Appendix 23: Nature conservation evaluation for Ashridge Estate: Monument Drive, 2015

National Trust

National Consultancy

NATURE CONSERVATION EVALUATION

Ashridge Estate: Monument Drive

Hertfordshire

2015 Survey

This report is a brief appraisal of the nature conservation aspects of the property. It should not be regarded as exhaustive or definitive. It may subsequently be altered as further information becomes available or as a result of natural or management-induced change. These survey reports should not be used exclusively to guide development. Specialist survey (e.g. for protected species) will be required for this purpose.

The report is designed to emphasise the habitats and features of particular interest on the property and to discuss options for their conservation management. It is not a management plan. When a management plan is prepared or revised by National Trust property staff the suggestions given here will be considered, along with all the other aspects of property management.

The National Trust
Consultancy
Heelis
Kemble Drive
Swindon
SN2 2NA

National Trust Nature Conservation Evaluation

Ashridge Estate: Monument Drive, Hertfordshire

Including: Part of Chilterns Beechwoods SAC
Part of Ashridge Commons and Woods SSSI

Date of survey: 9th July 2015

Time spent on vegetation survey: 5 hours

Surveyor(s): R. Allen

Report compiled: July 2015

by: R. Allen

Report despatched: month & year for final copy

Distribution list:

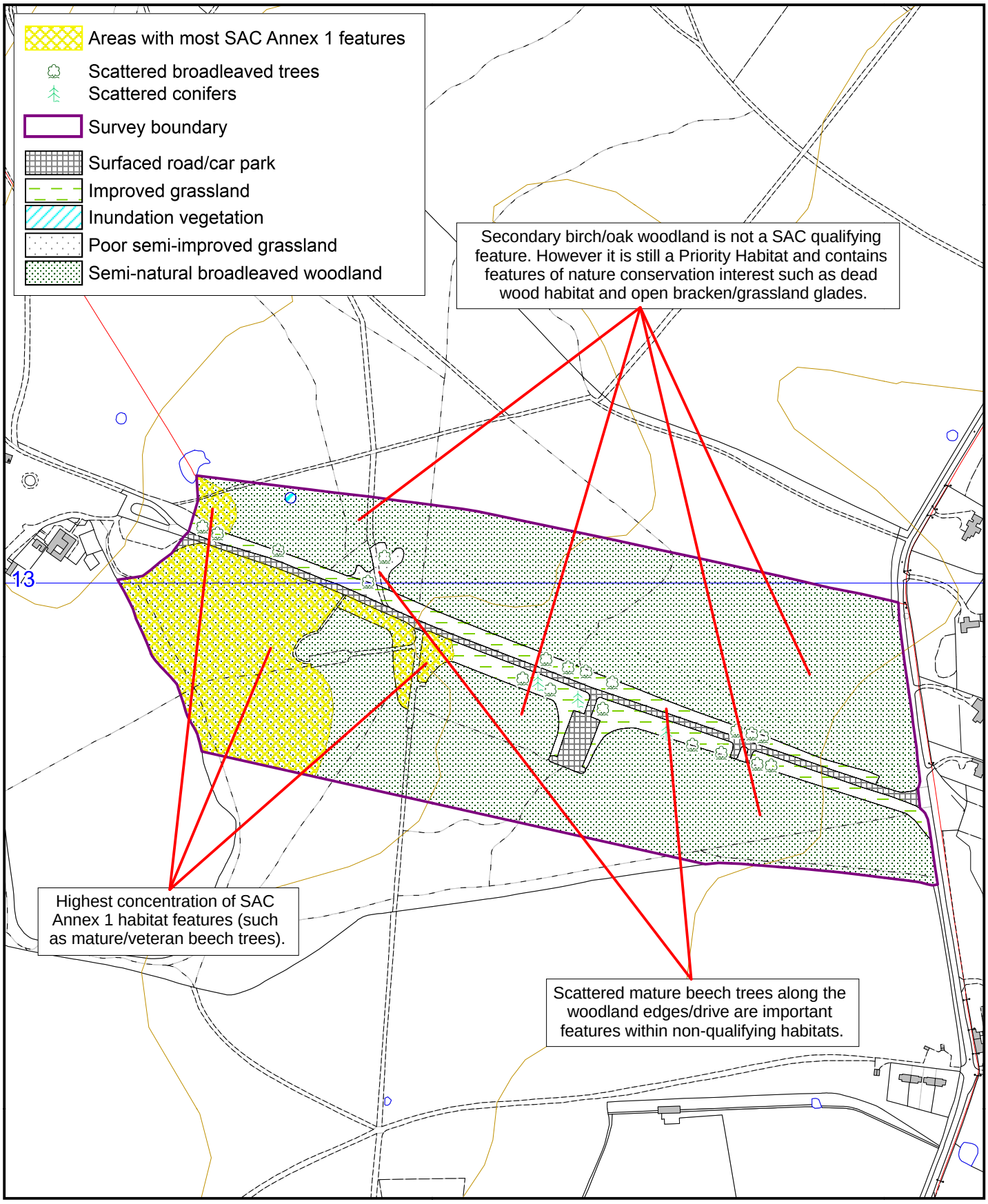
Jo Hodgkins (Wildlife & Countryside Adviser)
Lawrence Trowbridge, Lead Ranger
Susie Mercer, General Manager

CONTENTS

National Trust
CENTRAL OFFICE
HEELIS, KEMBLE DRIVE,
SWINDON SN2 2NA

ASHRIDGE MONUMENT DRIVE BIOLOGICAL SURVEY 2015 MAP I: SUMMARY SP975129

PROPERTY	Ashridge Estate
SCALE	1:10000
ELEVATION	200-220m
SURVEY DATE	July 2015



SAC FEATURES

The Chilterns Beechwoods SAC has been designated for the presence of the following features of European Importance. A summary of the presence/ absence of the SAC features is given below, with more detailed descriptions of the habitats in Section 2.

1.1 Annex I habitats that are a primary reason for selection of the site

The Chilterns Beechwoods SAC is designated primarily for the presence of the Annex I Habitat: Asperulo-Fagetum beech forests.

In the UK this mostly corresponds with beechwoods of the NVC[1] W12 beech – dog's mercury type, but may also include more calcareous examples of the NVC W14 beech – bramble community.

Most woodland in the Monument Drive survey area is secondary birch/ oak woodland. Beech here is largely restricted to young trees beneath more vigorous birch and oak. Most have also been severely damaged by squirrels, with bark-stripping, resulting in a stunted, scrubby growth-form. This woodland is covered by the NVC W10 oak-bracken-bramble community and does not fall within the definition of the Annex I habitat.

Areas of open mature woodland at the western end of the drive (highlighted on Map I) are on the boundary between the NVC W10 oak-bracken-bramble and W14 beech-bramble communities. Although this is not strictly Annex I habitat, it contains scattered mature beech trees which should be considered as SAC qualifying features. Similarly, scattered mature beeches along the drive and elsewhere should be treated as SAC qualifying features even though they occur in non-Annex I habitat such as secondary birch-oak woodland or improved grassland.

1.2 Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia).

In the UK this corresponds with calcareous grassland of the NVC CG1 – CG9 communities. None of this Annex I habitat occurs within the Monument Drive survey area.

[1] The National Vegetation Classification (NVC) classifies British natural and semi-natural plant communities, and also agriculturally improved grasslands (Rodwell 1991, 1992, 1995 & 2000). The communities are usually referred to by the Latin names of the most frequent species they contain, but in this report the common name equivalents have been used to make it more accessible to non-specialists.

1.3 Annex II species present as a qualifying feature, but not a primary reason for site selection

Stag beetle *Lucanus cervus.*

It is not clear if stag beetle occurs in the Monument Drive survey area, although it has been recorded elsewhere on the wider Ashridge estate. However, dead wood habitat should be retained where possible as a habitat for this species and other dead-wood invertebrates.

2 GENERAL NATURE CONSERVATION INTEREST

2.1 Birch-oak Woodland

Most of the woodland within the survey area is secondary in origin, being dominated by an open canopy of silver/ downy birch *Betula pendula/ pubescens* with frequent oak *Quercus robur*. The majority of trees are below 40cm in diameter; however a few larger oaks and sweet chestnuts *Castanea sativa* (2m - 3m) in girth are also present in places. Other canopy trees, including sycamore *Acer pseudoplatanus* and beech *Fagus sylvatica* occur only rarely.

Young beech is frequent as an understorey species, occurring as saplings beneath more vigorous birch and oak. The beeches here have all been severely bark-stripped by grey squirrels. This has killed many, and reduced the surviving examples to a scrubby, stunted growth form. Other understorey species are restricted to occasional hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia* and goat willow *Salix caprea*.

The ground flora is usually dominated by bracken *Pteridium aquilinum* (up to 2m high) or a mixture of bracken and bramble *Rubus fruticosus*. Due to the open canopy in many areas, numerous small bracken-dominated glades are also present, including sunny and dappled-light examples. A grassy ground flora is present beneath the bracken, particularly where it is more open. This includes abundant common bent *Agrostis capillaris* and creeping soft-grass *Holcus mollis*, with frequent tufted hair-grass *Deschampsia cespitosa*. Other plants here include frequent wood sorrel *Oxalis acetosella* (abundant in places), with occasional bluebell *Hyacinthoides non-scripta*, honeysuckle *Lonicera periclymenum*, foxglove *Digitalis purpurea* and heath bedstraw *Galium saxatile*.

Dead wood habitat is frequent throughout, including whole fallen trees; however most small dead wood has been collected for den building and piled up against tree trunks.

A much damper birch woodland community has developed on the southern side of the drive (approx. SP 974128), between the existing car park and a series of World War II concrete tracks. This area is still dominated by birch with frequent oak, but contains frequent goat willow in the understorey, including large

examples up to 2.7m in girth. An avenue of mature cherry *Prunus sp.* also borders the main path through this area. The ground flora here is damper and less acidic than elsewhere, consisting mainly of tufted hair-grass with patches of dog's-mercury *Mercurialis perennis*, nettle *Urtica dioica* and wood false-brome *Brachypodium sylvaticum*. Enchanter's nightshade *Circaea lutetiana* is also frequent, with occasional bluebell and herb-Robert *Geranium robertianum*.

All of this woodland falls within the NVC W10 oak-bracken-bracken community. This is a widespread and common woodland type on base-poor soils throughout the lowlands of southern Britain. Even secondary examples are covered by the lowland mixed deciduous woodland Priority Habitat[2].

2.2 Beech-oak woodland

The woodland at the western end of the drive (as shown in Map I) is more mature, with a very open canopy of mature beech, oak and a few ash *Fraxinus excelsior* trees. These include oaks up to 3.7m in girth, and a huge trackside beech (5.3m in girth) at SP972129. Only a very sparse understorey, including hawthorn and holly, is present.

The ground flora here is very sparse, particularly under the beech trees and where heavily trampled by visitors. Areas bordering Monument Drive itself are also heavily used for car parking, consisting of compacted bare ground. Most of the ground flora is grassy in character, consisting mainly of common bent and tufted hair-grass, with frequent bluebell and bramble. This grades into dense bracken towards the east. Other plants here include occasional wood sorrel, honeysuckle, chickweed *Stellaria media* and foxglove.

This vegetation lies on the boundary between the NVC W10 oak-bracken-bramble and W14 beech-bramble communities. W14 woodland occurs on base-poor soils in southern England (especially the Chilterns), where the chalk is covered by a layer of non-calcareous drift. This vegetation also lies on the boundary between the lowland mixed deciduous woodland and lowland beech & yew woodland Priority Habitats.

2.3 Grassland/ woodland edge

Monument Drive is bordered on both sides by a grassy strip, usually 10m – 20m wide. This is heavily used for car parking, being eroded and compacted in many areas (particularly the section between the existing car park and the visitor centre). It is also heavily trampled by visitors and nutrient-enriched by dogs.

The short, trampled grass sward here is dominated by perennial rye-grass *Lolium perenne*, with occasional patches of common bent and annual meadow-grass *Poa annua*. Herbs are restricted to a few trampling-tolerant species including abundant

[2] Priority habitats and species are those identified as being of principal importance for the conservation of biodiversity in England. They are listed in Section 41 of the Natural Environment & Rural Communities Act 2006. The lists are derived from those UK BAP Priority habitats and species which occur in England. Priority habitats and species known to occur in this report are listed in Appendix 1.

white clover *Trifolium repens*, with frequent greater plantain *Plantago major* and occasional chickweed. On the woodland edge this grades into stands of nettle and bracken.

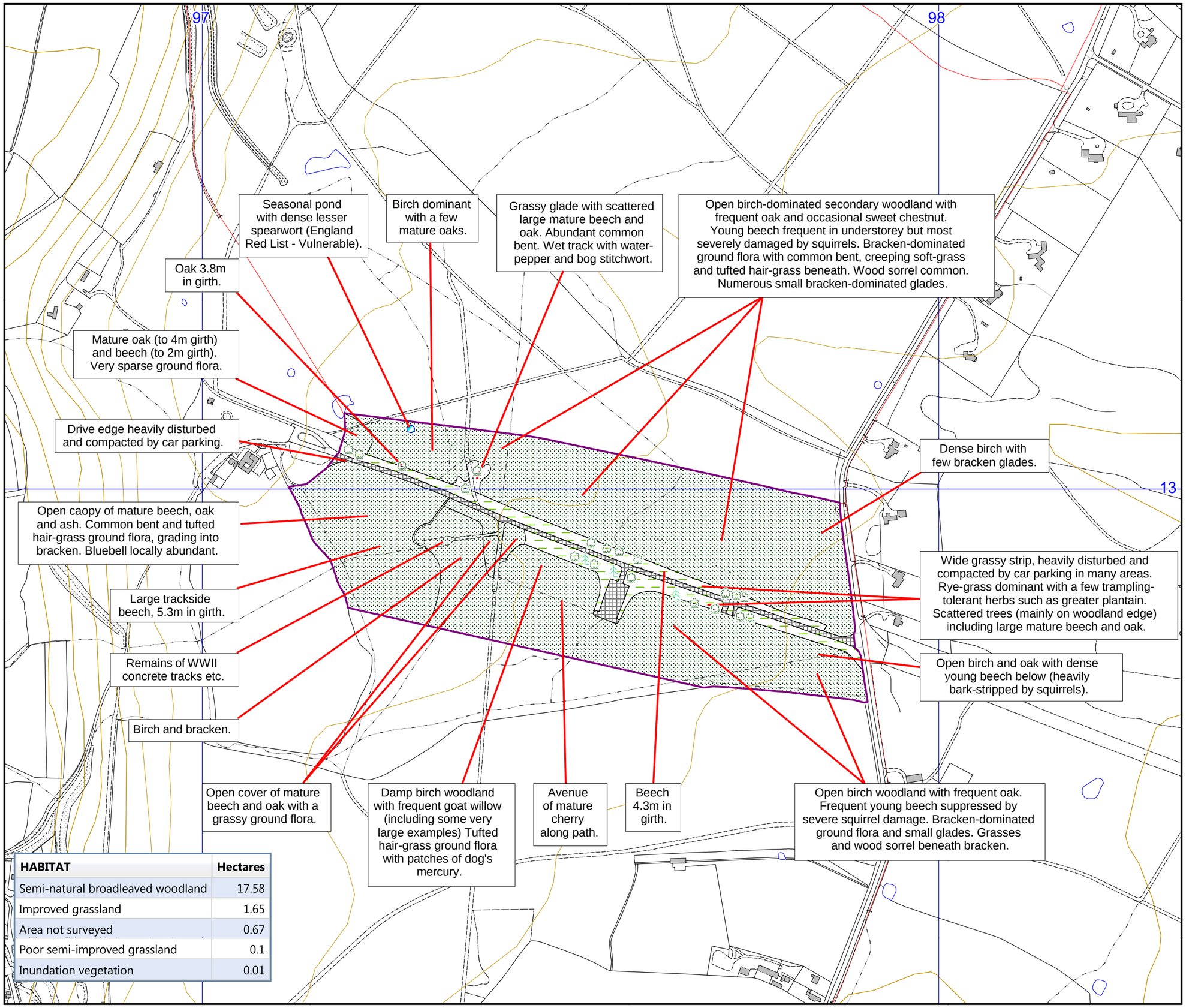
The main feature of this area is a few scattered mature oak and beech trees along the woodland edge. Several cedars are also present near the car park. The largest trees include an oak 3.8m in girth at SP 972130 and a beech 4.3m in girth at SP 976129.

A small glade on the northern side of the drive (SP 973130) is less heavily-improved, but is still heavily used by picnickers etc. This has a herb-poor sward of common bent and Yorkshire fog *Holcus lanatus*, with a damp track supporting patches of water-pepper *Persicaria hydropiper*, silverweed *Potentilla anserina* and bog stitchwort *Stellaria alsine*. This glade also supports a few scattered mature beeches and oaks. These include a large oak 4.4m in girth with fallen boughs left in situ, and a beech 3.9m in girth.

2.4 Ponds

A small seasonal pond is present on the north-western edge of the survey area (SP 972130). At the time of the survey this consisted of bare wet mud with patches of common water-starwort. This is surrounded by a dense stand of lesser spearwort *Ranunculus flammula* with frequent bog stitchwort and creeping buttercup *Ranunculus repens*. Lesser spearwort is a relatively common plant of nutrient-poor wetland habitats, but is listed as Vulnerable on the current vascular plant Red List for England due to a severe decline resulting from habitat loss.

Several other shallow pits are present throughout the woodland, which may also be seasonally wet.



HABITAT	Hectares
Semi-natural broadleaved woodland	17.58
Improved grassland	1.65
Area not surveyed	0.67
Poor semi-improved grassland	0.1
Inundation vegetation	0.01

National Trust
CENTRAL OFFICE
HEELIS, KEMBLE DRIVE,
SWINDON SN2 2NA

ASHRIDGE MONUMENT DRIVE BIOLOGICAL SURVEY 2015
MAP II: VEGETATION AND BIOLOGICAL FEATURES
SP975129

- Areas with most SAC Annex 1 features
- Scattered broadleaved trees
- Scattered conifers
- Survey boundary
- Surfaced road/car park
- Improved grassland
- Inundation vegetation
- Poor semi-improved grassland
- Semi-natural broadleaved woodland

PROPERTY	Ashridge Estate
SCALE	1:10000
ELEVATION	200-220m
SURVEY DATE	July 2015

N

REFERENCES

Published Materials & Unpublished Reports

Cheffings, C.M, & Farrell (eds.), 2005: *The Vascular Plant Red Data List for Great Britain.* JNCC. Peterborough.

Hearn, K.A, 1991: *Ashridge Estate, Hertfordshire*. National Trust Biological Survey. Unpublished.

Preston, C.D., Pearman, D.A. & Dines, T., 2002: *New Atlas of the British & Irish Flora*. Oxford University Press.

Rodwell, J.S., 1991, 1992, 1995 & 2000: *British Plant Communities*. Various volumes. Cambridge University Press. Cambridge.

Rose, F, (Revised and updated by O'Reilly, C.), 2006: *The Wild Flower Key.* Frederick Warne.

Stace, C., 2010: *New Flora of the British Isles – Third edition*. Cambridge University Press. Cambridge.

Stroh, P.A., Leach, S.J., August, T.A., Walker, K.J., Pearman, D.A., Rumsey, F.J., Harrower, C.A., Fay, M. F., Martin, J.P., Pankhurst, T., Preston, C.D. & Taylor, I., 2014: *A Vascular Plant Red List for England.* BSBI. Bristol.

Recreational Pressure Surveying

Appendix 24: National Trust's Visitor Survey template

Ashridge Visitor Survey – Monument Drive

Date: Day: Time:

Location: Weather:

Questions:

1. How often do you visit Ashridge?

First Time ☐ daily ☐ weekly ☐ monthly ☐ quarterly ☐ yearly ☐

2. How far have you come? ☐ Postcode ☐

3. How many people in the group?

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 5+ ☐

4. How long have you been here / do you usually stay / do you plan to stay?
   < 1 hour ☐ around an hour ☐ a couple of hours ☐ all day ☐

5. What are your main reasons for visiting Ashridge?
   Tick all that apply:

Reason	Tick	Reason	Tick
Walking		Visitor centre	
Dog walking		Shop	
Running		Second hand books	
Cycling		Monument	
Horse riding		Cafe	
Meeting friends and relations		Children's crafts/activities	

6. Are you a member of the National Trust?

   Yes ☐ No ☐ Used to be ☐ Would like to be ☐

7. How did you get here?

   Car ☐ Walk ☐ Coach ☐ Train ☐ Bus ☐ Bicycle ☐ Motorbike ☐

Woodlands Trust reports for Tring Park

Appendix 25: Potential impacts of recreation on Woodlands Trust's Tring Park site, September 2019

FOOTPRINT ECOLOGY

Potential Impacts of Recreation on the Woodland Trust's Tring Park Site

Phil Saunders, Sophie Lake & Durwyn Liley.

FOOTPRINT ECOLOGY, FOREST OFFICE, BERE ROAD,
WAREHAM, DORSET BH20 7PA
WWW.FOOTPRINT-ECOLOGY.CO.UK
01929 552444

FOOTPRINT
ECOLOGY

Footprint Contract Reference: 521
Date: 24th September 2019
Version: Final vers.2
Recommended Citation: Saunders, P., Lake, S. & Liley, D. (2019). Potential Impacts of Recreation on the Woodland Trust's Tring Park Site. Unpublished report by Footprint Ecology.

Summary

This report, commissioned by the Woodland Trust, provides an assessment of the potential impacts of recreation within their Tring Park reserve, based upon current knowledge of the site's vulnerable ecological features. It follows the 'in prep' methodology provided in the overview of the national-scale nature conservation impacts of recreation within Woodland Trust reserves, previously commissioned from Footprint Ecology in early 2019. The aim of this report is to highlight potential risks within Tring Park resulting from recreational activities, events, and increased promotion of the site.

We have identified potentially vulnerable features based on a desk-based review of species records and other data for the site. A Vulnerability Spreadsheet accompanies this report (Appendix 2), which follows the national-scale methodology and lists those species, species groups, and other features identified within, or in close proximity to, Tring Park that are considered particularly vulnerable to recreational impacts.

