 he added the keepership of Middle Park and Hare Warren. It was at this time that the distinction between the three parks broke down and the whole area north of Hampton Court Road became known as Bushy Park.

In 1771 Prince William, Duke of Clarence lived as the Ranger in Bushy House and in order to supplement his small income he worked on a programme of woodland clearance, the cleared land being let to tenant farmers. During the reign of Queen Victoria Chestnut Sunday celebrations were held every spring; the tradition ceased during the Second World War but was resumed in 1976. In 1900 the National Physical Laboratory was established in the grounds of Bushy House where it has remained.

Bushy Park was used in both world wars: the Canadians used Upper Lodge as the King's Canadian Hospital in the First World War; and troops from the USA used an area mainly to the east of the Chestnut Avenue as a base camp, Camp Griffith. In 1944 General Eisenhower moved the Supreme Headquarters Allied Expeditionary Forces to Bushy Park.

Bushy Park continues (1997) to be a royal park, managed by the Royal Parks Agency as a public open space with c 4000 free-standing trees, c 40ha of open and enclosed woodland, and a current deer population of c 325.

DESCRIPTION

LOCATION, AREA, BOUNDARIES, LANDFORM, SETTING

Bushy Park is located in outer south-west London c 200m north of Hampton Court Palace. It is bounded to the north-east by Sandy Lane (B358), to the south and south-west by Hampton Court Road, and to the west by High Street, Hampton Wick (A311) and residential developments in the vicinity of Garrick's Villa (qv). The northern boundary is provided by numerous

residential developments to the south and south-west of Hampton Road.

The 450ha of parkland is situated on flat, low-lying ground forming part of the Thames flood plain. There are eleven royal lodges in the park, including those associated with Upper Lodge (listed grade II) and Bushy House (listed grade II). The boundary walls (parts listed grade II) are dated variously to the C16, C17, and C19. Ancient oaks from the C16 survive along the perimeter at Hampton Hill to the north-west.

ENTRANCES AND APPROACHES

The main entrance is from Hampton Court Road to the south, through Hampton Court Gate and past Hampton Court Gate Lodge (listed grade II). The public road leads around a circular basin, in the middle of which stands the Diana Fountain (listed grade II), and continues in a straight line for 1km along the Chestnut Avenue to Teddington Gate (Teddington Lodge designed by Decimus Burton 1827), and Park Road to the north. Made as part of Sir Christopher Wren's uncompleted scheme for a new entrance to Hampton Court, the road runs down the centre of an avenue developed from a lime avenue planted c 1622 by James I. The Chestnut Avenue, now (1997) made up from four outer rows of limes and two inner rows of chestnuts, was replanted under the direction of George London (c 1640-1714) and Henry Wise (1653-1738) between 1689 and 1699. Having been gradually renewed since that time, extensive repairs were necessary after the storms of 1987 and 1990. The Diana Fountain (which represents Arethusa and not Diana) was moved from the Privy Garden at Hampton Court Palace to the C17 circular basin in 1713. Additional gates provide mainly pedestrian access to the park: Hampton Wick Gate, Sandy Lane Gate, and Church Grove Gate from the east, Duke's Head Passage Gate from the west, Coleshill Road Gate to the north, and Hampton Hill New Gate, Gravel Pit Gate, and Blandford Road Gate from the north-west.

PRINCIPAL BUILDING

The brick-built Lower Lodge, now called Bushy House (listed grade II*), is situated to the north of the site, to the west of the Chestnut Avenue. The mansion, built in the late C17 for Charles II, was extended for the occupation of William IV before and after his accession. The original house consists of a square centre block with a low square pavilion at each corner linked to the main front by a curved screen wall and passage.

Bushy House stands in its own grounds with a garden building, the early C19 Doric rotunda, to the south-west (listed grade II) and an early C19 Orangery (listed grade II) to the west. Guns Lodge (listed grade II), designed by Decimus Burton in 1827, stands in the entrance.

Since 1900 the National Physical Laboratory has been housed in the grounds; its Director is currently (1997) accommodated in the mansion, with the basement and ground floor used as a laboratory.

PARK

The park is divided by the north/south route of the Chestnut Avenue. The land to the east is divided from north-east to south-west by a branch of the Longford River. In 1638-9 Charles I had a tributary of the River Colne diverted through Bushy Park to make the Longford River and during the Commonwealth period water from the southern part of the river was redirected to feed the new Heron and Leg of Mutton Ponds. There are scattered clumps of trees, small plantations, and areas of grassland. Much of the bracken in the park is concentrated in this area and provides cover for the deer. Three main paths cut across the area. A path from south of the Diana Fountain runs east along the north boundary of a children's playground, the C18 Royal Paddocks, and the south boundary of the Cricket Ground before terminating in front of Church Grove Gate. A second path leads north-east, with the Oval Plantation to the east, passing between the Heron and Leg-of-Mutton Ponds before linking up with the third path, Cobbler's Walk, which runs 2.8km west from Hampton Wick Gate, across the Chestnut Avenue, to Duke's Head Passage. Cobbler's Walk got its name after an incident in c 1752 when the second Earl of Halifax closed a public right of way which ran through the park from Hampton Wick to Kingston. When

threatened with court action by a local cobbler the Earl reopened the path which has since been known as Cobbler's Walk. The C19 Half Moon Plantation and Hawthorn Cottage (listed grade II) lie to the south of Cobbler's Walk, and the C19 Warren Plantation with the C20 USAAF memorial, to the north.

The larger part of the park which lies to the west of the Chestnut Avenue is divided by a number of features. These include the C17 east/west Lime Avenue which extends west from the Diana Fountain for 1km, terminating at the White Lodge (listed grade II) and, to the north of the Lime Avenue, the 24ha Waterhouse Woodland Garden, created 1948-9 from a c 1925 wooded walk which consisted of two early C19 plantations, the Queens River, and a branch of the Longford River which runs to the north.

In the northern part of the area Cobbler's Walk divides, the southern path leading across open parkland to link with the Duke's Head Passage path across the Longford River via the Iron Bridge, through Brewhouse Fields, before terminating at Duke's Head Passage Gate. The northern spur, Upper Lodge Road, leads past the grounds of Bushy House and continues north-west, with the Round Plantation to the south and Barton's Cottage to the north, before terminating at the C18 Upper Lodge (listed grade II). The second Earl Halifax created elaborate water gardens in the grounds of Upper Lodge. Water was taken from the Longford River through a series of pools and canals to the east, west, and south of the house (Rocque 1746). Only part of this feature survives today (two pools in the grounds of Upper Lodge and the water in Canal Plantation). The water gardens and Upper Lodge were vacated by the Ministry of Defence in the late C20 and are now (1997) managed by a Trust who have plans to restore the water features. Paths from the four gates to the north-west of the site converge, across parkland, on the north-east corner of Upper Lodge

OTHER LAND

The 100 acre (c 41ha) farm at the Stockyard to the south-west of Bushy Park was in recent times used as the maintenance depot for the park and is now (1997) the Bushy Park Environment Centre. The Centre, in conjunction with the Holly Lodge Centre at Richmond Park (qv), aims to provide a facility from which open-air activities of all kinds can be enjoyed. The area contains a number of mostly Victorian farm buildings, paddocks, and White Lodge (listed grade II). The Stockyard, part of which was taken into Bushy Park by James I, is bordered to the west by a brick wall and to the east by the Longford River.

The remains of Garrick's Mound (qv Garrick's Villa), which were incorporated into Bushy Park in the early C20, survive in a paddock to the north-west of the area. The west end of Duke's Head Passage crosses the northern part of the farm and provides public access to the main part of Bushy Park to the east.