Potential key issues arising from recreation within Tring Park identified in the report comprised the following:

- Trampling of unimproved calcareous grassland and the woodland understorey, particularly in relation to visitors going off-path, or following nascent desire lines;
- Damage to veteran trees,through mechanical action (climbing, etc) and/or soil compaction/changes to soil chemistry/spray from dog urine;;
- Nutrient enrichment of the unimproved calcareous and semi-improved neutral grassland arising from dog fouling;
- Disturbance of grazing cattle or worrying of sheep by walkers and/or their dogs, potentially making grazing untenable and resulting in changes to grazing regimes within key grassland areas;
- Disturbance of rare breeding birds at any nest sites within woodland areas and/or buildings in the park;
- Disturbance to roosting bats via tree-climbing, etc, and;
- Disturbance to foraging/commuting bats via any nocturnal activities requiring additional lighting, etc.

Potential options to mitigate some of these impacts within the park boundary are provided, and future survey work (to further inform the current state of the site's various vulnerable ecological features) is also recommended.

Contents

Acknowledgements

This report was commissioned by the Woodland Trust and we are grateful to Karen Hornigold for overseeing the work, for comment, and useful discussion.

Cover photograph: Icknield Way Trail, Tring Park. © Rob Farrow - geograph.org.uk/p/4124948.

1. Introduction

Overview

National-scale Assessment

1.1 The Woodland Trust has identified the need to be able to assess the risk of recreation impacts to its sites. A general review of the potential impacts of recreation upon Woodland Trust reserves was subsequently commissioned from Footprint Ecology in early 2019 (Liley, et al. 2019. in prep.). The report produced provided information to help identify which features on which sites might be vulnerable to impacts from recreation. A key aim was also to assist the Woodland Trust in identifying which sites might be promoted further, or be able to accommodate more visitors, without harm to their nature conservation interest, and to help provide the background evidence needed for communicating with key stakeholders and for planning applications.

1.2 Rather than provide a comprehensive review of recreation impacts on habitats and species at the national scale, a Vulnerability Spreadsheet was produced that listed features that are potentially vulnerable to recreation impacts. The spreadsheet thus provided a structure to underpin an assessment on an individual site basis.

Tring Park Assessment

1.3 Following the initial, national-scale, assessment the Woodland Trust requested that the methodology be applied to assessing the potential impacts of recreation at the site level at five separate reserves. The first of these to undergo site-level assessment is the Woodland Trust reserve at Tring Park in Hertfordshire.

1.4 Tring Park is located immediately to the south of Tring, and the two are separated by the A41 carriageway. It incorporates a range of woodland and grassland habitat types and exhibits a varied topography (forming part of the Chilterns escarpment). It is bounded by the village of Wigginton to the east, and extensive farmland and woodland areas to the south and west.

2. Methods

Existing site access and infrastructure

2.1 GIS Shapefiles detailing the existing Tring Park site boundary were provided by the Woodland Trust, and the boundary of an adjoining proposed site extension was digitised based upon figures included in previously commissioned ecological reports allied to the extension proposal (Bayfordbury Ecological Services, 2017).

2.2 The main existing Tring Park access points and promoted trails were digitised from the Woodland Trust's 2018 promotional leaflet[1] (downloaded 13/05/19). It is evident from aerial photographs of the site that additional non-promoted footpaths and 'desire-lines' exist within the park boundary, but it was outside the scope of the current report to map these in their entirety.

2.3 Further basic information on use of the site, including promoted events, types of users, and grazing practices within the site boundary, was provided by Woodland Trust site staff and the Woodland Trust website[2].

Biological records data

2.4 A request was made to Herts Environmental Records Centre (HERC) for biological records (both species and habitats), as well as information on sites designated for their natural conservation value, from within the existing Tring Park boundary and a surrounding 200m buffer zone.

2.5 A web-based search was also carried out to identify any nationally designated sites, and areas of ancient woodland, present outside the buffer but located in the immediate vicinity of either the existing Tring Park boundary or the site of the proposed extension.

2.6 The Woodland Trust provided the following data previously collected from the site:

- A map of ancient trees listed on the Woodland Trust's Ancient Tree Inventory[3];

[1] Tring Park Leaflet 2018
[2] Events at Tring Park
[3] Ancient Tree Inventory

- Transect data from the 2016-18 UK Butterfly Monitoring Scheme from within the existing Tring Park boundary;
- A 2007 Botanical Monitoring Report for Tring Park, carried out by Herts and Middlesex Wildlife Consultancy (Herts and Middlesex Wildlife Consultancy, 2007);
- Botanical Society of the British Isles (BSBI) flora records held for the site for the period 1985-99, and;
- A species list resulting from a Herts Flora Group meeting held at the site in June 2017.

2.7 They additionally provided several survey reports pertaining to the area within the proposed site extension boundary, to the west of the existing Tring Park site. These comprised the following:

- A 2017 Ecological Survey Report covering mammals, birds and reptiles (Bayfordbury Ecological Services, 2017);
- A one page document from Butterfly Conservation, including a spreadsheet detailing the results of moth trapping carried out on the site by Andy King;
- A multi-taxon 'Tring Park Extension Survey" from an unidentifed source, and;
- A plant list from an unidentified source.

2.8 Finally, an additional web-based search was carried out using key words (e.g. "Tring Park" and "flora") to identify any additional historical biological survey data/incidental records from the site not represented in the HERC data or the additional information/reports provided by the Woodland Trust.

Identification of potential for additional species/habitat presence

2.9 Relatively little up-to-date biological records data were made available for the Tring Park site (in direct contrast to the adjoining proposed extension site). This is likely due to low historical recording effort within the site boundary, rather than the absence of many species from the site. It was therefore considered probable that additional vulnerable ecological features not identified in the HERC dataset may be present within the existing site boundary.

2.10 An attempt was therefore also made to identify those species, species groups, and/or habitats susceptible to the deleterious effects of recreation, and previously identified in the draft national-scale Vulnerability Spreadsheet

produced for the Woodland Trust (Liley, et al. 2019. In prep.), which have potential to be present within the existing site boundary.

2.11 This assessment was carried out using the following resources:

- Habitat data provided by HERC;
- Examination of aerial photographs of the site;
- Data from the suite of ecological surveys carried out in the adjoining proposed site extension area, and;
- Expert opinion within Footprint Ecology.

Assessment of the potential impacts of recreation upon the site's vulnerable ecological features

2.12 Records of species and habitats susceptible to recreational impacts were assessed in accordance with the draft national-scale Vulnerability Spreadsheet (Liley, et al. 2019. In prep.). There was an absence of fine-spatial scale distribution data for the majority of ecological features historically recorded from the Tring Park site, with most records provided for the central grid references of Tring Park and/or Oddy Hill.

2.13 It was not therefore possible to produce a fine-scale map of susceptible ecological 'hotspots', for example, and the assessment of potential recreational impacts was instead carried out using an umbrella approach, whereby the habitats present acted as a proxy for individually sensitive species. Where it was possible to identify specific localities within the site boundary which are highly susceptible to specific impacts (e.g. areas of calcareous grassland), then a geographically discrete assessment is provided in the report.

2.14 The key types of disturbance likely to occur, and their potential impact upon the habitats present, are detailed in an adapted, Tring Park-specific, Vulnerability Spreadsheet. It should be noted that the spreadsheet is not intended to provide an exhaustive list nor function in isolation, and it should be used in conjunction with both this report, and that previously produced by Footprint Ecology (Liley, et al. 2019. In prep.).

2.15 The adapted Vulnerability Spreadsheet within this report lists all species and habitats (i.e. site features) within the initial spreadsheet which we have identified as being potentially present and vulnerable within the Tring Park site boundary. A small suite of additional, site specific, features not

previously identified at the national-scale are also detailed in the main text of the report (e.g. features of value at the County/local-scale).

2.16 For each feature the spreadsheet identifies the type of impact that is relevant, categorising impacts as:

- **Damage**: encompassing trampling and vegetation wear, soil compaction and erosion, trampling can cause direct mortality for some fauna;
- **Contamination**: including nutrient enrichment (e.g. dog fouling), litter, invasive species;
- **Disturbance**: relevant to fauna only, and relating to the avoidance of otherwise suitable habitat, direct flushing and direct mortality (e.g. dogs killing wildlife);
- **Fire**: increased incidence and risk of fire, and/or;
- **Other**: all other impacts, including harvesting and activities associated with site management, for example the difficulties in achieving necessary grazing.

2.17 It identifies which seasons are relevant, providing an indication and approximate guide where impacts are seasonal. In describing seasons, it treats Spring as March-May; Summer as June-August; Autumn as September – November, and Winter as December – February.

2.18 Where there are particular types of activity that may be relevant, these are also highlighted, indicating whether dogs, high friction (wheels, horses' hooves) or large groups (i.e. impact of lots of people together) are of particular concern. Further details on the exact mechanisms by which the ecological features are impacted by specific drivers are provided in Liley, et al. (2019. In prep.).

2.19 An accompanying figure details the locations/potential locations of important ecological features within Tring Park and its immediate environs, and it identifies potential broad-scale impacts of recreation upon them.

3. Results

Existing site access and utilisation

Site access and path network

3.1 Information gathered from the Woodland Trust Tring Park promotional leaflet indicated that nine separate access points are currently promoted (see Map 1). These comprise:

- The main entrance from the Natural History Museum (NHM) (over the A41 footbridge) on the site's northern boundary;
- Four on the western site boundary (two each along Hastoe Lane and Marlin Hill),
- One on the south-east site boundary, accessed along a foorpath from the (private) Wick Road, and;
- Three along the eastern boundary of the site, accessed (moving south to north) from Upper Tring Park, Fox Lane, and Oddy Hill.

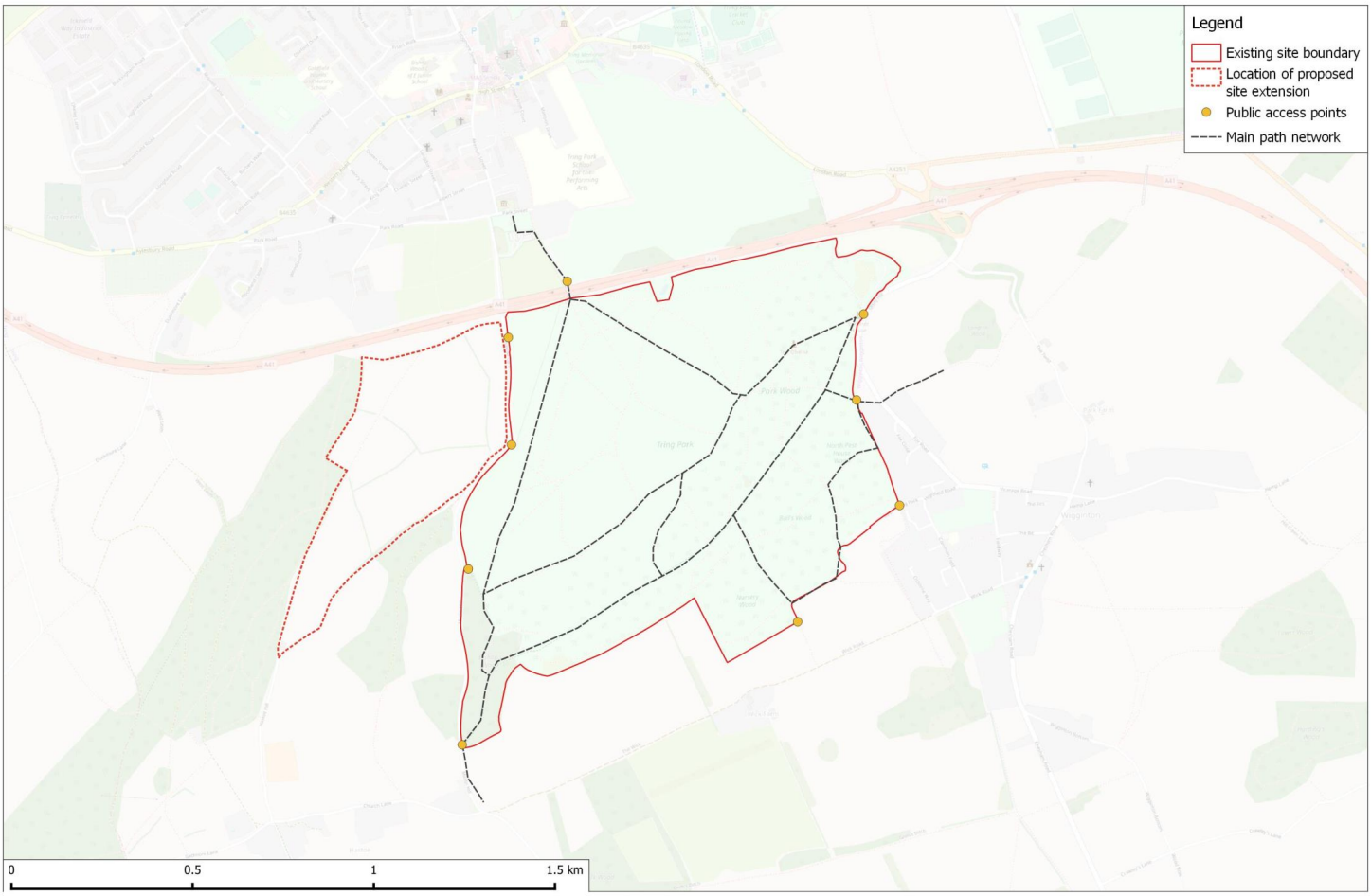
3.2 Three of the nine entrances are promoted; that leading from the NHM, the southernmost entrance on Marlin Hill, and the middle of the three entrances on the site's eastern boundary (accessed from Fox Lane).

3.3 The main path network consists of two, roughly parallel, paths running in an approximately south-west to north-east orientation through the centre of the site. The northernmost runs along the edge of the scarp woodland, whilst the other runs through the site's various woodland types (see Map 1).

3.4 Another two paths radiate south-east and south-west from the NHM bridge entrance; one following an avenue of Lime *Tilia* sp. trees along the northern park valley slope and the other cutting across the valley bottom and up onto the, steep, southern scarp (where it joins one of the previously described south-west/north-east tracks). Importantly, no footpaths are currently promoted in the vicinity of Oddy Hill.

3.5 Several shorter paths radiate off this main network, generally linking to another of the previously detailed entrances. The majority of the path network is described as consisting of compacted chalk and/or grassy areas, although there are indications that a mix of substrates are present within some of the paths running through the site's woodland areas.

Map 1: Site boundary, entrances, and main path network.



Use of the site

3.6 Detailed information on the levels of site use, the categorisation of user types, and their reasons for using the site are outside the scope of this report. Nevertheless, some broad-scale, anecdotal, indication of key activities and events was provided by Woodland Trust site staff and gleaned from online resources.

3.7 Visitors to the NHM, and associated house and gardens, additionally access the park throughout the year. A large Parkrun event, regularly attracting >300 people, takes place on a weekly basis, walking (and dog walking) is encouraged, and several of the pathways within the park are used by mountain bikers. A "natural play" area and den building site has also been promoted in the south-western corner of the park.

3.8 The 'Events at Tring Park' Woodland Trust webpage details a variety of activities programmed for 2019, including; a 'Nature Detectives' event in April (aimed at children); 'Woodland Yoga' and a 'Dawn Chorus Walk' in May; 'Photography Workshops' in May and June; a 'Summer Solstice Celebration' in June; the 'Tring Park Festival of Lights' in October, and; a 'Community Planting' event in December.

Site management and interpretation

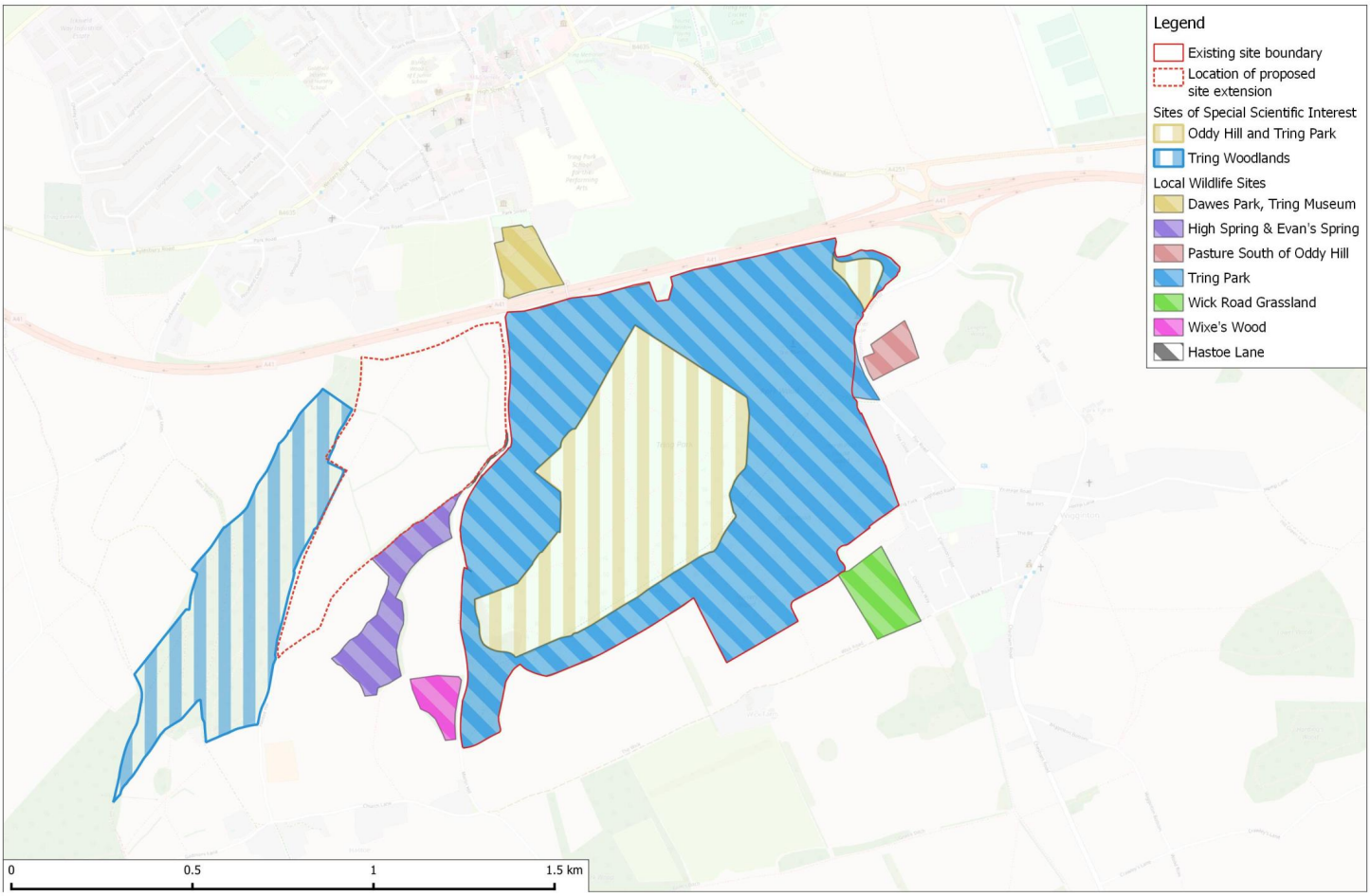
3.9 Cattle are grazed throughout the year in the main valley parkland, including along the scarp slopes, and sheep are grazed on Oddy Hill between November and December. Information boards are present at the three promoted entrances described above, and guided walks are regularly provided by the Woodland Trust for members of the public.

Ecological features identified in desk study

Nationally designated sites

3.10 The HERC data identified the presence of one nationally designated Site of Special Scientific Interest (SSSI) within the existing site boundary, namely; Oddy Hill and Tring Park SSSI (see Map 2). Another nationally designated site (Tring Woodlands SSSI) is located approximately 350m (at its closest point) to the existing western site boundary, although the SSSI directly borders the proposed site extension area.

Map 2: Location of nearby nationally and locally designated sites for nature conservation.



3.11 Oddy Hill and Tring Park SSSI consists of two separate areas within the existing site boundary, comprising a large expanse of unimproved calcareous grassland in the centre of the site, and Oddy Hill on the site's north-eastern extremity. Both areas support an important floral assemblage, including populations of the range-restricted Chiltern Gentian *Gentianella germanica* and other rare species, as well as abundant orchids.

3.12 Tring Wood SSSI comprises one of the best examples in Hertfordshire of ancient semi-natural Beech *Fagus sylvatica* woodland, and supports an important floral assemblage, including woodland species recently lost from Oddy Hill and Tring Park SSSI, such as White Helleborine *Cephalanthera damasonium*[4].

3.13 All areas of Oddy Hill and Tring Park SSSI have a right of open access under the Countryside and Rights of Way (CRoW) Act (2000), and, although it is not CRoW land, several footpaths and public bridleways radiate through Tring Wood SSSI. Full citation details for both of the SSSIs[5] described above are provided in Appendix 1.

Locally designated sites

3.14 The HERC data identified the presence of seven Local Wildlife Sites (LWSs; see Map 2). These comprised:

- Dawes Park, Tring Museum LWS;
- High Spring and Evan's Spring LWS;
- Pasture south of Oddy Hill LWS;
- Tring Park LWS;
- Wick Road Grassland LWS;
- Wixe's Wood LWS, and;
- Hastoe Lane LWS.

3.15 One of the sites (Tring Park LWS) is located within the existing site boundary. The six other sites are located alongside the existing site boundary, although several are separated from Tring Park itself by minor or major roads. Two of the sites (High Spring and Evan's Spring LWS and Hastoe Lane (roadside) LWS) directly abut the location of the proposed site extension.

[4] Plantlife online spreadsheet – 'Species lost from Protected Areas since 1987 – 1999'
[5] Natural England Designated Sites View

3.16 The seven sites mainly comprise a mix of areas of unimproved, or semi-improved, grassland types and Ancient (broad-leaved) Woodland. Full citation details for all of these LWSs are provided in Appendix 1 (from HERC).

Habitats

3.17 The HERC data, alongside information from the Ancient Woodland Inventory[6], identified two discrete areas of Ancient Woodland within the existing site boundary (see Map 3), with four additional areas located on the south-west border of the site. Furthermore, the Woodland Trust's Ancient Tree Inventory identified the presence of 78 ancient trees within the site boundary. The HERC dataset also identified the presence of six habitats within the existing site boundary classified as valuable, or having the potential to be valuable, components of the Herts Ecological Network[7] (see Map 4).

3.18 These habitats comprised extensive areas of unimproved calcareous grassland, semi-improved neutral grassland, and semi-natural broad-leaved woodland, with the latter situated amongst a mix of plantation woodland types. The habitats within the existing site boundary are split upon an approximately north-west/south-east divide, with grassland habitats in the north of the site and woodland habitats in the south. The Woodland Trust has also indicated that these grassland habitats incorporate several veteran trees, with an additional examples located elsewhere within the park boundary (see Map 3).

3.19 Other areas of valuable habitats adjoin the existing site boundary, including an area of standing water on the site's northern perimeter, and extensive areas of semi-improved neutral, and poor semi-improved, grassland to the north, east, and west.

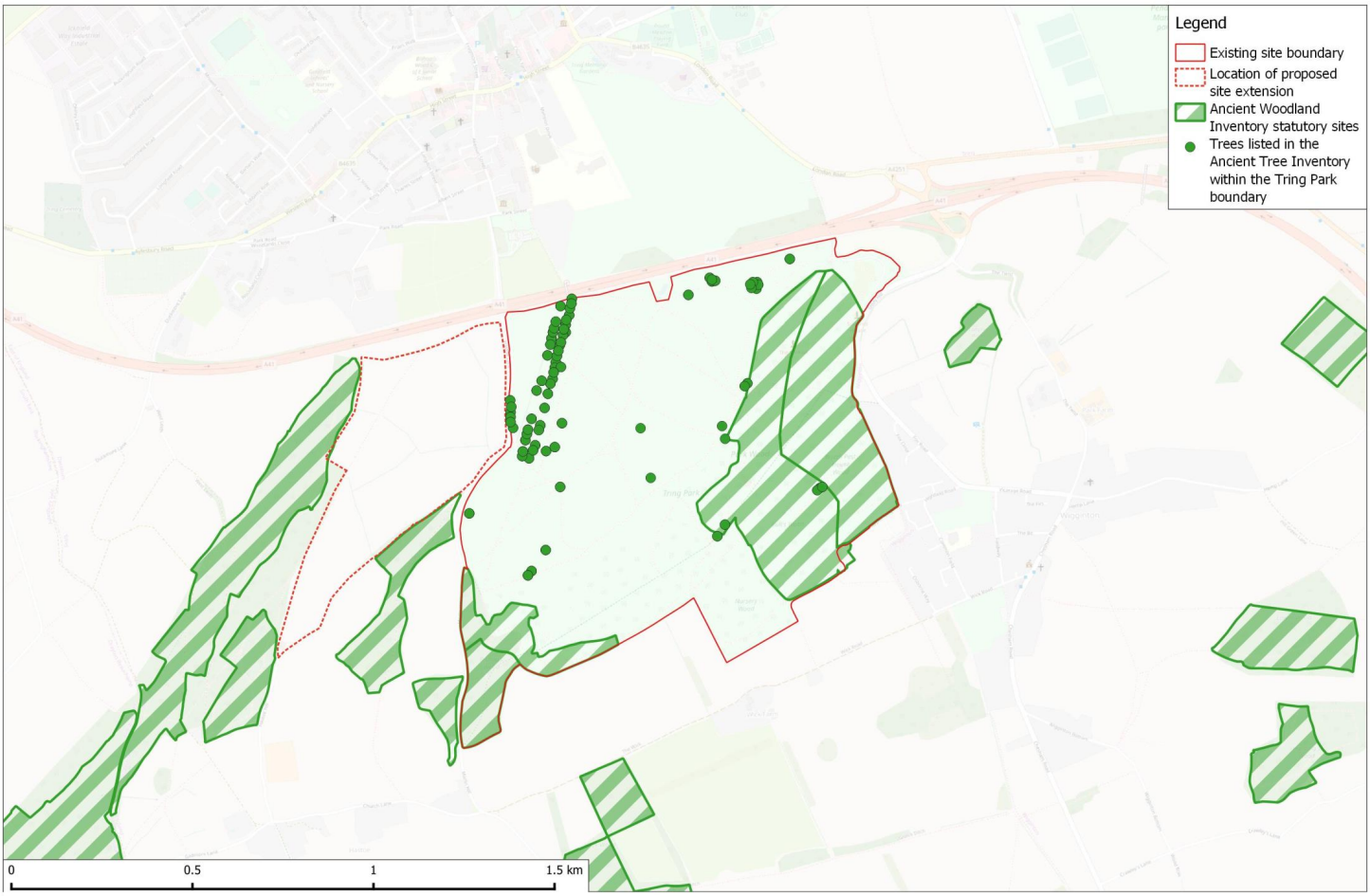
Species

3.20 HERC provided records of 507 different species from Tring Park, and the surrounding 200m buffer. Of these, 40 species were included in the scope of this report due to their combined level of rarity/threat and their susceptibility to recreational impacts (see Table 1). Several rarer species for which records were received (e.g. Purple Emperor butterfly *Apatura iris*) were

[6] Natural England Ancient Woodland Inventory
[7] Herts Ecological Network Report

not considered further due to the absence of clear impact pathways arising from recreational activities upon their ecology.

Map 3: Location of Ancient Woodland Inventory designated sites and individual trees identified within the Woodland Trust's Ancient Tree Inventory



Map 4: Habitats identified as part of the Herts Ecological Network.

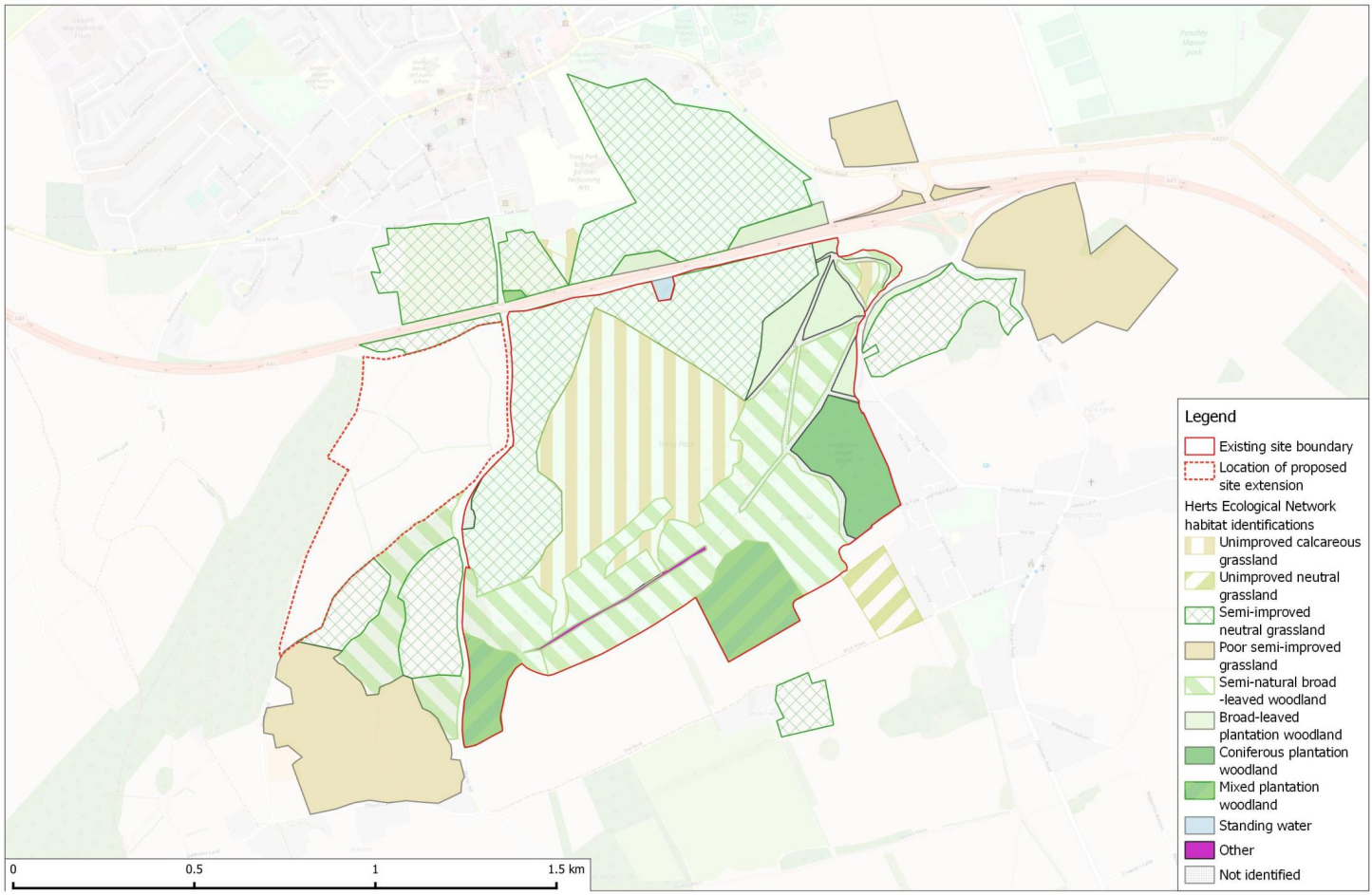


Table 1: Historical records of notable species, potentially susceptible to the impacts of recreation, from within Tring Park and a 200m surrounding buffer, received from Herts Environmental Records Centre. The majority of species/habitats included are listed in the draft national-scale Vulnerability Spreadsheet previously provided to the Woodland Trust (Liley, et al. 2019. In prep.), with those highlighted in grey comprising location-specific ecological features not previously identified at the national-scale.

Common name	Scientific name	Reasons for inclusion	Earliest record	Latest record	No. of records	Conservation status*
Skylark	*Alauda arvensis*	Ground-nesting bird susceptible to disturbance	2016	2016	1	NERC Act Sect.41; Red List BoCC
Red Kite	*Milvus milvus*	Rare breeding bird susceptible to disturbance at the nest	2011	2016	7	WCA Sch.1; Birds Dir. Annex 1; Conv. Migratory Spp. Appx 2
Noctule	*Nyctalus noctula*	Tree roosting bats susceptible to disturbance	1993	1993	1	Habts Dir. Annex 4; WCA Sch.5; NERC Act Sect.41; UKBAP; Bern Conv. App. 2; Conv. Migratory Spp. Appx 2
Whiskered Bat	*Myotis mystacinus*		1993	1993	1	Habts Dir. Annex 4; WCA Sch.5; Bern Conv. App. 2; Conv. Migratory Spp. Appx 2
Quaking-grass	*Briza media*		1962	1990	12	IUCN Near Threatened
Carline Thistle	*Carlina vulgaris*	Calcareous grassland flora sensitive to trampling, soil enrichment, & changes in grazing regime	1962	1985	3	IUCN Near Threatened
Common Knapweed	*Centaurea nigra*		1982	1987	5	
Greater Knapweed	*Centaurea scabiosa*		1985	1985	4	
Common Spotted-orchid	*Dactylorhiza fuchsii*		1977	1990	14	
Eyebright sp.	*Euphrasia pseudokerneri*		1962	1988	2	NERC Act Sect.41; UKBAP; IUCN Vulnerable; RDB Endangered; Nationally Scarce
Autumn Gentian	*Gentianella amarella*		1962	1998	3	IUCN Near Threatened

Common name	Scientific name	Reasons for inclusion	Earliest record	Latest record	No. of records	Conservation status*
Chiltern Gentian	*Gentianella germanica*	Calcareous grassland flora sensitive to trampling, soil enrichment, & changes in grazing regime	1962	1990	5	IUCN Vulnerable; RDB Vulnerable; Nationally Scarce; Herts Rare (Queried)
(Chalk) Fragrant Orchid	*Gymnadenia conopsea*		1987	1987	1	Herts Rare
Common Rock-rose	*Helianthemum nummularium*		1982	1990	11	IUCN Near Threatened; Herts Vulnerable
Bee Orchid	*Ophrys apifera*		1988	1988	1	
Common Milkwort	*Polygala vulgaris*		1962	1990	7	
Salad Burnet	*Poterium sanguisorba*		1962	1990	13	
Common Valerian	*Valeriana officinalis*		1985	1995	4	IUCN Near Threatened
Hoary Plantain	*Plantago media*		1987	1987	2	IUCN Near Threatened
Common Twayblade	*Neottia ovata*	Calcareous grassland flora/notable woodland ride & understorey flora sensitive to trampling, soil enrichment, & changes in grazing regime	1962	1988	8	
Harebell	*Campanula rotundifolia*	Grassland species sensitive to trampling & changes in grazing regime	1962	1990	7	IUCN Near Threatened
Yellow-rattle	*Rhinanthus minor*	Neutral grassland species sensitive to trampling, soil enrichment, & changes in grazing regime	1987	1990	2	
Wood Barley	*Hordelymus europaeus*	Notable woodland ride & understorey flora sensitive to trampling	1849	1849	1	Nationally Scarce

Common name	Scientific name	Reasons for inclusion	Earliest record	Latest record	No. of records	Conservation status*
White Helleborine	*Cephalanthera damasonium*	Scarce orchid/notable woodland ride & understorey flora sensitive to trampling, soil enrichment, & changes in grazing regime	1995	1995	1	NERC Act Sect.41; UKBAP; IUCN Vulnerable; RDB Vulnerable
Violet Helleborine	*Epipactis purpurata*		1995	1995	1	
Greater Butterfly-orchid	*Platanthera chlorantha*		1985	1985	2	IUCN Near Threatened
Moschatel	*Adoxa moschatellina*	Spring woodland flora sensitive to trampling	1995	1995	1	
Ramsons	*Allium ursinum*		1982	1982	1	
Dark Green Fritillary	*Argynnis aglaja*	Larval food plant sensitive to trampling, soil enrichment, & changes in grazing regime	1996	2015	15	Herts Rare (Butterflies)
Brown Argus	*Aricia agestis*		1995	2016	130	
Green Hairstreak	*Callophrys rubi*		1995	2016	65	Herts Rare (Butterflies)
Small Blue	*Cupido minimus*		1998	1998	2	NERC Act Sect.41; UKBAP; IUCN Near Threatened; Herts Rare (Butterflies)
Dingy Skipper	*Erynnis tages*		1997	2016	86	NERC Act Sect.41; UKBAP; IUCN Vulnerable; Herts Rare (Butterflies)
Grizzled Skipper	*Pyrgus malvae*		1999	2007	40	NERC Act Sect.41; LBAP; UKBAP; IUCN Vulnerable; Herts Rare (Butterflies)
Essex Skipper	*Thymelicus lineola*		1995	2016	129	Herts Wide Decline (Butterflies)
Small Skipper	*Thymelicus sylvestris*		1995	2016	134	Herts Wide Decline (Butterflies)
Yellow Meadow Ant	*Lasius flavus*	Ant hills sensitive to trampling and soil compaction	1985	2015	4	
Latticed Heath	*Chiasmia clathrata*	Larval food plant sensitive to trampling, soil enrichment, & changes in grazing regime	1999	1999	1	NERC Act Sect.41; UKBAP; Herts Threat 3 (Lower Threatened Moths)
Lotus Case-bearer	*Coleophora discordella*		1990	1990	1	Herts Rare (Moths)
Cinnabar	*Tyria jacobaeae*		1985	2005	7	NERC Act Sect.41; UKBAP

**Abbreviations refer to the following legislation/conservation designations: Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (The "Birds Directive"); Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive"); Convention on the Conservation of Migratory Species of Wild Animals; Convention on the Conservation of European Wildlife and Natural Habitats (the "Bern Convention"); International Union for the Conservation of Nature Red List category; Natural Environment and Rural Communities Act 2006; Wildlife and Countryside Act 1981; UK Biodiversity Action Plan species; UK Plant Red Data Book category; Scarce Plants in Britain category; Birds of Conservation Concern Red List category, and; Herts threat category/taxon.*

3.21 It is noteworthy that many of the species records provided by HERC (especially vascular plants) are from the pre-2000 period. It is considered likely that this largely corresponds to limited survey effort in the intervening period, rather than the disappearance of the species at hand.

3.22 Nevertheless, a small number of species identified in Table 1 are known to have been lost from the site in the intervening period, e.g. White Helleborine. However, botanical monitoring carried out in Tring Park in both 2007 (Herts and Middlesex Wildlife Consultancy, 2007) and 2017 (by the Herts Flora Group) confirmed the continued presence of many of the rarer/more disturbance prone species listed above, including Chiltern Gentian on Oddy Hill.

3.23 Information from the 2016-18 UK Butterfly Monitoring Scheme, provided by the Woodland Trust, confirmed the continued presence of Dark-green Fritillary *Argynnis aglaja*, Brown Argus *Aricia agestis*, Green Hairstreak *Callophrys rubi*, and Dingy *Erynnis tages*, Essex *Thymelicus lineola*, and Small Skippers *T. sylvestris* within Tring Park. An additional record of Chalk-hill Blue *Polyommatus coridon* was also noted from the park in July 2017.

3.24 Data from a suite of ecological surveys commissioned by the Woodland Trust of the proposed extension site, which borders the existing site boundary to the west, also confirmed the probable presence of additional vulnerable ecological features within the neighbouring park habitats. These included the presence of ground-nesting bee and wasp species, and the use of the site by six species of bat, including the notable presence of Barbastelle *Barbastella barbastellus*. Web-based resources also repeatedly highlighted the return of the Barn Owl *Tyto alba* to Tring Park, although this is not noted in any of the biological datasets provided.

Potential for additional species presence

3.25 Based upon their national distribution, and the habitats present, the following species and species groups (previously identified in the draft national-scale Vulnerability Spreadsheet) are also considered to exhibit potential to be present within, or in close proximity to, the existing Tring Park site boundary, despite their absence from the desk study data sources:

- Hawfinch *Coccothraustes coccothraustes*;
- Woodcock *Scolopax rusticola*;
- Woodland fungi;
- Burying beetles *Silphidae*;
- Glow worm *Lampyris noctiluca*;
- Larger soldierflies *Stratiomyidae*;
- Longhorn beetles *Cerambicidae*;
- *Microdon* hoverfly species;
- Stag Beetle *Lucanus cervus*;
- Wood Ants *Formica rufa*;
- Aquatic margin plant species;
- Aquatic plant species, and;
- Adder *Vipera berus*.

3.26 It should be noted that many of these species/groups have been historically under-recorded nationally and our understanding of their local distributions is often therefore limited. Their potential presence within Tring Park is therefore identified as a precautionary measure within the scope of this report.

4. Discussion

Categorisation of Tring Park ecological features

4.1 The individual ecological features identified in this report, and confirmed as present in the desk study data, can be grouped into the following broad categories:

- Breeding birds;
- Tree roosting bats;
- Calcareous and neutral grassland flora;
- Notable woodland ride and understorey flora;
- Scarce orchids;
- Spring woodland flora;
- Veteran trees;
- Butterflies and moths, and;
- Hymenoptera (bees, ants, and wasps).

4.2 Characterisation of the impact type, activity, and seasonality for each of these features are provided in the adapted Vulnerability Spreadsheet in Appendix 2. Five species of butterfly, and three species of moth, are listed in the results above due to their local/regional conservation value, although they are absent from the national-scale Vulnerability Spreadsheet upon which that in Appendix 2 is based.

4.3 All of these additionally included species exhibit life histories which make them susceptible to recreational impacts, predominantly due to their reliance on low-growing larval foodplants which are particularly susceptible to trampling, nitrogen enrichment, and unsympathetic management.

Potential Impacts

4.4 Potential key issues arising from recreation within the site comprise the following:

- Trampling of unimproved calcareous grassland and the woodland understorey, particularly in relation to visitors going off-path, or following nascent desire lines;
- Damage to veteran trees, either through mechanical action (climbing, etc), or soil compaction/changes to soil chemistry/spray from dog urine;

- Nutrient enrichment of the unimproved calcareous, and semi-improved neutral, grassland areas arising from dog fouling;
- Disturbance of grazing cattle, or worrying of sheep, by walkers and/or their dogs, resulting in changes to grazing regimes within key grassland areas. Site users may also object to the presence of free-romaing cattle within the park;
- Disturbance of rare breeding birds (i.e. Red Kite) at nest sites within woodland areas of the park, or potentially of Barn Owl within any accessible on-site outbuildings/hollow trees;
- Disturbance to roosting bats via tree-climbing, etc, and;
- Disturbance to foraging/commuting bats via any nocturnal activities requiring additional lighting etc.

4.5 These are summarised in Map 5.

4.6 It is also important to consider potential impacts on those designated sites and ecological features located alongside, and in proximity to, the existing site boundary. This is particularly important with respect to the proposed site extension. Any increase in visitor numbers, along the western side of the existing site boundary in particular, could potentially lead to increased 'spill-over' visitor pressure within Tring Woodlands SSSI and the LWSs to the south. The area of standing water on the existing site's northern border is also potentially susceptible to such 'spill-over' activities, such as disturbance and/or enrichment resulting from use by dogs.

4.7 It is important to note that no site visits have been undertaken and this is not an assessment of any impacts necessarily occurring on the site at the moment. Our approach is simply to highlight which species could be vulnerable to recreation impacts. Whether impacts actually occur at the moment or might occur in the future will depend on a range of factors such as weather, the number of visitors and how access is managed at the site.

Recommendations

4.8 Relatively little up-to-date information on the distribution of the majority of the vulnerable ecological features within the site boundary, and identified in this report, is currently available. It is therefore strongly recommended that updated ecological surveys of the site are carried out prior to enactment of any interventions relating to access management, and to provide a baseline for future impact assessment.