To the north of the Stockyard are the Brewhouse Fields, managed (1997) as a wildlife conservation area; and the Brewhouse (listed grade II), once part of Lord Halifax's estate at Upper Lodge and now used as a store for the holders of the adjacent allotments.

The privately maintained Hampton Swimming Pool is situated on the western boundary, north of Duke's Head Passage.

REFERENCES

B Cherry and N Pevsner, *The Buildings of England: London 2 South* (1983), pp 500, 536 *Bushy Park, A Guide*, (The Royal Parks 1983)

Royal Parks Historical Survey: Hampton Court and Bushy Park, (Travers Morgan Planning 1982)

Draft Management Plan, (Land Use Consultants 1995)

[Note: the last two items contain extensive bibliographies and copies of historical maps.]

Maps

J Rocque, Plan of the Cities of London and Westminster and Borough of Southwark and the country near ten miles around, surveyed 1741-5, published 1746

OS 25" to 1 mile: 1st edition published 1864
2nd edition published 1896

Description written: June 1997
Register Inspector: LCH
Edited: November 2001

APPENDIX 2

Extract from The Heritage List

Description	Listing
Brick Boundary Walls	II
Bushy House	II*
Clock House	II
Conservatory to Bushy House	II
'Diana' or Arethusa Fountain	I
Garden House to Bushy House	II
Hawthorn Lodge	II
North Lodge to Bushy House	II
Old Brewhouse	II & Scheduled Ancient Monument
Pair of lodges and gates of Bushy House (Guns Lodge)	II
Stables and gardens wall to Upper Lodge	II
Upper Lodge	II
White Lodge	II

APPENDIX 3

Selected references

- The Historical Survey of Hampton Court and Bushy Parks* (R. Travers Morgan. 1981).
- The Royal Parks Review: Richmond and Bushy Parks: February 96 Royal Parks Review.*
- Upper Lodge: The Water Gardens: An Archaeological Assessment and Field Evaluation.* 1996. The Royal Commission on the Historical Monuments of England. (RCHME)
- Bushy House in Bushy Park: An Archaeological Assessment and Field Evaluation:* 1996 RCHME.
- Bushy Park, Middlesex: an Archaeological Survey.* 1993. Dr. Tom Greeves.
- Bushy Park: Royals, Rangers and Rogues:* by Kathy White and Peter Foster 1997: Foundry Press.
- Thames Landscape Strategy: Hampton to Kew:* Kim Wilkie Environmental Design.
- Register of Parks and Gardens of Special Historic Interest in England:* (London Volume): English Heritage.
- Visitor's Charter: The Royal Parks* 1997.
- Buildings and Monuments in the Royal Parks:* The Royal Parks 1997.
- Visitor Surveys in the Royal Parks: Annual Report* 1998.
- The Royal Parks Management Agreement: 2012-2015:* The Royal Parks 2012.
- Halcrow Fox (1993) A partial survey of traffic as part of a wider research on pedestrian, cycling, vehicle and parking use in all the Royal Parks.*
- London Ecology Unit (1993) Nature Conservation in Richmond upon Thames. Ecology Handbook 21* by John Archer and David Curson

APPENDIX 4

The Royal Parks Supporting Documents:

- The Royal Parks Framework Document April 1993
- The Royal Parks and Other Open Spaces Regulations 1997 (as amended)
- The Royal Parks Corporate Plan 2012-2014
- Royal Parks Operational Command Unit (TRP OCU) Policing Plan
- The Royal Parks Annual Report and Accounts
- Sustainability Report 2004/05
- ISO 14001 Environmental Policy, Objectives and Targets (since 1996 -under constant review) NB: The Royal Parks achieved ISO14001 accreditation in December 2002 (although Richmond, Bushy and Greenwich had been fast-tracked and achieved it in June 2002)
- ISO 14001 Environmental Procedures Manual (since 1996 -under constant review)
- Register of Environmental Legislation (compiled as a requirement under ISO14001, and kept under constant review)
- Health, Safety and Welfare Manual (since 1997 – under constant review)
- Royal Parks High Level Risk Register
- Events Strategy, 2005 (to be updated 2012)
- Royal Parks Sustainability Action Plan 2006
- Integrated Horticultural Pest Management Report 2006
- Animal Pest Control Document (adopted March 2006)
- Sports Strategy (April 2004)
- Lake Management Report 2006 (Casella Ltd.)

Staff related:

- Equal Opportunities Policy (periodically updated in line with legislation and best practice)

BushyPark: specific documents:

- Bushy Park Operations Plan Green Flag Management Plan 2010
- Bushy Park Business Plan 2012/13
- Bushy Park Risk Register 2012/13
- Visitor Survey Report 2007 (plus records since 1994, 2004)
- Set of Risk Assessments and Safe Systems of Work for all operations carried out in the Park (Reviewed regularly).

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Others include Ecological Data surveys for Bushy Park: Refer Appendix 6

Consultees

Appendix 6: Table of Ecological Data Sources for Bushy Park (1992 to 2012)

Date	Author	Survey	Highlights
Dec 1992	Peter Hodge	A preliminary survey of the insects of Bushy Park	A short survey of invertebrates carried out during Aug and Sept 1992 - its main purpose was to evaluate the invertebrate interest of deadwood habitat. The survey looked at several key invertebrate groups and the results revealed two RBD1 species and 16 Nationally Scarce species.
Mar 1995	Tyrrell Marris	Survey of mistletoe in Bushy Park	Mistletoe locations were mapped.
1997	Nigel Reeve	Hedgehog release study	38 individuals released (50:50 sex ratio)
2001	N. J. Reeve, I. Palmer, K. E. Jones, J. Blanc, A. Fure (The London Naturalist, No 81, 2001)	Trapping surveys of small mammals on Wimbledon Common, Bushy Park and Ham Lands, south-west London	The paper presents the results of live-trapping studies of shrews, mice and voles at the three sites. The Bushy survey was carried out in October 1997 when four small mammal species were found; wood mouse <i>Apodemus sylvaticus</i> , field vole <i>Microtus agrestis</i> , bank vole <i>Clethrionomys glareolus</i> , and common shrew <i>Sorex araneus</i> . Species richness was comparatively high in Bushy Park despite low overall abundance, however, most of the catch was from Brewhouse Meadows rather than the open grazed parkland and the two woodland plantations sampled.
2002	Land Use Consultants	Bushy Park Historic Survey and Landscape Management Plan	Supporting document for Stage 1 application to HLF covering park history, evolution and a baseline condition survey. It makes a series of recommendations for enhancement and reinvestment.
2003	Kevin Morgan	Report on the management of the marshland area north of Heron Pond for Fountain Landscapes	Document not located for today's session
Jul-Oct 2003	David Baldock	Bushy Park Aculeates	Survey conducted by David Baldock found a total of 78 species of which 7 were Nationally Scarce and 6 were Red Data Book.