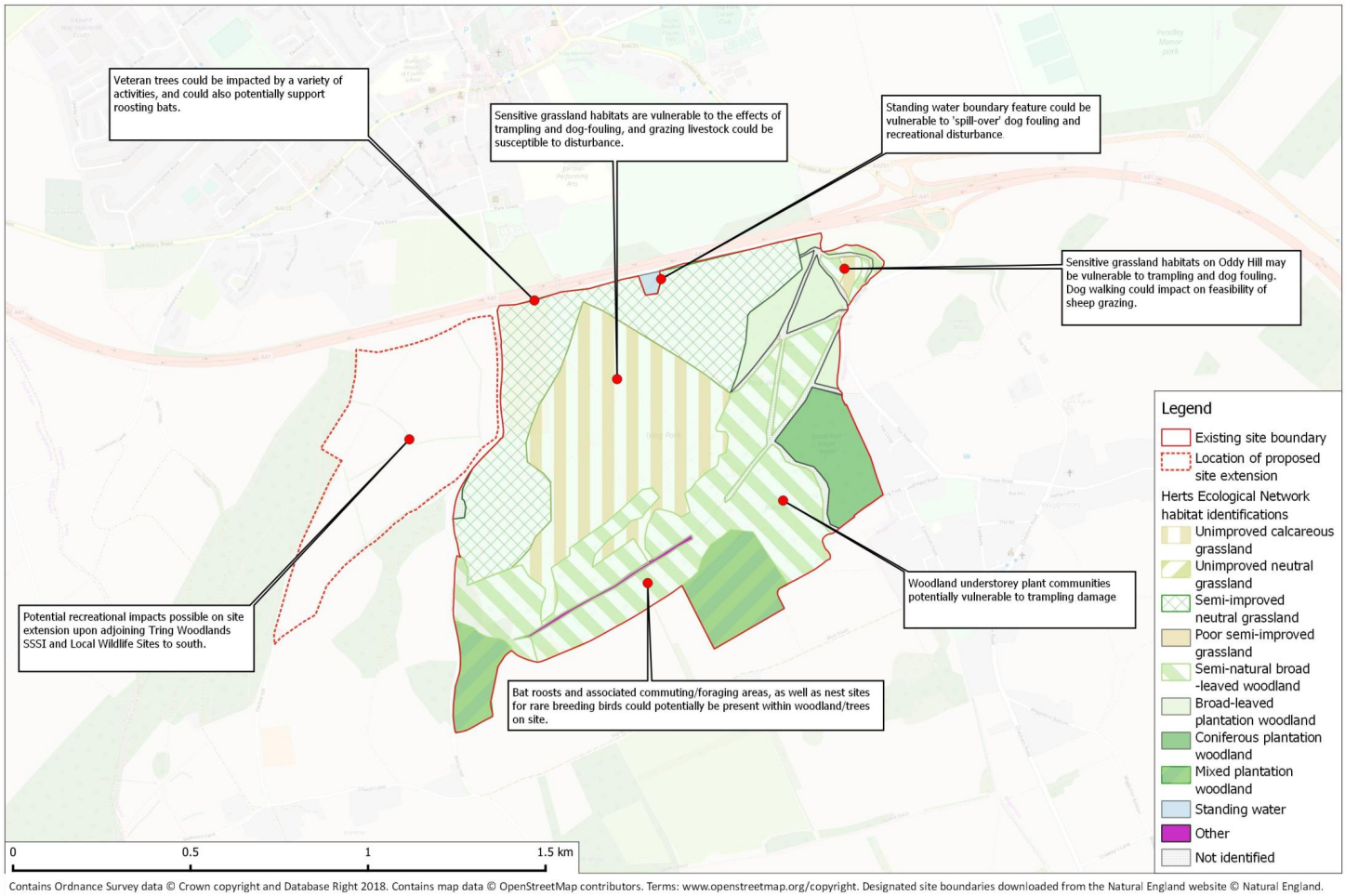
4.9 This assessment could be further strengthened through site visits and the incorporation of existing visitor data, to consider the extent of current

impacts and to highlight features likely to particularly susceptible to any changes in access levels or the distribution of people within the site.

4.10 Providing a detailed survey/monitoring strategy for those vulnerable ecological features identified from the desk study within, or in proximity to, the Tring Park boundary is outside the scope of this report. Additional survey work which could target other vulnerable taxa identified as showing potential to be present, despite their absence from the desk study information (see Section 3.25) is similarly beyond the scope.

4.11 A table is however included in Appendix 3 which provides broad-scale information on the key activity periods, potential monitoring methods available, and links to best practice survey guidance (where available) for those vulnerable ecological features identified as present in the desk study.

Map 5: Summary of vulnerable features identified.



References

Bayfordbury Ecological Services. (2017). *Woodland Trust Tring Park Extension Ecological Survey Report: Mammals, Birds and Reptile*.

Herts and Middlesex Wildlife Consultancy. (2007). *Tring Park Botanical Monitoring - 2007 Report*.

Liley, D., Lake, S., Panter, C., and Saunders, P. (2019). *In prep. Potential impacts of recreation on Woodland Trust reserves: a general review*. Unpublished report for the Woodland Trust by Footprint Ecology.

Appendix 1: Designated Site descriptions

COUNTY: HERTFORDSHIRE SITE NAME: ODDY HILL AND TRING PARK

DISTRICT: DACORUM

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981.

Local Planning Authority: DACORUM BOROUGH COUNCIL

National Grid Reference: SP 934109
SP 928103

Area: 35.6 (ha.) 87.8 (ac.)

Ordnance Survey Sheet: 1:50,000: 165

1:10,000: SP 90 NW, SP 91 SW

Date Notified (Under 1949 Act): 1968

Date of Last Revision: –

Date Notified (Under 1981 Act): 1986

Date of Last Revision: 1991

Other Information:
The boundary has been extended.

Description and Reasons for Notification:
This site consists of two areas of calcareous grassland situated on a chalk scarp to the south of Tring and further areas of calcareous grassland on undulating parkland at the foot of the scarp. These grasslands support a diverse range of grasses and flowering plants including locally uncommon and rare species. The combined area of calcareous grassland comprises one of the most extensive areas of unimproved chalk downland in Hertfordshire. Such downland habitat is now scarce having been reduced in extent nationally due to agricultural improvement or cessation of management.

A range of calcareous grassland types and habitats are to be found over the site, these have been influenced by both topography and management. Below the scarp the parkland has been managed by grazing resulting in a close cropped sward. Here the banks and slopes support unimproved species rich grassland, although there has been some agricultural improvement restricted to the flatter valley bottoms.

On the steeper scarp slopes where there has been a lack of recent management the sward is taller and ant-hills are present throughout. Cessation of grazing has permitted scattered scrub to develop over parts of these slopes providing additional habitats for invertebrates and breeding birds.

Within the grassland the dominant grass species are upright brome *Bromus erectus*, false brome *Brachypodium sylvaticum* and quaking grass *Briza media* with abundant fescues *Festuca* sp. Frequent herbs include salad burnet *Sanguisorba minor*, small scabious *Scabiosa columbaria*, rough hawkbit *Leontodon hispidus*, burnet-saxifrage *Pimpinella saxifrage*, dwarf thistle *Cirsium acaule*, cowslip *Primula veris*, glaucous sedge *Carex flacca* and common rock-rose *Helianthemum nummularium*. In places the sward is particularly species-rich with carline thistle *Carlina vulgaris*, squinancy-wort *Asperula cynanchica*, spring-sedge *Carex caryophyllea*, large thyme *Thymus pulegioides* and autumn gentian *Gentianella amarella* adding to the diversity. Notable is the abundance of chiltern gentian *G. germanica* otherwise known from very few sites in the county. Where the sward is taller additional species such as common valerian *Valeriana officinalis* and yellow rattle *Rhinanthus minor* are present.

Orchids (Orchidaceae) are well represented with common spotted-orchid *Dactylorhiza fuchsii* and twayblade *Listera ovata* frequent, and greater butterfly-orchid *Plantanthera chlorantha* and southern marsh-orchid *Dactylorhiza praetermissa* occasional. The rare hybrid *D. fuchsii x praetermissa* is known to this site.

County: Hertfordshire **Site Name: Tring Woodlands**

District: Dacorum

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981

Local Planning Authority: Dacorum District Council

National Grid Reference: SP 917100 **Area:** 23.8 (ha) 58.8 (ac)

Ordnance Survey Sheet 1: 50 000: 165 **1: 10 000** SP 91 SW, SW 90 NW

Date Notified (Under 1949 Act): 1968 **Date of Last Revision** 1972

Date Notified (Under 1981 Act): 1985 **Date of Last Revision** -

Other Information:

This site was previously known as Grove and Stubbings Wood SSSI. This site is within the Chilterns Area of Outstanding Natural Beauty.

Reasons for Notification:

This site is one of the best examples in Hertfordshire of ancient semi-natural beech *Fagus sylvatica* woodland, a habitat which is in decline nationally. The woods lie at the eastern end of the Chilterns on the steep north-west facing Middle Chalk escarpment, and extend onto the plateau capped by clay-with-flints. There is a rich flora present, indicating that the woodland has been long established.

Associated with beech high forest are areas of standard ash *Fraxinus excelsior* and pedunculate oak *Quercus robur*. Holly *Ilex aquifolium* and yew *Taxus baccata* comprise the sparse shrub layer on upper slopes, though lower down there is more variety with dogwood *Cornus sanguinea*, field maple *Acer campestre*, wayfaring tree *Viburnum lantana* and coppiced hazel *Corylus avellana*. A small mixed plantation of larch *Larix decidua* and species native to the site is situated on the plateau, and retains elements of the established plant community.

The diverse flora is dominated by woodruff *Galium odoratum*, wood anemone *Anemone nemorosa*, dog's mercury *Mercurialis perennis* and brambles *Rubus fruticosus* with frequent sanicle *Sanicula europaea* and wood spurge *Euphorbia amygdaloides*. Notable amongst twenty species of grass present are wood melick *Melica uniflora* and two local species, wood barley *Hordelymus europaeus* and lesser hairy brome *Bromus benekenii*. In the central part of the wood floral diversity is enhanced by the presence of more restricted species such as yellow

cont...

Tring Woodlands (cont...)

birds nest *Monotropa hypopitys*, common wintergreen *Pyrola minor* and narrow-lipped helleborine *Epipactis leptochila* at one of its few county localities. Two other typical beech wood orchids present are fly orchid *Ophyrs insectifera* and white helleborine *Cephalanthera damasonium*.

A good range of woodland bird species have been recorded including breeding tawny owl *Strix aluco* and great spotted woodpecker *Dendrocopus major*.

Site Name	Grid Reference	Area (ha)	Ratified	Description
Dawes Park, Tring Museum LWS	SP924109	2.35	1997	Semi-improved neutral to calcareous Grassland on a gently to steeply inclining north-facing slope on the northern edge of Tring. The grassland of False Oat-grass (*Arrhenatherum elatius*) and Red Fescue (*Festuca rubra* agg.) has Lady's Bedstraw (*Galium verum*), Meadow Buttercup (*Ranunculus acris*), Germander Speedwell (*Veronica chamaedrys*), native Red Clover (*Trifolium pratense var. pratense*), Burnett Saxifrage (*Pimpinella saxifraga*) and Chalk Knapweed (*Centaurea debeauxii).* In addition the more species-rich areas support plants such as Bird's-foot-trefoil (*Lotus corniculatus*), Fairy Flax (*Linum catharticum*), Meadow Vetchling (*Lathyrus pratensis*) and Wild Carrot (*Daucus carota*). Common Spotted Orchid (*Dactylorhiza fuchsii*), and Pyramidal Orchid (*Anacamptis pyramidalis*) are also present. Generally the grassland is the NVC MG1 *Arrhenatherum elatioris* stand type and varies from species-rich areas having some similarities with the MG1e *Centaurea nigra* sub-community to more species-poor areas corresponding more to a MG1a *Festuca rubra* sub-community. There is a transition to grassland with some calcicolous affinities on the bank, but not to such a degree that it can recognised as a CG community. Ruderal stands of an OV25 *Urtica dioica-Cirsium arvense* type are located around the beech stump and on the western edge. There are localised areas of anthills and the vegetation supports a number of butterflies and other invertebrates. Wildlife Site criteria: Grassland Indicators.
Tring Park LWS	SP932104	71.10	1997	Park Wood on the scarp slope in the north-east of the site is a large area of woodland. It is divided by several surfaced rides which are frequently lined with Common Lime (*Tilia x europaea*) and Yew (*Taxus baccata*). The main canopy is varied but in general is dominated by Beech (*Fagus sylvatica*). The wood is an established plantation of considerable age. North Pest Wood further south consists of two blocks of recent plantation both of which are on an ancient woodland site. The two blocks are separated by a central avenue of predominantly mature Ash (*Fraxinus excelsior*). The south-east corner of the

				plantation supports some mature Cedar (*Cedrus sp*.). Further south is Bulls Wood which is mainly an old Beech woodland. In the west of Bulls Wood and further to the west is mixed plantation including Scots Pine (*Pinus sylvestris*), European Larch (*Larix decidua*), Beech, Norway Spruce (*Picea abies*) with some semi-natural Pedunculate Oak (*Quercus robur*), Wild Cherry (*Prunus avium*), Ash and Silver Birch (*Betula pendula*). Bishops Wood in the south-west corner consists of a northern narrow strip of ancient semi-natural woodland dominated by Beech and Ash with Hornbeam (*Carpinus betulus*) present as an old boundary hedge. The southern part of this wood is mainly broadleaf plantation with a semi-natural broadleaf woodland edge. The main area of parkland itself, in addition to open grassland communities, includes clumped and scattered trees and an avenue to the north-west, which are primarily the result of past landscaping, plus areas of more ruderal vegetation. The mature parkland trees consist mainly of Common Lime and Beech with Ash, Horse-chestnut (*Aesculus hippocastanum*) and Wild Cherry. Bishops Wood in the south-west corner of Tring Park consists of a northern narrow strip of ancient semi-natural woodland dominated by Beech and Ash but notably with Hornbeam also present, mainly as an ancient laid boundary hedge. A characteristic ground flora survives with species such as Dog s Mercury, Wood Melick, Wood Millet, Primrose, Wood-sedge, Yellow Archangel, Bluebell, Hairy Woodrush and Spurge Laurel. To the south is a large block of mixed plantation which is largely broadleaf (Beech) and also supports a flora characteristic of ancient woodland. Self-set Ash and Silver Birch is also present. Surviving around the edges of the plantation are strips of semi-natural woodland with a variety of scattered mature trees including Crab Apple and old coppiced Hazel. Ancient woodland site; part of which was planted with mixed species from 1960-1964. The north west corner of Tring Park (Dawes Park) supports patches of calcareous grassland including species such as Marjoram, Yellow Rattle and

				Bird s-foot Trefoil with the rest of the sward being more neutral or semi-improved in character. The paddock has a tall hedge along its northern flank. The hedge adjacent to Hastoe Lane is composed of Hawthorn and Elder and there is a row of Horse Chestnuts at the south-west end. An avenue of Lime and Beech is along the eastern edge. Grazed by cattle in the past. Heavily grazed by horses. Wildlife Site Criteria: Buffers an SSSI; ancient woodland with remnant semi-natural canopy and old semi-natural woodland supporting a varied structure and ride system plus woodland indicators.
Pasture South of Oddy Hill LWS	SP934106	1.46	1997	Field composed mainly of semi-improved neutral grassland but with a narrow valley feature to the north and west which supports herb-rich unimproved neutral to calcareous grassland. The main area of the site supports a range of species including several indicators such as Lady's Smock (*Cardamine pratensis*), Common Knapweed (*Centaurea nigra*), Meadow Buttercup (*Ranunculus acris*), Sweet Vernal-grass (*Anthoxanthum odoratum*) and Common Sorrel (*Rumex acetosa*). The dry valley supports additional species such as Lady's Bedstraw (*Galium verum*), Dwarf (or Stemless) Thistle (*Cirsium acaule*), Glaucous Sedge (*Carex flacca)*, Pignut (*Conopodium majus*) and Field Wood-rush (*Luzula campestris*). The field is surrounded by hedgerows and ant hills are occasional within the site. Wildlife Site criteria: Grassland indicators.
Hastoe Lane LWS	SP923103	0.07	1997	Road verges supporting calcareous grassland. A field hedge borders the western side and there is a boundary bank to the east boundary. An area of tall calcareous grasses and herbs occur along the verge to the north-west while a more diverse sward is present on the wider, eastern verge. Species recorded include Sheep's Fescue (*Festuca ovina*), Lady's Bedstraw (*Galium verum*), Common Knapweed (*Centaurea nigra*), Agrimony (*Agrimonia eupatoria*), Salad Burnet (*Sanguisorba minor*), Fairy Flax (*Linum catharticum*), Wild Basil (*Clinopodium vulgare*), Bird's-foot Trefoil (*Lotus corniculatus*) and Burnet-saxifrage (*Pimpinella saxifraga*). Wildlife Site criteria: Grassland indicators.

High Spring & Evan's Spring LWS	SP920098	5.09	1997	Ancient semi-natural woodland with Evan's Spring in the north and High Spring in the south. The woodland is situated on the undulating slopes of the Chiltern escarpment. The eastern boundary supports an ancient Hornbeam (*Carpinus betulus*) hedge. Evan's Wood consists mainly of Ash (*Fraxinus excelsior*) with some Sycamore (*Acer pseudoplatanus*) and Wych Elm (*Ulmus glabra*) with Beech (*Fagus sylvatica*), Hornbeam and Hazel (*Corylus avellana*) hedges and coppice around the perimeter. Much of the eastern half of the wood has been felled and replanted, but retaining a wooded boundary strip. High Spring is similar in character but with more Beech with some Wild Cherry (*Prunus avium*), Pedunculate Oak (*Quercus robur*), Sycamore, Hazel, Holly (Ilex aquifolium) and Cherry Laurel (*Prunus laurocerasus*). There is a pit in the south east corner with Ash standards around the edge. The woodland ground flora supports a good number of indicator species including Wood Melick (*Melica uniflora*), Bluebell (*Hyacinthoides non-scripta*), Yellow Archangel (*Lamiastrum galeobdolon*), Wood Sorrel (*Oxalis acetosella*), Woodruff (*Galium odoratum*), Wood Anemone (*Anemone nemorosa*) and Wood Spurge (*Euphorbia amygdaloides*). Wildlife Site criteria: Ancient Woodland Inventory site; woodland indicators.
Wixe's Wood LWS	SP922097	1.42	1997	Ancient semi-natural woodland with a canopy predominantly of Beech (*Fagus sylvatica*) with Ash (*Fraxinus excelsior*), Pedunculate Oak (*Quercus robur*) and Hornbeam (*Carpinus betulus*) and Holly (*Ilex aquifolium*) below. Whitebeam (Sorbus aria) has also been recorded. The ground flora supports indicators such as Bluebell (*Hyacinthoides non-scripta*) and Wood Sorrel *(Oxalis acetosella*). Remnant boundary banks and old laid hedges are present. Wildlife Site criteria: Ancient Woodland Inventory site with a semi-natural canopy and field evidence suggesting an ancient origin; >1 ha.
Wick Road Grassland LWS	SP934100	2.88	2005	Grassland with a sward supporting a good diversity of herbs and grasses indicative of unimproved grassland. Species recorded in the sward include Sweet Vernal-grass (*Anthoxanthum odoratum*), Common Knapweed (*Centaurea nigra*), Oxeye Daisy (*Leucanthemum vulgare*), Bird's-foot Trefoil *(Lotus corniculatus*), Oxeye

				Daisy (*Leucanthemum vulgare*), Common Sorrel (*Rumex acetosa*) and Meadow Buttercup (*Ranunculus acris*). Of particular note are Common Spotted-orchid (*Dactylorhiza fuchsii*) and Yellow-rattle (*Rhinanthus minor*). Wildlife Site criteria: Grassland indicators.

Appendix 2: Vulnerability Spreadsheet

This appendix includes the vulnerability spreadsheet for the Tring Park site, based upon available biological records data. It is itself based upon the national-scale vulnerability spreadsheet previously produced for the Woodland Trust by Footprint Ecology (Liley, et al. 2019, in prep.). The order in the table reflects the types of feature (alphabetical) and then features are listed in alphabetical order. Features listed in bold are ones associated with woodland habitats. It should be noted that several of the species/habitats listed in the national-scale spreadsheet could also be present at the Tring Park site, but are not included in the Tring spreadsheet. This is due to their absence from the received biological records data, potentially due to under-recording, etc. Please refer to Section 3.25 of this report for more information on those species/habitats also potentially present.

Feature	Feature details	Feature type	Impact type					Season				Activity Types			Thresholds	Notes
			Damage	Contaminati	Disturbance	Fire	Other	Spring	Summer	Autumn	Winter	Dogs	High friction	Large groups		
Red Kite	Around nests	Bird			✓			✓	✓					✓		Areas around nest sites may be vulnerable and settlement/use of territories affected by disturbance
Skylark	Breeding pairs/nests and young	Bird			✓			✓	✓			✓		✓		
Brown argus	All life stages and habitat	Invertebrate	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		Associated with areas of chalk/limestone grassland bordering woodland areas, as well as broad woodland rides that are open and sunny with scrub or grass margins. Risks relate to trampling of ride side vegetation and creation of paths/path management. Long term changes in ride-side vegetation as a result of dog fouling could be a risk, in addition to changes in the grazing regime in adjoining grassland areas.
Chalkhill blue	All life stages and habitat	Invertebrate	✓	✓			✓	✓	✓	✓	✓	✓				Dependent on grazing and requires short turf; risks relate to impacts of access on

Feature	Feature details	Feature type	Impact type					Season				Activity Types			Thresholds	Notes
			Damage	Contaminati	Disturbance	Fire	Other	Spring	Summer	Autumn	Winter	Dogs	High friction	Large groups		
																grazing management and nutrient enrichment
Dingy skipper	All life stages and habitat	Invertebrate	✓	✓			✓	✓	✓	✓	✓					Associated with areas of chalk/limestone grassland bordering woodland areas, as well as broad woodland rides that are open and sunny with scrub or grass margins. Risks relate to trampling of ride side vegetation and creation of paths/path management. Long term changes in ride-side vegetation as a result of dog fouling could be a risk, in addition to changes in the grazing regime in adjoining grassland areas.
Grizzled skipper	All life stages and habitat	Invertebrate	✓	✓			✓	✓	✓	✓	✓					Associated with open woodland rides that are open and sunny with scrub or grass margins, as well as areas of chalk/limestone grassland bordering woodland areas. Risks relate to trampling of ride side vegetation and creation of paths/path management. Long term changes in ride-side vegetation as a result of dog fouling could be a risk, in addition to changes in the grazing regime in adjoining grassland areas.
Ground-nesting bees and wasps	Burrows	Invertebrate	✓				✓	✓	✓	✓	✓	✓	✓	✓		Dependent on bare ground and risks relate to any changes in the amount and quality of bare ground, e.g. path improvements, surfacing, constant trampling/damage or even loss bare ground (e.g. from restrictions in access or contamination from dog fouling).
Yellow Meadow Ant	Ant hills	Invertebrate	✓					✓	✓	✓	✓		✓			Anthills potentially vulnerable to direct damage

Feature	Feature details	Feature type	Impact type					Season				Activity Types			Thresholds	Notes
			Damage	Contaminati	Disturbance	Fire	Other	Spring	Summer	Autumn	Winter	Dogs	High friction	Large groups		
Tree roosting bats	Roosting bats and habitat	Mammal			✓		✓	✓	✓	✓	✓					Bat roosts and hibernacula vulnerable to disturbance. Species associated with tree cavities potentially low vulnerability; species such as the two Horseshoe Bats that use caves, mineshafts etc for hibernating potentially vulnerable where access not restricted. Potentially issues for Horseshoe bats if access impacts on grazing management
Calcareous grassland flora e.g. Common Rockrose, Salad Burnet, Wild Thyme	Individual plants, habitat quality and indicators for other rarer species	Plant	✓	✓				✓	✓			✓	✓	✓		Issues associated with chronic trampling, changes to soil chemistry from dog fouling
Helleborines & scarce orchids such as Fly Orchid	Individual plants and habitat	Plant	✓	✓			✓	✓	✓			✓	✓	✓		Range of woodland species associated with woodland edge and other woodland habitats. Issues associated with trampling, soil and habitat change/degradation via dog-fouling, shading arising from changes in grazing pressure, and potentially for people picking in the absence of visitor education.
Neutral grassland Species e.g. Oxeye Daisy, Meadow Crane's-bill, Yellow-rattle, Globeflower	Individual plants, habitat quality and indicators for other rarer species	Plant	✓	✓				✓	✓			✓	✓	✓		
Veteran trees	Trees, roots and species present on/within	Plant	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓		Soil mycorrhiza vulnerable to trampling, trees vulnerable to damage from climbing; risk of lichen damage from dog urine.

Feature	Feature details	Feature type	Impact type					Season				Activity Types			Thresholds	Notes
			Damage	Contaminati	Disturbance	Fire	Other	Spring	Summer	Autumn	Winter	Dogs	High friction	Large groups		
Spring woodland flora e.g. Bluebell, Wild Garlic, Dog's Mercury, Wood Anemone, Wood Sorrel etc.	Individual plants and habitat	Plant	✓	✓				✓	✓			✓	✓	✓		Indicative of a spring woodland flora, likely to be vulnerable to chronic trampling away from paths
Slopes		Topographical	✓													Slopes will exacerbate trampling impacts

Appendix 3: Information of use in devising a monitoring programme for those vulnerable ecological features identified in the Tring Park desk study

Common name	Potential survey methods[1]	Survey period[2]												Additional information
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Skylark	Standardised transect / point count													Gilbert, Gibbons, & Evans (1998)[3]
Red Kite	Vantage point / active nest search													
Noctule	Emergence / re-entry survey (roosts) & standardised transect / point count (activity)													Collins (ed.) (2016)[4]
Whiskered Bat														
Quaking-grass	Standardised transect and/or fixed quadrat plots (surface cover / abundance) or total individual counts (total population)													Sutherland (2006)[5]
Carline Thistle														
Common Knapweed														
Greater Knapweed														
Common Spotted-orchid														
Eyebright sp.														
Autumn Gentian														
Chiltern Gentian														
(Chalk) Fragrant Orchid														

Common name	Potential survey methods[1]	Survey period[2]												Additional information
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Common Rock-rose	Standardised transect and/or fixed quadrat plots (surface cover / abundance) or total individual counts (total population)													
Bee Orchid														
Common Milkwort														Sutherland (2006)[5]
Salad Burnet														
Common Valerian														
Hoary Plantain														
Common Twayblade														
Harebell														
Yellow-rattle														
Wood Barley														
White Helleborine														
Violet Helleborine														
Greater Butterfly-orchid														
Moschatel														
Ramsons														
Dark Green Fritillary	Standardised transect													UK Butterfly Monitoring Scheme
Brown Argus														
Green Hairstreak														

Common name	Potential survey methods[1]	Survey period[2]												Additional information
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Small Blue	Standardised transect					■	■		■					UK Butterfly Monitoring Scheme
Dingy Skipper						■	■							
Grizzled Skipper					■	■	■							
Essex Skipper							■	■	■	■				
Small Skipper							■	■	■	■				
Yellow Meadow Ant	Total count / mapping	Ant hills present all year, although additional effort necessary if occupancy confirmation required												
Latticed Heath	Standardised diurnal transect					■	■		■	■				Butterfly Conservation - Moth Recorders Handbook
Lotus Case-bearer	standardised nocturnal light trapping							■						
Cinnabar	Standardised diurnal transect &/or standardised nocturnal light trapping					■	■	■						

[1]The method chosen will depend upon the aim of the monitorring survey (e.g. is the surveyor interested in the total count of individual plants in one discrete area, or their presence along a standardised transect?)

*[2]Note that periods indicated refer to **typical** breeding season for birds, summer activity season for bats, flowering period for vascular plants, and adult flight period for butterflies and moths. It may be possible to survey/monitor some taxa during other stages of their life cycle (e.g. searches of larval foodplant for eggs and/or caterpillars of butterflies and moths); please seek specialist advice if required. Also note that some taxa will potentially use the site at other points in the year (e.g winter roosting bats, or butterflies and moths during their egg/larval stage).*

[3]*Gilbert, G., Gibbons, D. W., & Evans, J. (1998) Bird Monitoring Methods – A Manual of Techniques for Key UK Species. RSPB / Pelagic Publishing.*
[4]*Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust., London.*
[5]*Sutherland, J. W. (ed.) (2006) Ecological Census Techniques: A Handbook. Cambridge University Press*

Appendix 26: Ecological walkover assessment, visitor survey and identification of potential impacts of recreation on the Woodland Trust's Tring Park site, September 2019

FOOTPRINT ECOLOGY

Ecological Walkover Assessment, Visitor Survey, and Identification of Potential Impacts of Recreation on the Woodland Trust's Tring Park Site

Phil Saunders & Sophie Lake

FOOTPRINT ECOLOGY, FOREST OFFICE, BERE ROAD,
WAREHAM, DORSET BH20 7PA
WWW.FOOTPRINT-ECOLOGY.CO.UK
01929 552444

FOOTPRINT
ECOLOGY

Footprint Contract Reference: 547
Date: 24th September 2019
Version: Final Ver.2
Recommended Citation: Saunders, P. & Lake, S. (2019). Ecological Walkover Assessment, Visitor Survey, and Identification of Potential Impacts of Recreation on the Woodland Trust's Tring Park Site. Unpublished report by Footprint Ecology.

Summary

This report, commissioned by the Woodland Trust, provides a field-based assessment of vulnerable ecological features within Tring Park, and observations of recreational activities upon them. It follows on from a desk-based study of potential recreation impacts within the site previously carried out by Footprint Ecology in April 2019, which also detailed the presence of Sites of Special Scientific Interest and ancient woodland blocks within the site boundary.

The report highlights locations within Tring Park which are of higher ecological value and which are either susceptible, or already subject, to any negative effects of recreation activity. The location of high value ecological features previously identified as potentially present within the desk-based study have been mapped (where possible), and measures of recreation impact (including trampling effects upon floral species composition and abundance) recorded.

Key areas identified on site comprise the chalk scarp and parkland grasslands (and their abundant anthills), veteran trees within woodland and parkland areas, areas of bare ground of value to ground-nesting Hymenoptera (bees and wasps), and dead wood material left *in situ* outside of woodland blocks. Current levels of recreation impact were considered to be low and localised during the walkover survey, with the majority of observable effects noted along the existing path network.

A visitor survey was also carried out by Footprint Ecology on four dates in July 2019, during which visitor interviews and tally counts were carried out at two locations within the Tring Park boundary. Key findings from the surveys are:

- A total of 112 visitor interviews were conducted, with 58% at survey location 2 (the Tring Museum bridge) and 42% at survey location 1 (the Ridgeway/Woodland Walk junction);
- Virtually all (96%) of interviews were with those who had undertaken a day trip/short visit directly from home that day;
- The most frequently recorded activity was dog walking (50% of interviewees at both survey locations, followed by walking (36%);
- More than half (55%) of all interviewees visited at least once a week;
- The majority of visits were short, with most interviewees (67%) spending less than an hour on site;
- Most interviewees (59%) indicated that they visited equally all year round;
- Half (50%) of interviewees had arrived on foot, with most of the remainder (47%) travelling by car/van;
- Proximity of the interview location to home (38% of interviewees) was the most commonly given reason for location choice;
- For a third (31%) of interviewees, 75% or more of their visits for their particular activity were to the interview locations;
- A total of 105 interviewee postcodes (94%) could be accurately mapped;

- The distribution of postcodes largely reflected interviewees living in Tring and neighbouring areas of Hertfordshire and Buckinghamshire;
- The majority of frequent repeat visitors to the interview survey locations, and those that used the interview location as the main site for the relevant activity, originated from postcodes in relative proximity to them;
- For 57% of interviewees the route they took was reflective of their normal route;
- A range of factors influenced the interviewees' choice of routes, with previous knowledge of the area the most commonly given response (19%), although a significant proportion of interviewees also said that they chose their route to avoid the cows (13%);
- Interviewees expressed the following key concerns/recommendations:
    - More dog waste bins and benches, and;
    - The presence of free-roaming cattle in the park.

The results of the visitor survey indicate that visitor pressure is not currently the key issue affecting the site's important ecological features, but that the site would benefit from revisions to its management regime. Recommendations for conservation management of several of the sites key ecological features are therefore provided. These recommendations comprise the following:

- Effective management of the high level of encroaching scrub noted at several of the important calcareous grassland locations within the site boundary;
- Instigation of grazing on the steep southern scarp, and;
- Hay-cutting within areas of rank, enriched, grassland on site to reduce their nutrient levels and improve the quality of their grassland communities.

Potential methods of use in monitoring the ongoing impact of visitor pressure upon the site's ecological features are also discussed.

Contents

Acknowledgements

This report was commissioned by the Woodland Trust and we are grateful to Luke Shenton for overseeing the work, for comment, and useful discussion. Thanks also to Martin Hicks from Hertfordshire County Council who provided useful discussion and comments prior to the surveys taking place. Visitor surveying was undertaken by Mel Roach, and our thanks go to those members of the public who took part in the interviews.

Cover photograph: Icknield Way Trail, Tring Park. © Rob Farrow - geograph.org.uk/p/4124948.

1. Introduction

1.1 A desk-based assessment of the potential impacts of recreation upon important ecological features potentially present within the Woodland Trust's Tring Park site was previously carried out by Footprint Ecology (Saunders, Lake, & Liley, 2019). This followed on from a national-scale desk-based assessment of the risks posed by recreational activities to important ecological features across the Woodland Trust's landholdings (Liley, et al. 2019. In prep.).

1.2 Following production of the Tring Park assessment report, the Woodland Trust engaged Footprint Ecology to carry out a brief ecological walkover survey and a visitor survey of the site. These were commissioned to highlight how visitors currently use, and how current access relates to the conservation interest of, the site. As such, the work was carried out to:

- Identify the habitats present within the site boundary (with reference to the initial, desk-based, report);
- Identify and map any features within the site (habitats, species, etc.) which might be vulnerable to recreation (drawing on the initial, desk-based, report);
- Improve our understanding of how the park is used by visitors, focussing on showing the current distribution of visitor footfall within the site;
- Identify any potential recreation impacts already evident upon those ecological features identified in the field; and,
- Provide broad-scale recommendations for minimising any identified impacts, with reference to the survey results.

2. Methods

Ecological Walkover and assessment

Habitat mapping and identification of important ecological features

2.1 An ecological walkover survey of the site was carried out on the 24th and 25th June 2019, during which all habitats present within the Tring Park site boundary were identified and mapped using UK Habitat Classification definitions[1]. Areas of higher value habitat, and those habitats/features potentially vulnerable to impacts from recreation, were further identified using Target Notes.

2.2 These important ecological features comprised those identified as present in the previous Footprint Ecology report (Saunders, Lake, & Liley, 2019). Opportunistic records were also made of any potentially breeding bird and butterfly species noted during the walkover to further inform our understanding of the site's ecology.

Assessment of recreational impacts within the site boundary

2.3 Any apparent evidence of recreational activity (both negative and positive) upon the site's important ecological features was also mapped and target noted during the walkover survey. Such evidence followed the examples provided in (Liley, et al. 2019. In prep.) and included, but was not limited to, observations of erosion along footpaths, trampling of floral communities on slopes, etc. Areas within the site boundary which would potentially benefit from conservation management were also identified and target noted.

Assessment of trampling effects upon floristic communities

2.4 In order to inform our understanding of the impacts of trampling upon the site's floral community composition a 20m transect was located at right angles to one of the main footpaths through the site's scarp grassland. Quadrat surveys (based upon a 2m x 2m square) were then carried out at increasing distances from the path centreline (at 0m, 2m, 10m, and 20m, respectively). All vascular plant species present within each of the quadrats were identified and their relative abundance estimated using the DAFOR

[1] UK Habitat Classification

scale[2], and any evidence of changes across the gradient from path centre to path edge assessed.

Identification of key areas

2.5 Identification of key areas of ecological interest, with increased potential for negative impacts arising from recreational activities, was carried out following the walkover survey. This assessment took into account the intrinsic value of each habitat present, their potential to support other important ecological features, and their susceptibility to negative impacts and/or their need for additional management.

Visitor Survey

2.6 Visitor interviews and direct tally counts were carried out at two locations within the Tring Park boundary (see Map 1) between the 6th and 9th July 2019, inclusive. These locations were selected to give a good geographic spread across the site and were at pinch points where visitors could be easily intercepted (i.e. at the foot of the Tring Museum footbridge and the main Ridgeway/Woodland Walk junction).

2.7 All visitor interviews and counts were conducted by a trained, experienced, Footprint Ecology visitor surveyor. A tally was kept of visitors using the site whilst interviews were being conducted, with the numbers of groups, people, minors, and dogs passing through the site across the interview survey period recorded.

2.8 Face to face interviews were carried out with a random selection of visitors, with the surveyor interviewing the first person/s they saw after completing the previous interview. When groups were encountered, only one person within each was interviewed, and no unaccompanied minors were approached. Interviewees were asked a range of questions, including their point of origin, their reasons for using the area, their mode of transport, and whether they were a Woodland Trust member or not. A full copy of the questionnaire is provided in Appendix 1.

2.9 Surveys were conducted on tablets hosting SNAP survey software, a dedicated market research software which allows surveys to be done on mobile devices. The software allowed the questionnaire to be tailored, e.g.

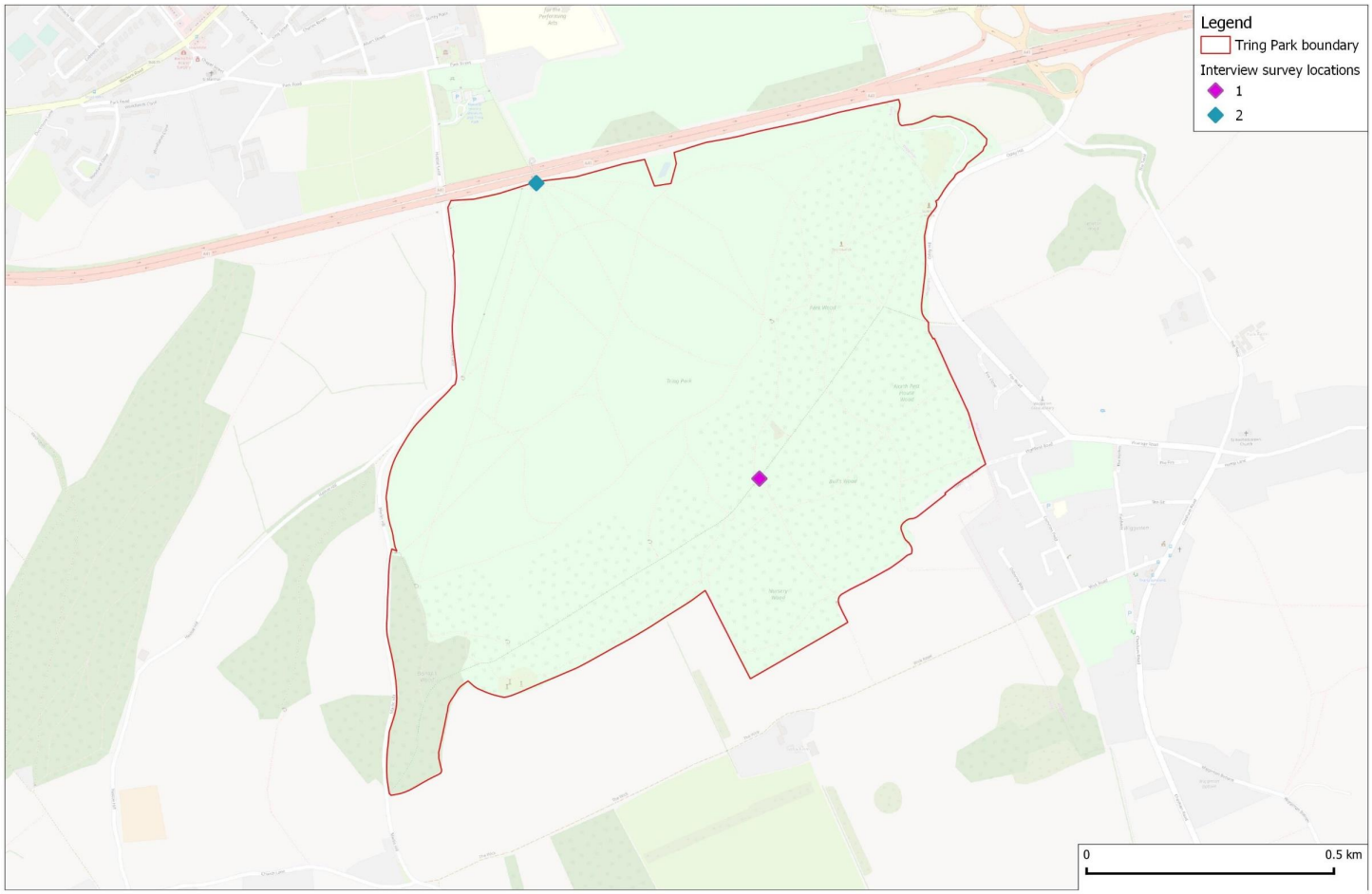
[2] The DAFOR Scale

only asking dog-walkers about dog related behaviour. A GPS facility ensured that the surveyor was standing in the correct place, and each questionnaire took <10 minutes to complete.

2.10 Interviewees were also asked to identify the route they had taken whilst within the site boundary, with the routes and access/egress points used drawn on suitably scaled field maps. Each interview and field map were given the same unique identifier so that they could be cross-referenced during subsequent analyses.

2.11 The surveyor spent 24 hours at each of the two survey points, with this period split evenly between a weekday and weekend day. Surveys were carried out within the following time periods: 0700-0900hrs; 1030-1230hrs; 1400-1600hrs, and; 1700-1900hrs, and were all completed in daylight hours and during periods of clement weather.

Map 1 : Interview survey locations



3. Results

Ecological Walkover

UK habitats classification

3.1 The distribution of habitats within the site boundary largely coincided with those detailed in the Phase 1 habitat map included in the recreational impact study of the site previously produced by Footprint Ecology (Saunders, et al. 2019) and are presented in Map 2. Plant species lists are provided in Table 1, which correspond to the Target Notes shown on Map 2, with scientific names provided in Appendix 2. The following UK Habitats were recorded:

- Lowland calcareous grassland;
- Neutral grassland;
- Broad-leaved mixed and Yew woodland;
- Mixed woodland;
- Coniferous woodland, and;
- Tracks.

3.2 Lowland calcareous grassland was present across the centre of the site, with better quality swards present on the scarp and parkland slopes. Additional high-quality calcareous grassland was also present on Oddy Hill, in the north-east of the site. The remainder of the northern part of the site primarily consisted of ranker neutral grassland, with lower species diversity and fewer notable calcicolous plant species.

3.3 The southern half of the site was largely comprised of broad-leaved mixed and Yew woodland, with smaller areas of mixed and coniferous woodland on its southern extent. The broad-leaved woodland on site was dominated by Beech and Yew, with smaller numbers of Oak and other broad-leaved species across the site. It exhibited a relatively sparse, and often bare, understorey and field layer, although extensive coverage of Dog's Mercury was noted in a few locations. Several surfaced tracks ran through the woodland blocks on the site, with smaller, unsurfaced, paths noted around the site's periphery and in the south-eastern block of coniferous woodland.

3.4 A significant proportion of the woodland on site is designated as ancient woodland (Saunders, et al. 2019), although some of these designated areas comprise Planted Ancient Woodland Sites (PAWS). The ecological value, and susceptibility to recreational impacts, of these woodland areas varies

considerably however, and their designation does not necessarily confer a higher level of ecological value upon them.