Nov 2003	RPS Ecoscope Applied Ecologists	RPS Ecoscope Report: Longford River Corridor Survey Summary	Ecoscope was commissioned by Black and Veatch Consulting Ltd to undertake a river corridor survey of the River Colne and Longford River in the area of Longford Village. The survey formed part of an EIA for a flood alleviation scheme for the Longford Village. The surveyors noted several species of odonata, and populations of barbel, roach and chub and provided a list of dicotyledons, monocotyledons, trees and shrubs. Himalayan Balsam (<i>Impatiens glandulifera</i>) was found in several locations and highlighted as a threat to the area.
Dec 2003	Peter Sutton and David Baldock	The Aculeate Hymenopteran Fauna of Bushy Park	The article emphasises the importance and diversity of aculeate hymenoptera in Bushy Park associated with saproxylic and grassland/bare ground habitats within it. The author outlines Bushy's importance in being part of a mosaic of acid grassland sites known as the 'Ham radius' which, among others, includes Hampton Court, Richmond Park, Barnes Common, Wimbledon Common and Kew Gardens.
2003-2004 (Pub. 2006)	David Baldock, Jonty Denton and Peter Sutton (The Bulletin of the Amateur Entomologists' Society, No. 464, 2006)	The Larger Brachycera and Conopidae of Bushy Park, Middlesex	34 species of Larger Brachycera (Soldierflies and their Allies) were recorded in Bushy Park between 2003 and 2004. The results included two RDB2 species <i>Solva marginata</i> and <i>Oxycera morrisii</i> and a total of 4 Nationally Scarce species. Three species of Conopidae (a family of flies within the Brachycera suborder of Diptera) were noted. The specific habitat niches occupied by many of the Larger Brachycera make these species useful indicators of site quality and the assemblage recorded demonstrates the value of Bushy Park in terms of the variety of habitats it provides.
2004 (Pub. 2006)	David Baldock and Peter Sutton (The Bulletin of the Amateur Entomologists' Society, No. 464, 2006)	Additions to the list of Aculeate Hymenoptera for Bushy Park, Middlesex	This survey increased the list of aculeate Hymenoptera to 169 species.
Feb 2004	Moore & Moore Carp on behalf of BAA	Heathrow Terminal 5 Project Twin Channel Diversion: Results of Fish Captures from the Longford River	Fish captures were carried out on three dates during February 2004. The report provides species lists from the fish capture operations which include chub (<i>Leuciscus cephalus</i>), dace (<i>Leuciscus leuciscus</i>), roach (<i>Rutilus rutilus</i>), large numbers of Gudgeon (<i>Gobio gobio</i>) plus three eels. All fish and 27 freshwater mussels (<i>Anodonta anatina</i>) were removed and transferred to the River Colne off Saxon Way as part of the 'Rivers Switch' process.
Jan 2005	Land Use Consultants	Ecological Surveys of Bushy Park 2004	LUC were commissioned to undertake a suite of baseline surveys covering the following areas: grassland and woodland plant communities, aquatic plants, aquatic invertebrates, terrestrial invertebrates, herpetofauna, water voles and bats.