Map 2: Tring Park UK Habitats Classifications

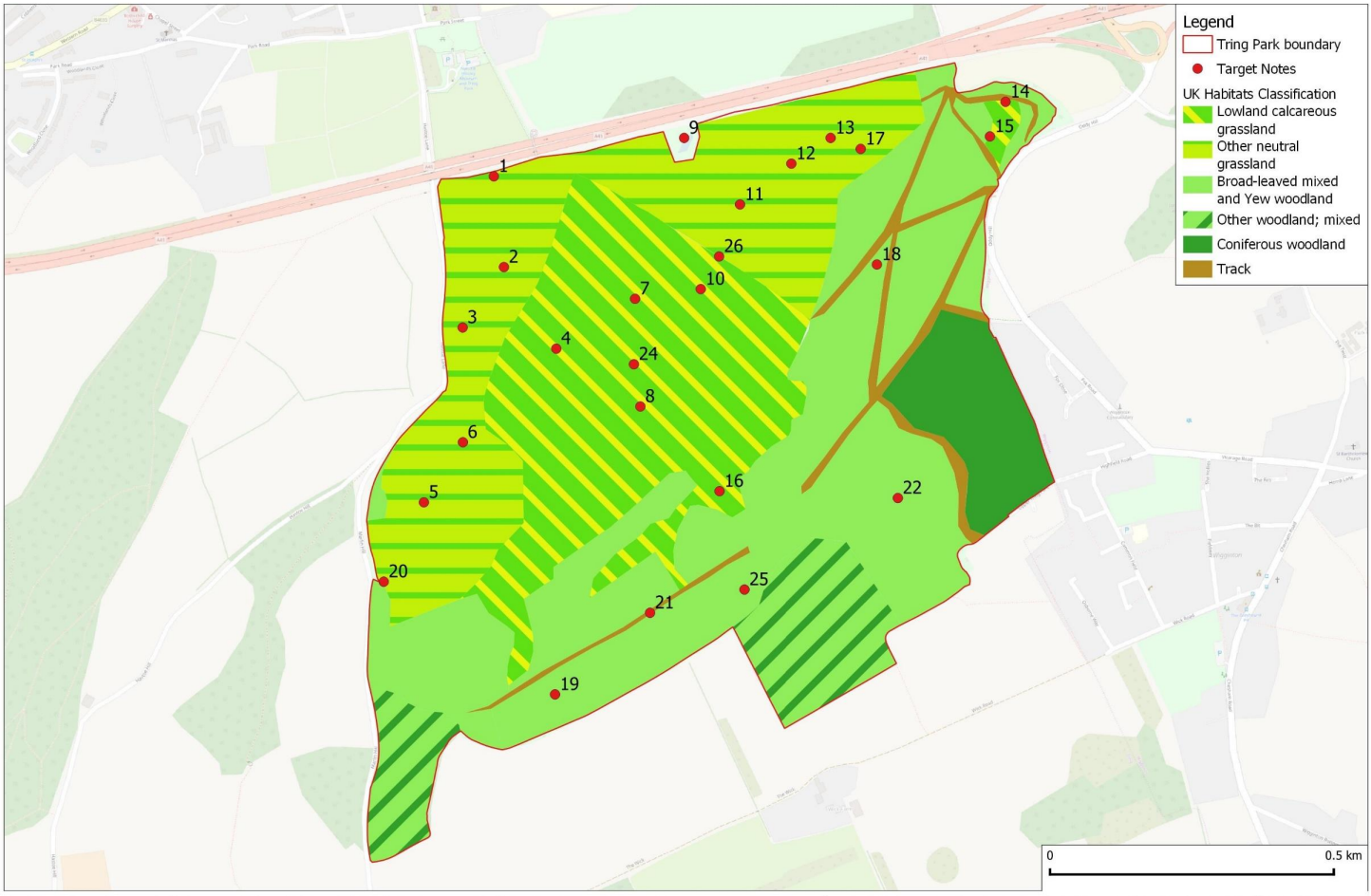


Table 1: Habitat Target Notes from Tring Park Ecological Walkover survey

No	Notes	Interaction with recreation	Photographs
1	Rank, species-poor sward of False Oat-grass, Cock's Foot, and Hogweed alongside compacted bare ground on a single-track mown path. Bordered by degraded sward of Perennial Ryegrass, Pineapple Weed, and Broad-leaved Plantain. Dog faeces evident despite proximity to dog bin. Sward improves away from path with neutral grassland species such as Oxeye Daisy, Meadow Buttercup, Lady's Bedstraw, Red Clover, Yarrow but still with rank patches of Nettle, Creeping Thistle.	Path and short, impoverished vegetation created by people trampling and nutrient enrichment from dog faeces.	
2	Grassy path along avenue with Cow Parsley, Cock's-foot, Nettles etc under trees.	Sward already improved, unlikely to be further degraded except by very substantial increases in visitor pressure. Taller vegetation including Nettles etc may reduce likelihood of trampling damage around base of trees.	
3	Cut area within more species-rich neutral grassland than at N end of compartment with Cowslip, Yellow Rattle, Ox-eye Daisy, Ribwort Plantain Birds-foot-trefoil, Lady's Bedstraw etc.	No apparent impact beyond cut area.	
4	Widespread scrub on E-facing slopes over sparse, species-rich sward with many anthills.	No evident impact. Scrub has potential to channel visitors straying from paths along particular routes if left to expand.	

No	Notes	Interaction with recreation	Photographs
	Note that cleared areas of scrub tend to support rank vegetation with Nettles, Brambles, Cleavers etc rather than chalk grassland.		
5	Improved grassland on plateau with Cock's-foot, False Oat-grass, Yorkshire Fog, Perennial Ryegrass etc.	No evident impact – sward already degraded through improvement.	
6	Bare patch along path of value for invertebrates (mining bees at time of survey).	Created by people and cattle trampling.	
7	Numerous paths up to 3m wide through centre of site. Paths characterised by reduced diversity but generally remain vegetated. Most run along shallow valleys where the sward is lusher, taller and less diverse than on the scarps.	Diversity of sward reduced but in general paths run through less interesting sward. Increased pressure may result in more bare ground (which can be beneficial up to a point) and loss of diversity at path margins through trampling and eutrophication.	
8	Bare areas in old chalk pit or similar, with steep sides. Evidence of campfire.	Bare areas created by trampling add to conservation interest. Very localised damage from fire.	

No	Notes	Interaction with recreation	Photographs
	Large Rabbit warren and eroded patches on ridges		  
9	Pond dry at time of survey	Fenced. No public access.	
10	Shallow scarps support a sparse, species-rich sward with Common Spotted-orchid, Salad Burnet, Quaking Grass, Birds-foot-Trefoil, Fairy Flax, Rough Hawkbit, Rock Rose, Hoary Plantain, Squinancywort, and abundant ant hills.	No evident impact.	

No	Notes	Interaction with recreation	Photographs
11	More nutrient-rich and taller sward on plateau with False Oat-grass, Creeping Thistle, Red Fescue, Goat's Beard, Hemp Agrimony, White Clover etc.	No evident impact.	
12	Sparse sward on NE facing slopes with Knapweed, Lady's Bedstraw, Pyramidal Orchid, Cowslips etc.		
13	Landscape feature of ring of Copper Beech with enriched sward with Nettle etc (cattle lie up here).	No evident impact.	
14	Oddy Hill – unimproved calcareous grassland with Rock Rose, Salad Burnet, Thyme, Crested Hair-grass, Twayblade, Chalk Milkwort etc but abundant Silver Birch seedlings, Wild Clematis and Dogwood re-growth. Large anthills. Solitary bees associated with bare patches.	Low impact - small paths helping create bare ground. However, potential for negative interaction between dog walkers and sheep grazing (currently looks under-grazed).	
15	Peripheries of Oddy Hill support rank vegetation with scrub regrowth and species such as Hedge Woundwort	No evident impact.	
	Paths in woodland nearby, limited understorey.	Trampling prevents a ground flora becoming established along paths through woods – however	

No	Notes	Interaction with recreation	Photographs
		this is likely to be limited by the dense canopy (e.g. Ivy).	
16	Very steep escarpment below Rond Point supports species-rich calcareous grassland, but under-grazed with abundant bramble regrowth where scrub has been cleared. Shorter species such as Rock Rose confined to abundant anthills.	Would benefit from sheep grazing (e.g. electric fenced – this could be problematic for dog walkers).	
17	Large pile of dead logs and encroaching scrub/ruderals of value to invertebrates.	No evident impact.	
18	Evidence of extensive Rhododendron clearance.	No evident impact.	
19	Den building area.	No ground flora or understorey present in this area due to heavy trampling, including around mature trees.	
	Unaffected woodland just adjacent.	Comparison suggest trampling is resulting in lack of ground flora and reduced litter	

No	Notes	Interaction with recreation	Photographs
		layer and the removal of dead wood from the ground.	
20	Extensive trampling and erosion around gate access points.	Localised vegetation loss.	
21	Main surfaced path network within woodland area.	Heavy apparent compaction and trampling along edges of raised surfacing material. No ride-edge vegetation.	
22	Less heavily utilised path with abundant understorey growth.	Showing reduced evidence of trampling/erosion compared to 21.	

No	Notes	Interaction with recreation	Photographs
23	Abundant Yew with naturally limited understorey/field layer.	No apparent impact.	
24	Several larger areas of denser scrub on scarp slope providing habitat or breeding birds, and other taxa.	No apparent impact.	
25	Mown rides with some Dog's Mercury, Herb Robert, Herb Bennet and Woodruff.	Trampling affect limited to central track, not ride edges.	
26	Typical mown path in central area of grassland.	Centre of path generally remains vegetated but species-rich grassland is replaced by Perennial Ryegrass and Broad-leaved Plantain sward either side of path. However, where the paths run at the bottom of slopes, the sward is naturally lusher and therefore less diverse due to deeper soils.	

Opportunistic species records

3.5 Thirteen species of (potentially breeding) bird, and seven species of butterfly, were recorded during the walkover survey, with full species lists provided in Appendix 3. Of the birds recorded, only Red Kite *Milvus milvus* and Skylark *Alauda arvensis* are listed on the national scale assessment.

3.6 All sightings of Red Kite were of birds overflying the site, with no obvious evidence of breeding activity observed. This does not in any way exclude the possibility of the species breeding on site, however, confirmation of which would require an extended period of highly focussed survey work. Skylark were heard singing above the grassland areas in the north of the site, but

none were seen to land. Potential breeding habitat exists in areas of ranker grassland within the site boundary, although confirmation would again require the undertaking of targeted ornithological surveys.

3.7 None of the four butterfly species listed in the original desk-based assessment (Grizzled Skipper *Pyrgus malvae*, Dingy Skipper *Erynnis tages*, Chalk-hill Blue *Polyommatus coridon*, or Brown Argus *Aricia agestis*) were recorded during the walkover survey. The survey was however carried out at a point outside of these species annual flight periods, or between generations in the case of the Brown Argus, and this was therefore not unexpected. The cool and misty conditions experienced during the second survey day were also unconducive to insect activity.

3.8 Nevertheless, the foodplants of Grizzled and Dingy Skippers, and Brown Argus, (Agrimony, Common Bird's-foot Trefoil, and Common Rock-rose, respectively), were relatively abundant upon the scarp slopes, and it is considered highly likely that these species are still present on site. The Woodland Trust has previously provided data from butterfly survey transects carried out within the park during 2016 – 2018, alongside opportunistic records from other data sources (e.g. iRecord). A summary of these data is provided in Appendix 3.

Evidence of recreation impacts within the site boundary

3.9 Obvious evidence of recreational impacts upon the site were generally localised (see Table 1), with the main observed impacts comprising trampling and erosion centred upon the site's path network. Nevertheless, trampling effects appear to be largely limited to the vicinity of established pathways currently, with relatively little indication of systemic trampling away from desire lines and paths (within the scarp grasslands at least).

3.10 Some of the footpaths within the main parkland areas (e.g. that running directly east-west from the Tring Museum Bridge) have however been subject to heavy (localised) erosion, with bare soil present along extensive sections of their lengths. This was also the case for several of the site's access points, where patches of bare earth were obvious.

3.11 There was also abundant evidence of site users going 'off-piste' along the edge of surfaced footpaths located within the areas of woodland within the site boundary. This has led to some trampling of vegetation along the edge of these paths, although this was again generally localised in extent.

3.12 Extensive trampled areas, and evidence of removal/moving of standing dead wood material, were noted in the woodland 'den building' area in the south of the site. Furthermore, evidence of a small, recent, fire was found on the southern edge of the scarp grasslands.

3.13 There was also some direct observation of dog fouling, despite the presence of dog waste bins, at a small number of locations across the site. This was in addition to the presence of at least one bag of dog waste hung in a tree on the northern border of the site's main woodland block.

Assessment of trampling effects upon floristic communities

3.14 Table 2 provides an indication of the impact of trampling along the grassland tracks within Tring Park. The trodden paths at the centre of tracks are usually dominated by Perennial Ryegrass and species such as Broad-leaved Plantain, which are able to withstand trampling pressure. In some cases the centre is worn bare (about 30cm wide), and this appears to be associated with cattle using the paths, but it would also be expected where visitor pressure is greatest.

3.15 Towards the edge of the track the sward becomes more diverse, with species such as Lady's Bedstraw, Yarrow and other grasses, but is still notably less diverse than at 10m from the track, where additional species such as Glaucous Sedge, Hop Trefoil, Stemless Thistle, Rough Hawkbit, etc, are found. These areas are likely to be enriched through dog faeces, but they are also naturally more lush due to the deeper soils at the foot of the slopes.

3.16 On the well-drained slopes above, the sward is most diverse with classic chalk grassland species including Pyramidal Orchid, Fairy Flax, Salad Burnet etc. and little sign of nutrient enrichment or trampling. The chalk grassland flora here is among the best in the county (M. Hicks, *pers comm.).* On the slopes, trampling impacts are generally limited to single track paths which result in shorter, less diverse, vegetation.

Table 2: Plant species recorded at increasing distances from the centre of the track at Target Note 26 (see Map 2) with DAFOR* ratings. Plants were recorded from a single 2m x 2m (or equivalent area) quadrat at each location, chosen to be representative of the sward

0m	2m	10m	20m (on slope)
Perennial Ryegrass (D)	Lady's Bedstraw (A)	Glaucous sedge (A)	Salad Burnet (F)
Creeping Bent (F)	Ribwort Plantain (F)	Lady's Bedstraw (F)	Rough Hawkbit (F)
White Clover (O)	Common Mouse-ear (O)	White Clover (F)	Stemless Thistle (F)
Bulbous Buttercup (O)	Common Bent (A)	Hop Trefoil (F)	Sheep's Fescue (F)
Hop Trefoil (O)	Red Fescue (F)	Fescue sp. (F)	Bird's-foot-trefoil (F)
Broad-leaved Plantain (O)	Meadow Buttercup (O)	Rough Hawkbit (O)	Ribwort Plantain (F)
Ragwort (R)	Yarrow (O)	Ribwort Plantain (O)	Common Rock-rose (O)
	Cock's-foot (O)	Yarrow (O)	Glaucous Sedge (O)
	White Clover (O)	Stemless Thistle (O)	Self-heal (O)
	Bulbous Buttercup (O)	Creeping Bent (O)	Fairy Flax (O)
		Quaking Grass (O)	Small Scabious (O)
		Small Scabious (O)	Meadow Oat-grass
			Red Clover (O)
			Quaking Grass (O)
			Pyramidal Orchid (O)
			Black Medick (O)
			Bee Orchid (R)
Sward height c2cm	Sward height 3-4cm	Sward height c25cm	Sward height c20cm

**DAFOR: (Dominant, Abundant, Frequent, Occasional, Rare)*

Identification of key areas

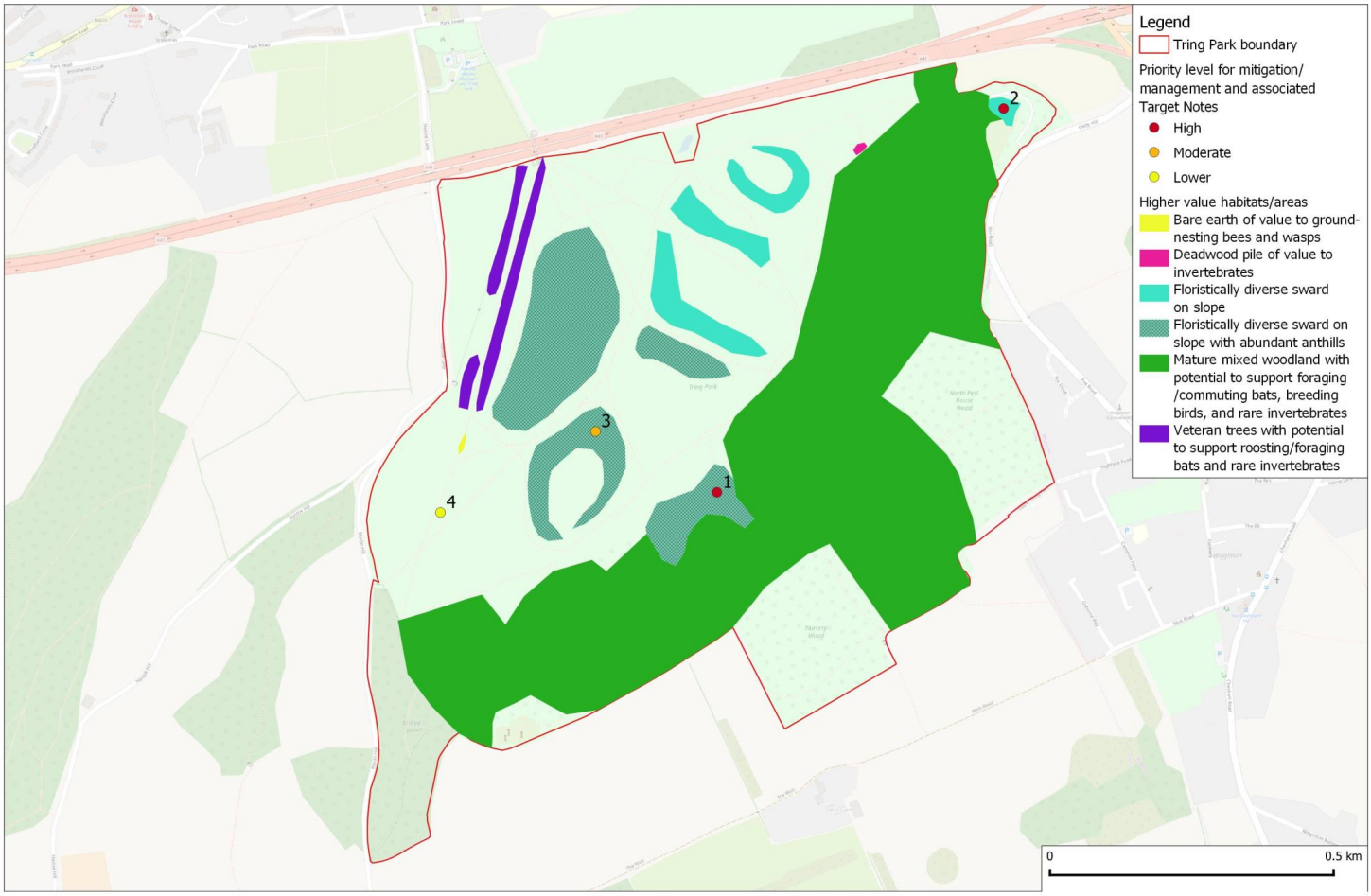
3.17 Higher value habitats and areas for Tring Park's important ecological features, which have been identified as being particularly susceptible to recreation impacts (or likely to benefit from conservation management), are identified in Map 3. Some of the identified localities include areas of ancient woodland and individual trees listed on the Woodland Trust's Ancient Tree Inventory (ATI) (see Saunders, et al. 2019).

3.18 Map 3 does not however incorporate the PAWS (see paragraph 3.4) located at the south-eastern and south-western extremities of the park boundary. These areas do not currently exhibit high levels of intrinsic ecological value, but they are nevertheless considered of value (and to exhibit potential for recovery) by the Woodland Trust, and their locations (and that of the ATI

trees within the site boundary) are therefore included in Map A4 (Appendix 4).

3.19 The higher value sites identified in Map 3 primarily comprise the higher quality calcareous grassland areas on the scarp slopes (including those supporting large numbers of anthills), and mature trees within areas of ancient broad-leaved and mixed woodland (in addition to veteran trees outside of woodland areas on site). Also included is the one area of eroded path, with friable substrate, observed to support colonies of several ground-nesting bee and wasp species during the walkover survey, and any piles of deadwood located outside, or on the periphery, of woodland blocks.

Map 3: Higher value areas for ecological features on site and suggestions for mitigation and/or management



Visitor survey: tally counts

3.20 Tally counts were maintained by the surveyor when on-site conducting interviews. These tallies reflected the number of people passing through at the survey point. Data are summarised in Table 3, which gives the total numbers of groups, people, and dogs "passing through" on each date. The days at each survey point are directly comparable in terms of the amount of hours and times that the surveyor was recording.

3.21 The tally data varies between interview locations, with the largest number of groups (109) seen at survey location 2 at the weekend, and the smallest (48) at survey location 1 on a weekday. The largest number of people (233) were however seen at survey location 1 at the weekend, with the smallest number at the same survey location on a weekday (153). Similar numbers of dogs were seen throughout at survey location 2 (67 on both days), and at survey location 1 at the weekend (60), although a much smaller number were observed at survey location 1 on a weekday (32).

3.22 The figures in Table 3 can be used to calculate ratios of people and dog numbers with respect to group size at each of the interview locations. These are provided in Table 4.

Table 3: Tally count of groups, people, and dogs passing through site, stratified by interview survey location

Date	Day	Total groups		Total people		Total dogs	
		Survey location 1	Survey location 2	Survey location 1	Survey location 2	Survey location 1	Survey location 2
06-July	Saturday	93		233		60	
07-July	Sunday		109		206		67
08-July	Monday	48		153		32	
09-July	Tuesday		88		203		67
Total		**141**	**197**	**386**	**409**	**92**	**134**

Table 4: Mean number of people and dogs per group

Survey location	Mean no. of people per group	Mean no. of dogs per group
1	2.74	0.65
2	2.08	0.68
Combined	**2.35**	**0.67**

3.23 A slightly higher mean number of people per group (2.74) was recorded from survey location 1 compared to that at survey location 2 (2.08). The mean number of dogs per group was similar at both survey locations (0.65 – 0.68).

Visitor survey: interviews

Overview

3.24 A total of 112 interviews were conducted, with the largest number carried out at survey location 2 (58%), and 57% of all interviews carried out at the weekend. Virtually all (96%) of interviews were with those who had undertaken a day trip/short visit directly from home that day (see Table 5), whereas 3% were on holiday or staying in a second home/mobile home.

3.25 The average interview duration was 6.1 minutes, with interviews ranging in length from 2.8 minutes to 19.1 minutes. In 66 interviews (59%) the sex of the interviewee was female; 46 of interviews (41%) were with men. Group size (i.e. the total number of people with the interviewee, including the interviewee), ranged from 1 to 7, although more than half (54%) of interviewees were visiting on their own (i.e. group size of 1), with a further third (38%) visiting as a pair.

Table 5: Number (and % rounded to nearest whole number) of interviews at each location, categorised by visit type (from Q1).

Visit type	Survey location 1	Survey location 2	Total
Day trip/short visit, travelling directly from home that day	46 (41)	62 (55)	108 (96)
Staying away from home, e.g. second home, mobile home or on holiday	1 (1)	2 (2)	3 (3)
None of the above	0 (0)	1 (1)	1 (1)
Total	**47 (42)**	**65 (58)**	**112 (100)**

Activities undertaken (Q2)

3.26 The most frequently recorded activity was dog walking (50% of interviewees) (see Figure 1), and this was the case at both survey locations (Table 6). Walking and jogging were the next most common activities (36% and 8% of interviewees, respectively).