2005		Reedbed creation in Bushy Park	Enhancement of wetland habitat involving an area of 0.5 hectares in Brewhouse meadows. The project included the creation of reedbed habitat plus improvements to the ditch system and creation of a woodland pond and management of the Weir Pool on the Longford River. The project was funded by Esmée Fairbairn.
Mar 2010		Enhancement of reedbeds in Bushy Park	A group of volunteers including the Head of Ecology, staff from the Foundation and Bushy Park Wildlife Group volunteers worked to enhance the existing reedbed area by planting species such as flowering rush, yellow flag iris, water mint and water forget-me-not. The group also cleared reeds where growth had started to narrow some channels.
Mar and Oct 2011 & Mar 2012		Reedbed management	The Ecology Unit, wildlife volunteers and the Royal Parks Foundation cleared reeds obstructing the kingfisher banks and also removed reeds from channels to prevent blockage by dense vegetation.
2005-2008	Tim Freed	Bushy Park Moth Survey	<p>A baseline survey of moths carried out between 2005 and 2008 revealed 466 moth species for the Park. When added to records from an earlier survey conducted by Land Use Consultants this gave a total of 504 species. 22 species of butterfly were also noted. 19 of the overall figure for Lepidoptera are Nationally Scarce or Threatened and rarities for Middlesex include <i>Phyllonorycter dubitella</i> and <i>Celypha cespitana</i>. The double line was seen twice in 2005 – the first Middlesex record in 107 years.</p> <p>Significant species were recorded in key habitats: the Nationally Scarce <i>Pediasia contaminella</i> was found in Lowland Dry Acid Grassland, the Nationally Scarce <i>Coleophora hemerobiellaa</i> and Double line moths were found in Lowland Woodland Pasture/Parkland, the proposed RBD2 species <i>Stigmella aceris</i> was recorded in wet habitats along the Longford River corridor and the Nationally Scarce <i>Sitochroa palealis</i> was caught in Mesotrophic Grasslands.</p> <p>Further surveying is recommended as is maintaining and protecting bare ground habitat; safeguarding the acid grassland against bracken and scrub encroachment; maintaining the current level of bracken to support Double Line moth and other bracken dependent species; preventing the removal of veterans and deadwood habitat; avoiding inappropriate mowing regimes in grasslands; avoiding inappropriate tree planting on habitats of conservation importance and maintaining deer grazing at current intensity.</p>
2006	Jonty Denton (The Bulletin of the Amateur Entomologists' Society, No. 464, 2006)	The saproxylic coleoptera of Bushy Park, Middlesex	<p>This and a previous study (Alexander, 2004) found the deadwood beetle fauna present in Bushy Park to be of national importance. Some of the rarest species were found breeding in relatively young oaks. Interesting finds included <i>Elater ferrugineus</i> and new records for Middlesex were <i>Abraeus granulum</i> and a Cryptophagid beetle associated with wood colonised by fungi.</p> <p>Refer to Peter Hammond study for further details.</p>
2006	Peter Sutton (The Bulletin of the Amateur Entomologists' Society, No. 464, 2006)	Diary Notes: Bushy Park, Middlesex (1999-2005)	<p>The article documents Peter Sutton's visits to the Park over a number of years when he recorded various species in a range of habitats. Species include smooth newt <i>Triturus vulgaris</i> and common frog <i>Rana temporaria</i> in Canal Plantation; a bee-mimicking fly <i>Volucella bombylans</i> along the banks of the Longford, a colony of stripe-winged grasshopper <i>Stenobothrus lineatus</i> between Heron Pond and Leg-of-Mutton Pond plus sand bank aculeates and also the oak jewel beetle <i>Agrilus biguttatus</i> found near and in Warren Plantation (the beetle may have a role in Acute Oak Decline and is currently being investigated by Forest Research). He also noted a number of species on the hawthorns near Red Brick Bridge including the Ichneumon wasp <i>Trypoxylon figulus</i>.</p>
May 2006	Report produced by ACTA on behalf of Chantry Estates	Victoria Works, Victoria Road, Feltham, London: Ecological Issues	<p>The report relates to an application to demolish existing buildings at the site and erect a new building comprising 73 housing units. The site was assessed for actual or potential presence of bats, water voles and any Hounslow BAP flagship species plus a general assessment of ecological value was made. The Victoria Works site was found to have little wildlife importance but the Longford River corridor was described to provide 'excellent bat foraging opportunities' aided by a 'significant amount of mature trees and scrub' and it was deemed to provide suitable habitat for water vole, reptiles and flagship species such as kingfisher, banded damselfly or barbel though none was found at the time of surveying. GiGL were approached to provide data for the site and surrounding land to a 500m radius resulting in records for protected and notable species (i.e. stag beetle and water-soldier <i>Stratiotes aloides</i>).</p>