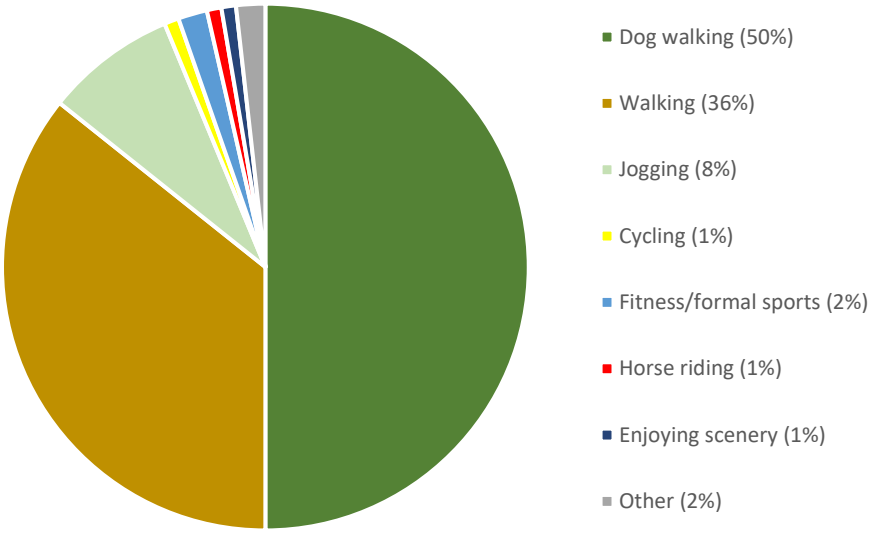


Figure 1: Activities undertaken (all 112 interviewees); from Q2

Table 6: Number (and % rounded to nearest whole number) of interviewees by activity and survey location.

Activity	Survey location 1	Survey location 2	Total
Dog walking	22 (20)	34 (30)	**56 (50)**
Walking	19 (17)	21 (19)	**40 (36)**
Jogging/power walking	4 (4)	5 (4)	**9 (8)**
Cycling	0 (0)	1 (1)	**1 (1)**
Fitness/formal sports	0 (0)	2 (2)	**2 (2)**
Horse riding	1 (1)	0 (0)	**1 (1)**
Enjoying scenery	0 (0)	1 (1)	**1 (1)**
Other	1 (1)	1 (1)	**2 (2)**
Total	**47 (42)**	**65 (58)**	**112 (100)**

3.27 Other activities were relatively infrequent but included cycling, fitness/formal sports, horse riding, and 'enjoying the scenery'. 'Other' activities (which did not fit with the standard categories on the questionnaire) accounted for 2% of interviewees and comprised entirely of geocaching.

Temporal visiting patterns, frequency of visit, time of year etc. (Q3-7)

3.28 Around a third (29%) of all interviewees were visiting 1 to 3 times a week (Table 7), with an approximate fifth (18%) visiting most days. Dog walkers were the group who visited the most frequently, with 16% visiting daily and a further 27% visiting most days. A fifth of joggers (22%) also visited most days, whilst the majority of walkers were on their first visit to the site (28%). Nevertheless, a cumulative quarter of walkers (23%) visited at least 1 to 3 times a week. The sample sizes of the other activities recorded were too small to make meaningful assessments of the relevant interviewees visit frequency.

3.29 The majority of visits were short, with most (58%) spending less than an hour on the site (Table 8). Nevertheless, approximately a third of interviewees spent 1-2 hours on site (29%).

Table 7: Numbers (row %) of interviewees and frequency of visit (Q3) by activity. Grey shading reflects the highest two values in each row, with the darker shading highlighting the highest row value.

Activity	Daily (300-365 visits)	Most days (180-300 visits)	1 to 3 times a week (40-180 visits)	2 to 3 times per month (15-40 visits)	Once a month (6-15 visits)	Less than once a month (2-5 visits)	First visit	Total
Dog walking	9 (16)	15 (27)	19 (34)	2 (4)	4 (7)	3 (5)	4 (7)	**56 (100)**
Walking	0 (0)	3 (8)	6 (15)	5 (13)	8 (20)	7 (18)	11 (28)	**40 (100)**
Jogging/power walking	0 (0)	2 (22)	5 (56)	0 (0)	1 (11)	0 (0)	1 (11)	**9 (100)**
Cycling	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	**1 (100)**
Fitness/formal sports	0 (0)	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)	0 (0)	**2 (100)**
Horse riding	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**1 (100)**
Enjoying scenery	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Other	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	1 (50)	**2 (100)**
Total	**9 (8)**	**20 (18)**	**33 (29)**	**8 (7)**	**13 (12)**	**11 (10)**	**18 (16)**	**112 (100)**

Table 8: Numbers (row %) of interviewees and visit duration (Q4). Grey shading reflects the highest two values in the row, with darker shading highlighting the largest row value.

Activity	Less than 30 minutes	Between 30 minutes and 1 hour	1-2 hours	2-3 hours	3-4 hours	Total
Dog walking	2 (4)	38 (68)	16 (29)	0 (0)	0 (0)	**56 (100)**
Walking	5 (13)	18 (45)	12 (30)	2 (5)	3 (8)	**40 (100)**
Jogging/power walking	1 (11)	7 (78)	1 (11)	0 (0)	0 (0)	**9 (100)**
Cycling	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	**1 (100)**
Fitness/formal sports	0 (0)	1 (50)	1 (50)	0 (0)	0 (0)	**2 (100)**
Horse riding	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**1 (100)**
Enjoying scenery	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**1 (100)**
Other	0 (0)	0 (0)	2 (100)	0 (0)	0 (0)	**2 (100)**
Total	**10 (9)**	**65 (58)**	**32 (29)**	**2 (2)**	**3 (3)**	**112 (100)**

3.30 Amongst those interviewees who professed an opinion, and were not on their first visit to the site, there was no clear preference for visiting at any particular time of day (Table 9), although early mornings appeared to be avoided (4%). Dog walkers tended to visit throughout the day, although early mornings were again less favoured (2%), whilst the majority of walkers (33%) preferred to visit between late morning and midday.

3.31 Most interviewees (59%) indicated that they visited equally all year round (Table 10). Of those interviewees who identified particular seasons when they tended to visit, the summer months were more popular (10%) across all activities. The small number of dog walkers who did had a seasonal preference were still split evenly across the four seasons, whilst walkers preferred to visit in the summer months (20% each).

Table 9: Numbers (row %) of interviewees and time of day (Q5) that they tend to visit by activity. Grey shading reflects the highest two values in each row, with the darker shading highlighting the largest row value. Interviewees could give multiple responses and the percentages, based upon the row totals, can therefore total >100.

Activity	Early morning (before 7 am)	Late morning (between 7 am and 10 am)	Midday (between 10 am and 2 pm)	Early afternoon (between 2 pm and 4 pm)	Late afternoon (between 4 and 6 pm)	Evening (after 6 pm)	Varies / Don't know	First visit	Total
Dog walking	1 (2)	9 (16)	6 (11)	8 (14)	6 (11)	6 (11)	17 (30)	3 (5)	**56 (100)**
Walking	0 (0)	6 (15)	7 (18)	2 (5)	2 (5)	2 (5)	10 (25)	11 (28)	**40 (100)**
Jogging/power walking	2 (22)	2 (22)	0 (0)	1 (11)	1 (11)	1 (11)	1 (11)	1 (11)	**9 (100)**
Cycling	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	**1 (100)**
Fitness/formal sports	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	**2 (100)**
Horse riding	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	**1 (100)**
Enjoying scenery	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Other	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	1 (50)	**2 (100)**
Total	**4 (4)**	**17 (15)**	**13 (12)**	**11 (10)**	**10 (9)**	**9 (8)**	**31 (28)**	**17 (15)**	**112 (100)**

Table 10: Numbers (row %) of interviewees and time of year (Q6) that they tend to visit, by activity. Grey shading reflects the highest two values in each row, with the darker shading highlighting the largest row value. Interviewees could give multiple responses and the percentages, based upon the row totals, may therefore total >100.

Activity	Spring (Mar-May)	Summer (Jun-Aug)	Autumn (Sept-Nov)	Winter (Dec-Feb)	Equally all year	First visit	Don't know	Total
Dog walking	2 (3)	2 (3)	2 (3)	3 (5)	43 (74)	2 (3)	4 (7)	**58 (100)**
Walking	3 (7)	8 (20)	1 (2)	0 (0)	17 (41)	1 (2)	11 (27)	**41 (100)**
Jogging/power walking	2 (18)	0 (0)	2 (18)	0 (0)	6 (55)	0 (0)	1 (9)	**11 (100)**
Cycling	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	**1 (100)**
Fitness/formal sports	0 (0)	1 (50)	0 (0)	0 (0)	1 (50)	0 (0)	0 (0)	**2 (100)**
Horse riding	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	**1 (100)**
Enjoying scenery	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Other	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	**2 (100)**
Total	**7 (6)**	**12 (10)**	**5 (4)**	**3 (3)**	**69 (59)**	**3 (3)**	**18 (15)**	**117 (100)**

3.32 A cumulative 25% of interviewees had been visiting the site for less than one year, including 14% undertaking their first visit on the day that they were interviewed (Table 11). Nevertheless, 49% of interviewees had been visiting the site for more than 10 years, with this figure including 59% of dog walkers, 28% of walkers, and 89% of joggers.

Mode of transport (Q8)

3.33 Overall, exactly half (50%) of interviewees had travelled on foot, with most of the remainder (47%) arriving by car/van (Table 12). Two interviewees (2%) arrived by bicycle, with none of the interviewees using public transport. The pattern seen in the overall data was mirrored in that for dog walkers and walkers specifically, with approximately half of each arriving by car/van and the other half on foot. Almost all of those that had arrived by car/van had either parked within the museum car park or along the Hastoe Lane road verge.

Table 11: Numbers (row %) of interviewees and history of site visitation (Q7) by activity. Grey shading reflects the highest two values in each row, with the darker shading highlighting the highest row value.

Activity	More than 10 years	Less than or approximately 10 years	Less than or approximately 5 years	Less than or approximately 3 years	Less than or approximately 1 year	Less than or approximately 6 months	First visit	Total
Dog walking	33 (59)	1 (2)	3 (5)	10 (18)	4 (7)	2 (4)	3 (5)	**56 (100)**
Walking	11 (28)	2 (5)	3 (8)	7 (18)	4 (10)	2 (5)	11 (28)	**40 (100)**
Jogging/power walking	8 (89)	0 (0)	1 (11)	0 (0)	0 (0)	0 (0)	0 (0)	**9 (100)**
Cycling	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	0 (0)	**1 (100)**
Fitness/formal sports	1 (50)	0 (0)	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Horse riding	1 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	**1 (100)**
Enjoying scenery	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Other	1 (50)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (50)	**2 (100)**
Total	**55 (49)**	**3 (3)**	**8 (7)**	**18 (16)**	**8 (7)**	**4 (4)**	**16 (14)**	**112 (100)**

Table 12: Number (row %) of interviewees and mode of transport (Q8) by activity. Grey shading reflects the highest two values in each row, with the darker shading highlighting the largest row value.

Activity	Car/van	On foot	Bicycle	Other	Total
Dog walking	31 (55)	25 (45)	0 (0)	0 (0)	**56 (100)**
Walking	20 (50)	19 (48)	1 (3)	0 (0)	**40 (100)**
Jogging	0 (0)	9 (100)	0 (0)	0 (0)	**9 (100)**
Cycling	0 (0)	0 (0)	1 (100)	0 (0)	**1 (100)**
Fitness/formal sports	0 (0)	2 (100)	0 (0)	0 (0)	**2 (100)**
Horse riding	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Enjoying scenery	1 (100)	0 (0)	0 (0)	0 (0)	**1 (100)**
Other	1 (50)	1 (50)	0 (0)	0 (0)	**2 (100)**
Total	**53 (47)**	**56 (50)**	**2 (2)**	**1 (1)**	**112 (100)**

Reasons for site choice (Q11)

3.34 Reasons for site choice are summarised in Figure 2. Interviewees were asked why they chose to visit the specific location where interviewed, rather than another local site, with answers categorised by the surveyor, using pre-determined categories which were not shown to the interviewee.

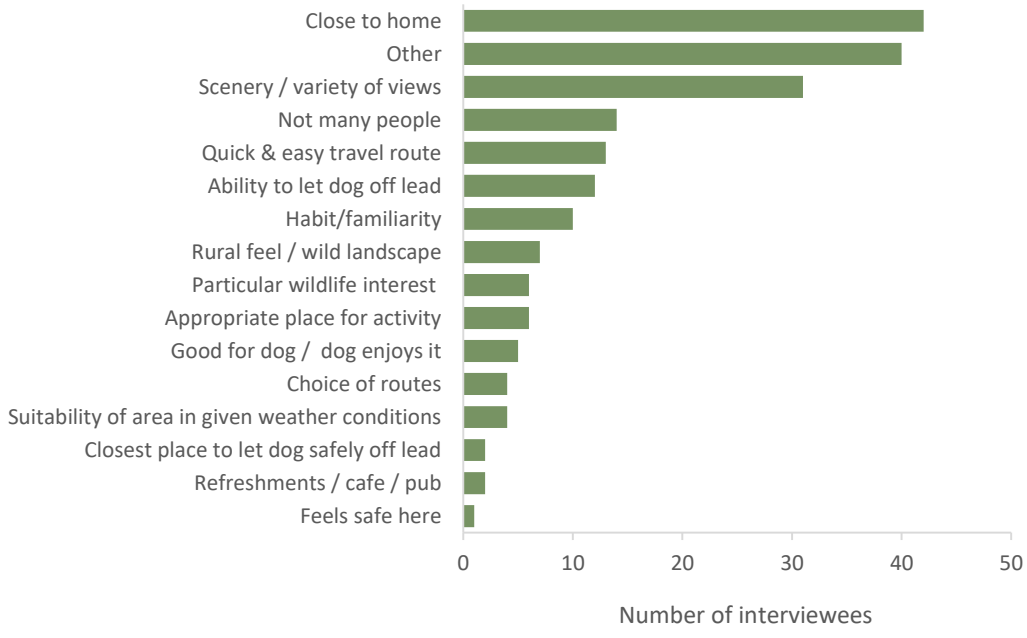


Figure 2 : Reasons for site choice (Q11). Note that interviewees could give multiple responses.

3.35 Overall closeness of the location to home was the most commonly given reason, cited by 38% of interviewees, although 36% of interviewees provided 'other' reasons not identified by the pre-determined options in advance, and 28% cited scenery as an important reason. The relative importance of the absence of other people (13%), easy travel routes (12%), and the ability to let the dog off the lead (10%) are also of note, as is the low number of interviewees who chose to visit the site for its' wildlife interest (5%).

3.36 Amongst the 42 interviewees who gave 'other' reasons for their choice, 7 chose the site because of good paths and easy walking, 2 were visiting the museum, 9 were simply varying the places that they visit, 5 found it 'peaceful', and 4 liked the wide open space.

Use of other sites (Q12-13)

3.37 A cumulative third (32%) of interviewees stated that 75% or more of their visits (for the activity they were undertaking when interviewed) took place at the interview location (Table 13), indicating a high degree of site faithfulness. Nevertheless, a quarter (25%) of interviewees said that fewer than 25% of their weekly visits were to the site. Dog walkers were more likely to carry out more of their weekly visits to the site than walkers, with the proportion varying widely amongst joggers.

Table 13: Number (row %) of interviewees and proportion of weekly visits to the site (Q12) by activity. Grey shading reflects the highest value in each row, with the darker shading highlighting the largest row value.

Activity	All take place here	75% or more	50-74%	25-49%	less than 25%	Not sure/don't know/first visit/no response	Total
Dog walking	4 (8)	21 (38)	7 (13)	6 (11)	13 (24)	5 (9)	**56 (100)**
Walking	1 (3)	2 (5)	7 (18)	3 (8)	12 (30)	15 (38)	**40 (100)**
Jogging	1 (12)	2 (23)	2 (23)	1 (12)	2 (23)	1 (12)	**9 (100)**
Cycling	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	0 (0)	**1 (100)**
Fitness/formal sports	0 (0)	2 (100)	0 (0)	0 (0)	0 (0)	0 (0)	**2 (100)**
Horse riding	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	0 (0)	**1 (100)**
Enjoying scenery	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (100)	**1 (100)**
Other	0 (0)	0 (0)	0 (0)	1 (50)	0 (0)	1 (50)	**2 (100)**
Total	**6 (6)**	**27 (25)**	**16 (15)**	**12 (11)**	**28 (25)**	**23 (21)**	**112 (100)**

3.38 A variety of other sites were regularly visited by interviewees (Figure 3), with Ashridge being the most common response across the two interview locations (Table 14). It is nevertheless important to note that several of the localities identified (e.g. "Reservoirs") potentially refer to multiple, disparate, sites, or are potentially synonyms for the same locations (e.g. "Wendover" and "Wendover Woods").

Figure 3: Word cloud detailing other sites given by interviewees (Q13). Graphic created using the Wordclouds app.

Table 14: Other sites named by three or more interviewees (number of respondents in parentheses).

Site name		
Ashridge (24)	"Canal" (4)	Ivinghoe Beacon (3)
"Reservoirs" (7)	Wendover (4)	Northchurch Common (3)
Wendover Woods (6)	Hastoe (3)	Wigginton (3)

Membership of the Woodland Trust (Q14)

3.39 Of 110 interviewees who responded to the question, 76% were not members of the Woodland Trust, 19% were, and 7% were unsure or didn't know their membership status. Nevertheless, dog walkers were more likely to be

members than walkers, with 25% and 15% members, and 69% and 80% not, respectively.

Visitor origins (Q17)

3.40 A total of 105 interviewee postcodes could be accurately mapped, with the full postcode given in the interview matching the standard national postcode database. A total of 7 (6%) of interviews were therefore not assigned to a home postcode.

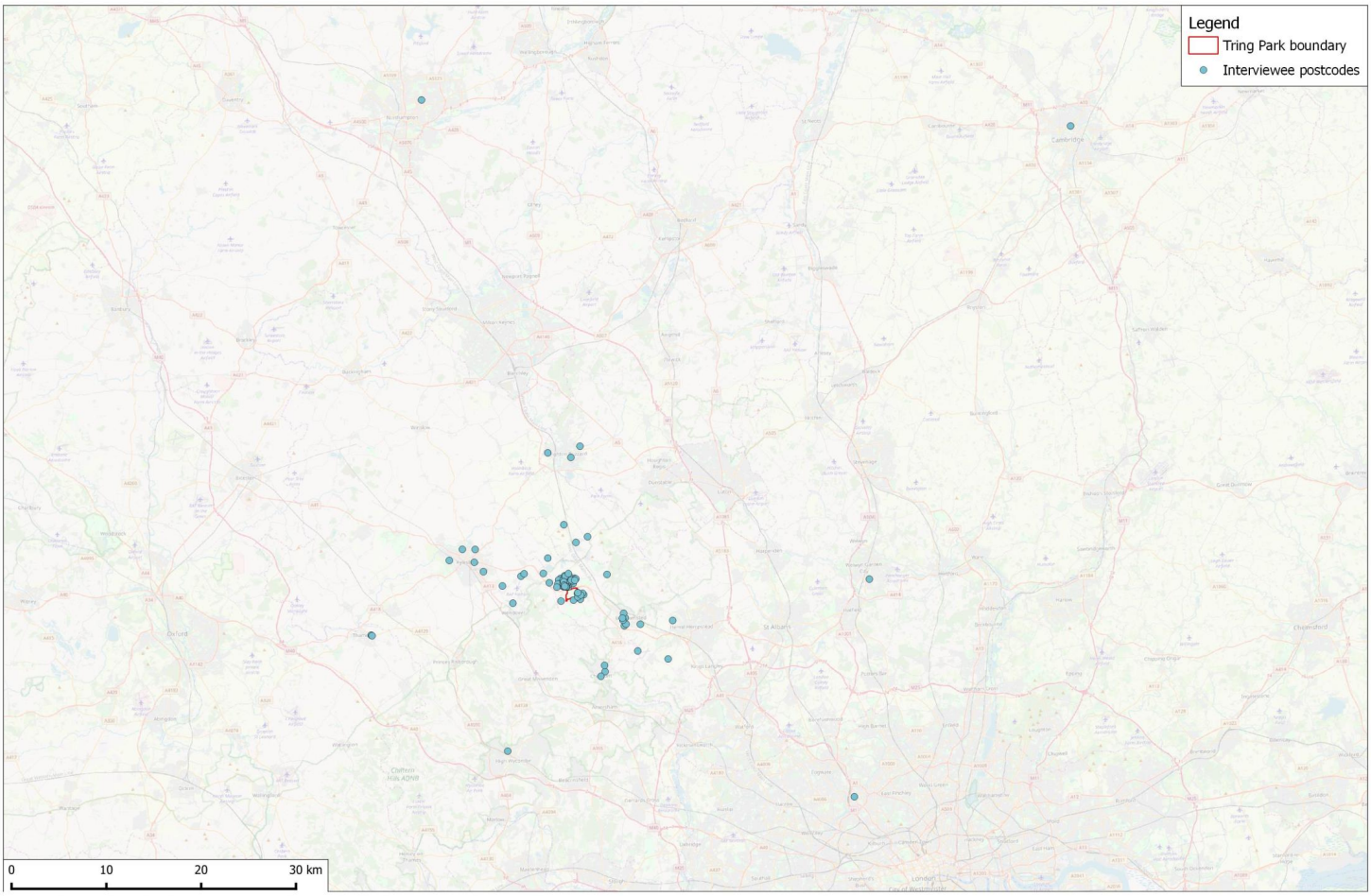
3.41 Postcode data are presented in Maps 4-9, with Map 4 showing all interviewee postcodes. Maps 5-9 show a smaller geographic area than Map 4 (and as such exclude 18 to 20 interviewee postcodes (depending on the map in question) which lie outside the area shown). In Map 5 the 75th percentile minimum convex polygons (MCP) of straight-line home postcode interviewee distance for each of the two interview survey locations have been individually coloured, alongside the combined MCP for all interviewees.