July 2006	TRP	Grassland soil analysis results: Bushy Park	Soil samples were collected by Rachel Stewart in 31 locations within Compartment 21 (near Hampton Hill) for analysis by Phosyn Laboratories. 22 of the samples showed high levels of phosphorus and only 3 areas were classified as having low P levels.
Jul 2007	Derek Gow	Bushy Park Water Vole Management Plan	A water vole habitat appraisal was undertaken and a management plan set out for potential future re-introduction. Key recommendations were to: - improve connectivity between those waterbodies in the Park identified as having potential as water vole habitat. - improve the quality of the habitat of the Longford River within the Park (particularly bank quality) - enhance the wetland area and manage appropriately once established.
2008	Peter Sutton (The London Naturalist, No 87, 2008)	The fishes, amphibians and reptiles of Bushy Park, Middlesex	Surveys undertaken between 1999 and 2007 revealed good populations of smooth newt, common frog and common toad though great crested newt was recorded rarely and infrequently. Grass snakes were found to be in low density in less-disturbed areas and sixteen species of fish were identified in Bushy Park's freshwater habitats.
Jul 2008	Windrush AEC Ltd on behalf of the Twin Rivers Management Committee (TRMC)	Ecological Monitoring of the Twin Rivers Diversion comprising reaches of the Duke of Northumberland's River and Longford River	A monitoring programme was developed to assess and record the rate of the environmental development of the Twin Channel Diversion (TCD). The report is an interim summary of monitoring conducted during May 2008 including surveys of fish, macroinvertebrates and aquatic plants. Overall, recruitment of fish within the two rivers was good with roach the most abundant species, though biomass and densities were greater in the Longford River. The macroinvertebrate scores for the Longford were found to be low at all four sites sampled and indicated deterioration in quality. The mussel Zebra (<i>Dreissena polymorpha</i>) – a non native invasive species was found during the survey. Vegetation on the coir rolls and pallets was considered to be more extensive than in 2005/6 and submerged aquatic vegetation remained abundant over much of the channel.
Apr-Dec 2009	Andy Overall	Fungi Survey of Bushy Park	A fungi survey was carried out from April to December 2009 and revealed a total of 283 species including endangered and rare species such as <i>Coprinus sterquilinus</i> which is on the current Red Data List for fungi. Another important find was <i>Phellinus torulosus</i> which was discovered on dead and living hawthorn in the park; a very rare species for the British Isles – this find represents the 25 th record for the country and is the first record for Middlesex. Management recommendations included preventing the spread of bracken, mowing regime to remove rank grasses and allow more diverse species to establish and thinning the sycamores in the Water Gardens.
2009	LUC	Longford River Ecological Survey	The survey recorded and mapped vegetation, fauna, physical/geomorphological features, structural characteristics and advised on opportunities to enhance biodiversity.
Oct 2010	Sustrans	Longford River Path Water Vole Survey 2010 Longford River Path Reptile Survey 2010 Longford River Ecological Assessment & Mitigation	The document formed part of a feasibility study for a mixed use traffic free path along a section of the Longford River in Feltham. The exercise identified the potential for water vole to be present in the vicinity of the proposed works but no signs of water vole were recorded during the survey.
Aug–Nov 2009	Peter Hammond	Preliminary survey of the saproxylic beetles of Bushy Park with a review of previous records	A preliminary study of saproxylic beetles in Bushy Park involved setting up six vane-traps in trees in the Broom Clumps area which remained in situ for a period of 12 weeks. Of the saproxylic beetle species recorded, 20 have Red Data Book status (such as <i>Teredus cylindricus</i>) and 83 are categorised as Nationally Scarce.
Jun–Nov 2010	Peter Hammond	Saproxylic beetle survey of Bushy Park	A more extensive survey involving three sites across Bushy Park (namely, the Brewhouse meadows, Round Plantation and oaks close to Lion Gate) was undertaken in 2010. Of the total number of beetle species recorded (897 species), 264 species were dead and decaying wood specialists of which 167 species were of conservation interest. Peter made some general recommendations including the importance of maintaining variety of habitat for deadwood and tree species including mix of open and high canopy, leaving fallen wood in situ and rest in shade and full sun, maintaining plentiful nectar/pollen sources in key areas, e.g. near veteran trees and maintain a variety of wetland habitats.
May-Oct 2010	Tim Freed	Odonata and Lepidoptera associated with selected wetland areas in Bushy Park	The survey was carried out in and around the recently restored and newly created wetland habitats and was a follow-up to the original reedbed creation project. It identified 11 species of damselflies and dragonflies, 350 species of moths including 7 Nationally Scarce and Threatened Species, and 17 species of butterflies.

			Populations of some of the rare species of moth appear to be restricted to specific trees or shrubs and therefore Tim recommended these be protected including the mature alders growing along the south east side of the north pond in the Nature Trail. Sallows, willows, alders and poplars are all important for wetland moths. Clearings in wooded areas should be maintained for e.g. an area containing garlic mustard, hemp agrimony and other wildflowers on the west bank of the Longford River downstream from the restored weir pool is important breeding ground for orange-tip and green-veined butterflies. Sizeable areas of bare ground should be maintained in certain areas around the pools as these provide important basking sites for dragonflies and damselflies. Wildflower meadow in Brewhouse fields and the Nature trail should be cut on a rotational basis and left uncut over winter. Leaving buffer zones around edges of fields adjacent to the Longford is advised also.
Jul 2010	David Leeming	Survey of aquatic invertebrates, amphibians and water voles in Bushy Park	The survey covered aquatic habitats that had been either created or enhanced including the wetland in Brewhouse meadows, a short section of the Longford River and a new ditch leading to a recently excavated pond in the Round Plantation. Overall, 189 invertebrate taxa – including 175 that are fully aquatic were found. The noteworthy invertebrates identified included a Red Data Book riffle beetle vulnerable to extinction in the UK (RDB2), along with nine Nationally Scarce species (one Na, eight Nb) including the soldierfly <i>Vanoyia tenuicornis</i> and thirty-nine uncommon species with Local conservation status. The common toad <i>Bufo bufo</i> , common frog <i>Rana temporaria</i> and smooth newt <i>Lissotriton vulgaris</i> were found. This was follow-up work relating to the original reedbed creation project. Predictably no evidence of water vole occupancy was found.
2010/2011	Entec UK Ltd/Amec	Bushy Park Annual Water Quality Report 2010 Bushy Park Annual Water Quality Report 2011	Amec has been commissioned by TRP to undertake biannual monitoring on selected waterbodies (Heron Pond, Leg-of-Mutton Pond, the Diana Fountain and the Longford River) in the Park. The work involves water chemistry analysis, sediment assessment and the biological quality assessment. Recommendations to improve water quality and promote the nature conservation of the ponds/river are as follows: <ul style="list-style-type: none"> - regular measurement of water flows through the system - discouraging feeding of wildfowl to reduce nutrient loading - continued planting of submerged and emergent native higher plants to remove phosphorus and discourage planktonic algal blooms and blanket weed as well as providing refugia and habitat - investigate the potential for manipulating flow s to reduce retention times in ponds - investigate fish populations and management of fish as part of an overall waterbody management programme.
Mar 2011	Martin Drake	Bushy Park Diptera identification	This work on vane trap samples from the previous saproxylic beetle study produced an extensive list of diptera principally representing saproxylic habitats.
2011	Peter Chandler	Bushy Park fungus gnats	Visits made between July and November 2011 resulted in the identification of 328 species of Diptera including 123 species of fungus gnats which increased the totals recorded for Bushy Park to 647 species of Diptera and 142 species of fungus gnat. A fungus gnat new to science (Family Mycetophilidae, Genus Grzegorzekia) was discovered in Round Plantation.
2011	Daniel Whitby	Bushy Park Bat Survey - baseline trapping and roost location survey	The survey aimed to identify species using the site and breeding status and also locate maternity roosts of selected species. The findings indicated high bat diversity for the site; eight species were identified (common, soprano and Nathusius' pipistrelle, Daubenton's, noctule, Leisler's, Natterer's and brown long-eared bats). Breeding females of all eight species were caught suggesting high quality habitat within Bushy Park.
Update in progress	TRP	Bushy Park Management Plan 2013/14	
TBA	Surrey Wildlife Trust	Hydro-morphological study	To understand the behaviour of the river in terms of habitat enhancements that would be required to support water voles.