3.42 The MCPs show the area in which the closest three-quarters of interviewees originated and provide a good way to summarise where most visitors to each survey point come from. In Map 6 the colours show the main activity undertaken by interviewees from each of the depicted home postcodes. The intensity of colour in Map 7 refers to the frequency of visit, whilst the colours in Map 8 indicate the mode of transport used by the interviewee. Finally, in Map 9 the shading reflects the percentage of weekly visits made across both interview survey locations (for the given activity).

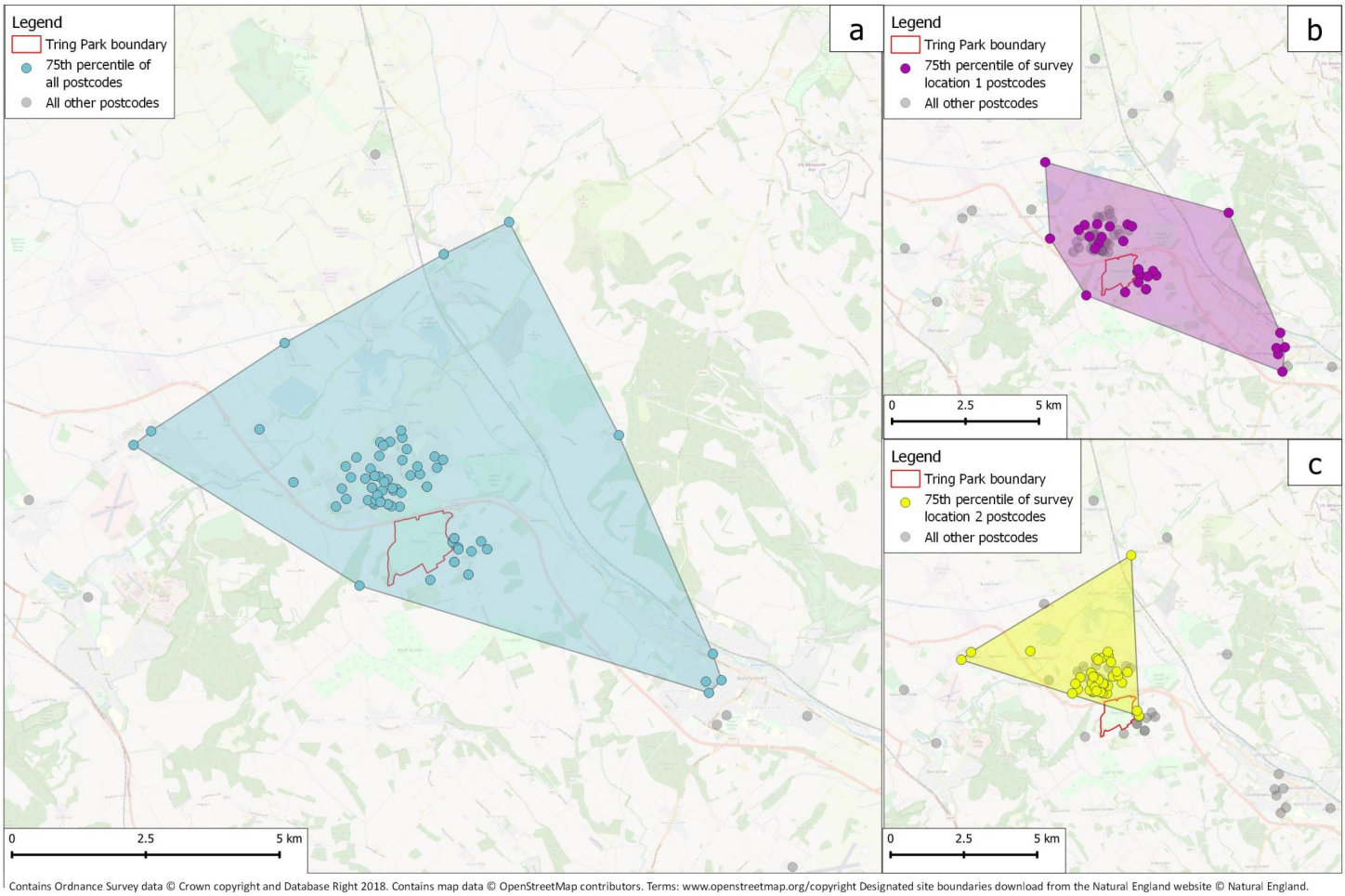
3.43 It can be seen that the distribution of postcodes largely reflects interviewees living in the immediate vicinity of Tring, and neighbouring areas of south-west Hertfordshire and central Buckinghamshire (see Map 4). Postcodes are concentrated around three key areas: Tring itself; an area running west towards Aylesbury, and the Bourne End/Bovingdon area to the south-east of Tring Park.

3.44 The 75th percentile envelope of straight-line travel distance for the overall site indicates that the majority of interviewees were of local origin (see Map 5a). Interviewees at survey location 1 (the Ridgeway/Woodland Walk junction) nevertheless appeared to originate from a wider surrounding area (Map 5b) than those at survey location 2 (the Tring Museum footbridge; Map 5c). Interviewees at the latter location largely originated from Tring and its' immediate surroundings.

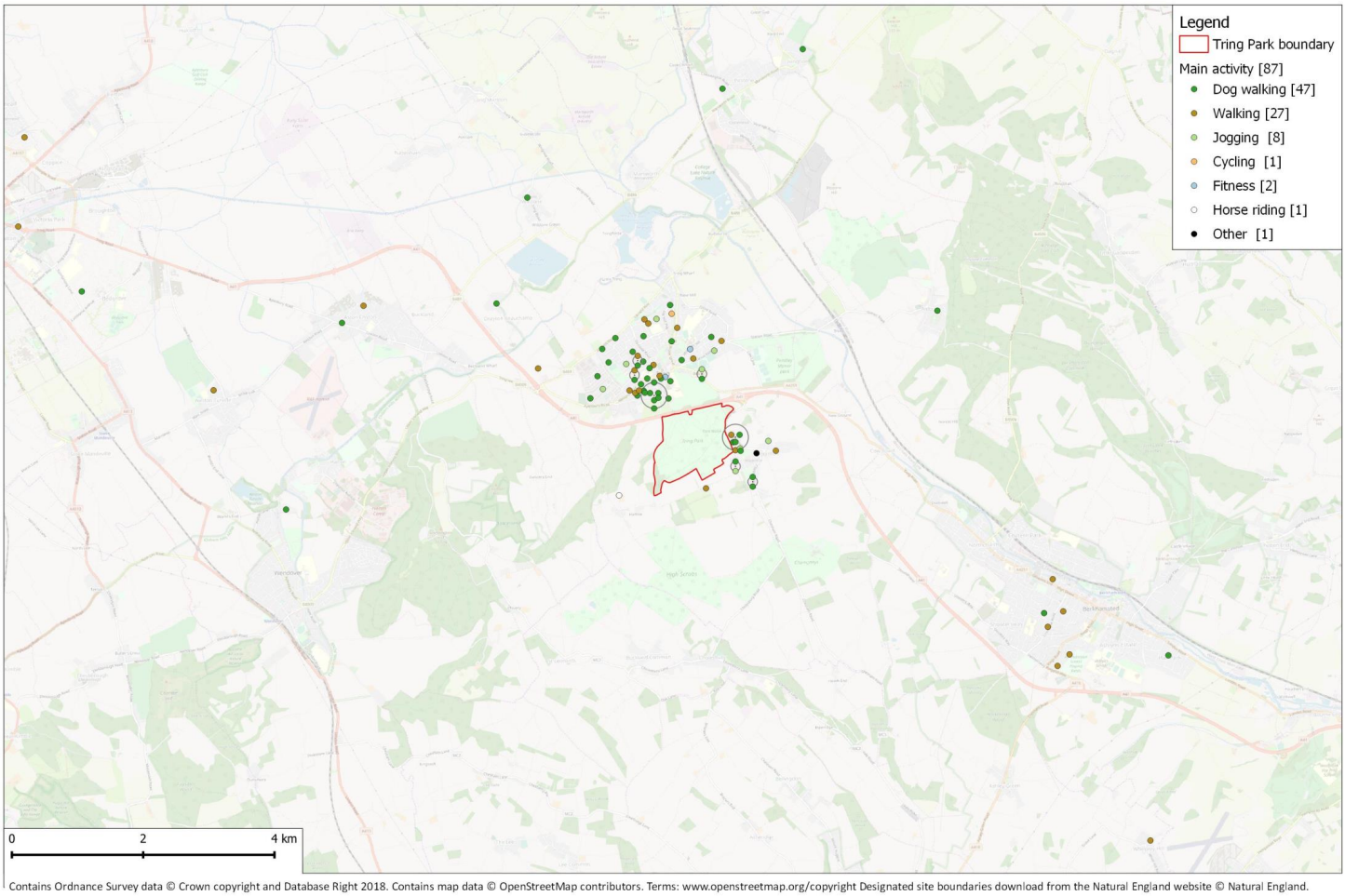
Map 4: Home postcodes of all interviewees



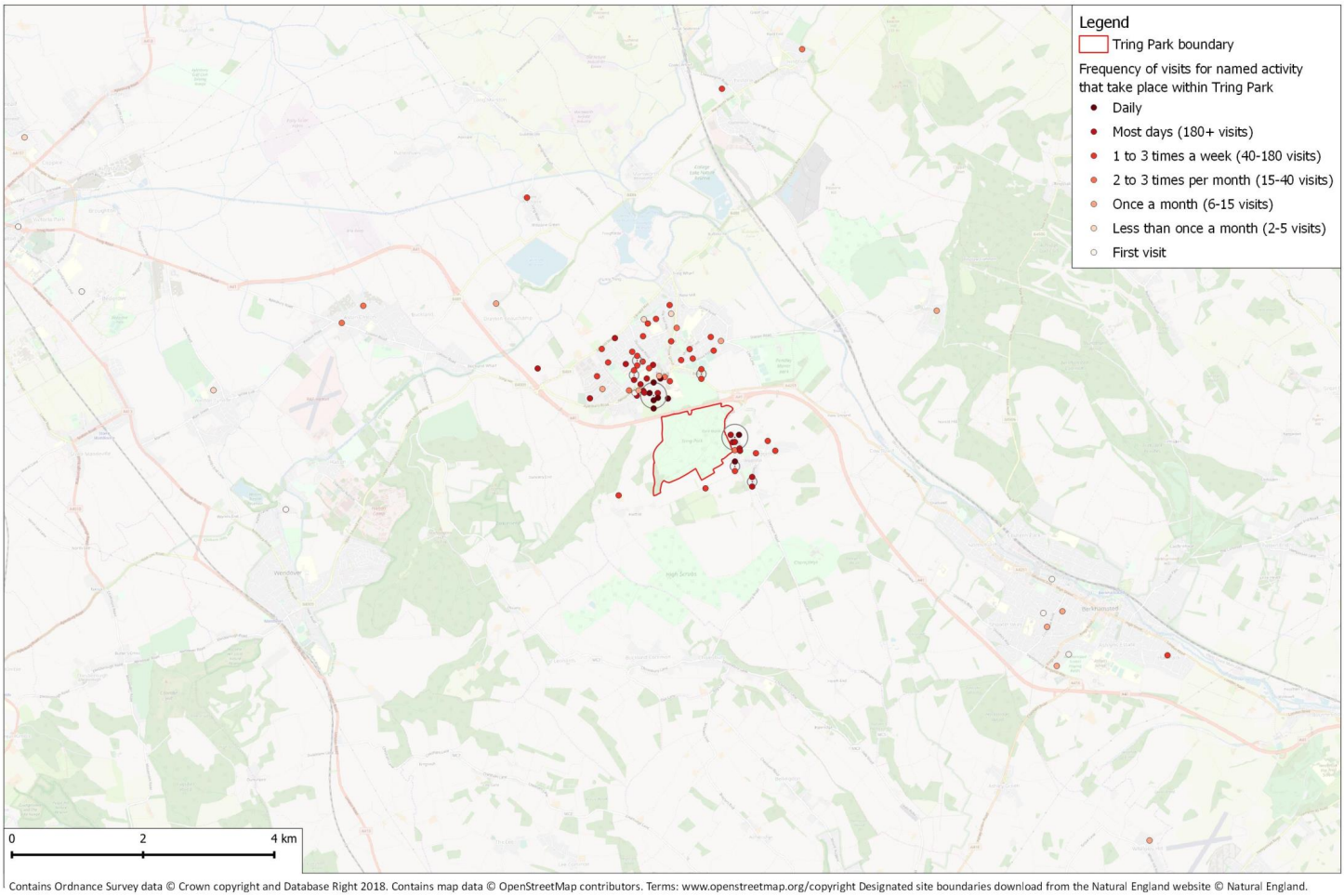
Map 5: 75th percentile Minimum Convex Polygons of straight-line travel distances from (a) all interviewee postcodes combined, (b) interviewee postcodes at survey location 1 only, and (c) interviewee postcodes at survey location 2 only (note that 20 postcodes fall outside the map extent)



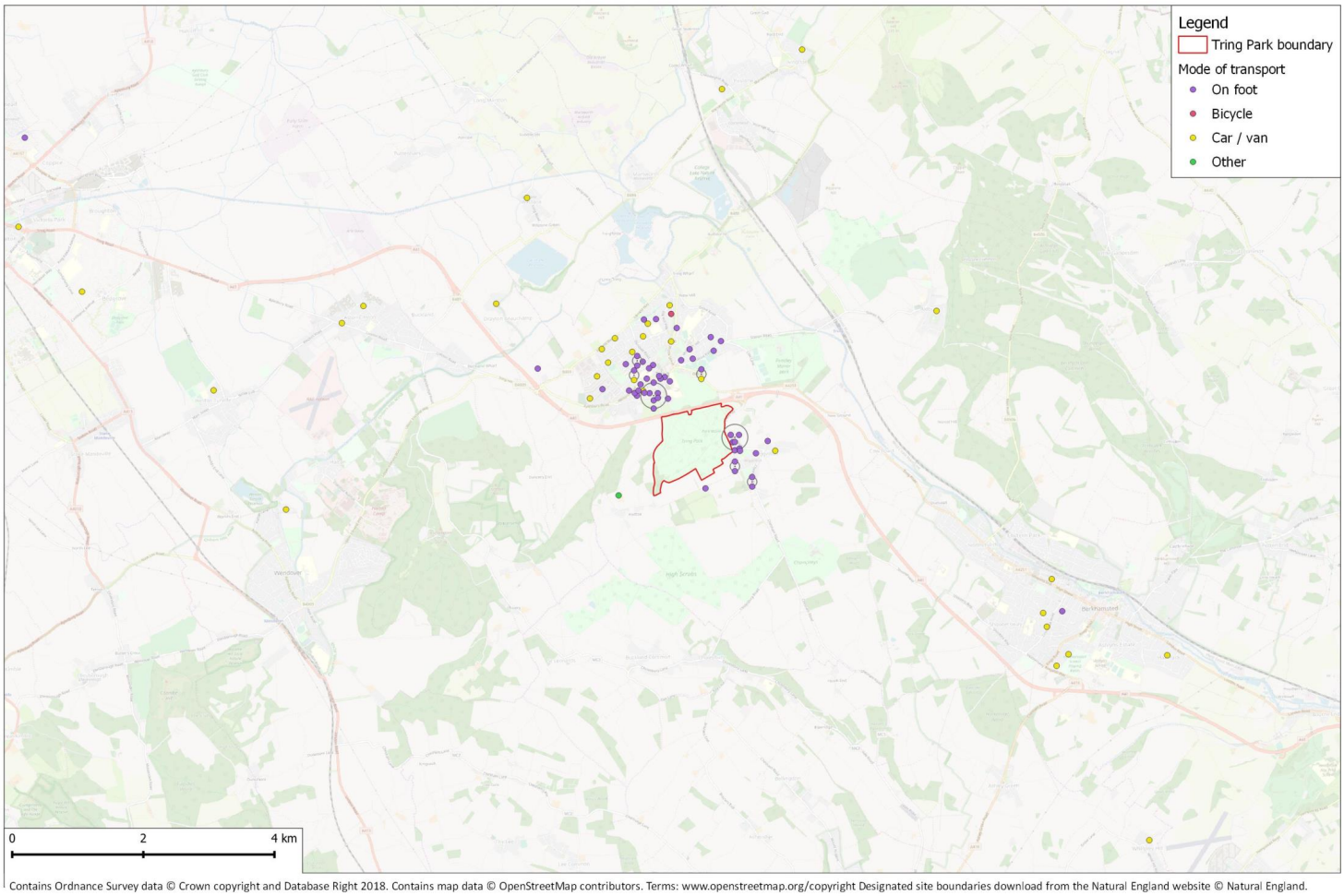
Map 6: Home postcodes by activity, with overlapping postcodes displaced around central point (note that 18 postcodes fall outside the map extent)



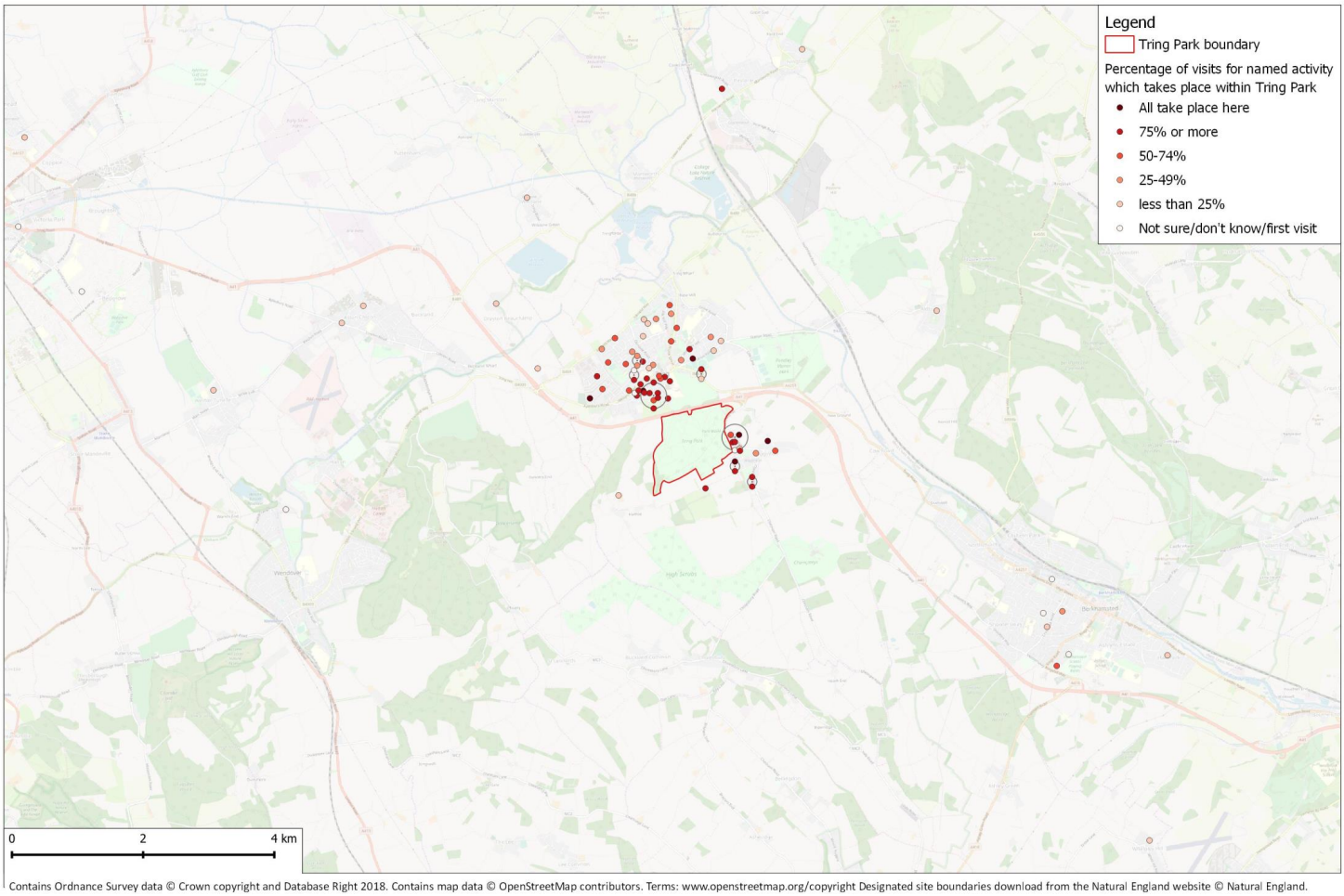
Map 7: Home postcodes by frequency of visit, with overlapping postcodes displaced around central point (note that 18 postcodes fall outside the map extent)



Map 8: Home postcodes and mode of transport to Tring Park, with overlapping postcodes displaced around central point (note that 18 postcodes fall outside the map extent)



Map 9: Home postcodes and percentage of visits, with overlapping postcodes displaced around central point (note that 18 postcodes fall outside the map extent)



3.45 Activities were dominated by dog walking and walking, with the majority of postcodes, both within proximity to the interview locations and those from further afield, falling into these categories (see Map 6). It was apparent that the small number of joggers interviewed all originated from the immediate vicinity of Tring Park, whilst it was not possible to infer anything about the origins of the other activities recorded due to their small sample sizes.

3.46 As is perhaps expected, the majority of frequent repeat visitors to the interview survey locations, and those that use the interview location as the main site for the relevant activity, originate from postcodes in relative proximity to the site (see Maps 7 and 9). The majority of people accessing the site from postcodes within the local area are also doing so on foot (see Map 8), accounting for a significant proportion of interviewees overall, although some local people, and those interviewees visiting from further afield, mainly did so via car/van.

3.47 The straight-line distance ('as the crow-flies') from each interviewee's home postcode to the relevant interview location, in addition to the pooled distances for all interviewees across both interview locations, was calculated, and the data are summarised in Table 15. It can be seen that across all the data (105 interviewees) the mean distance was 5.6km and the median was 1.4km, i.e. 50% of all interviewees had come from a radius of <1.4km around the survey points. The mean is much higher than the median as there are a few large values (up to 72.0km) that skew the data. The third quartile (75th percentile) was 6.3km; 75% of all interviewees lived within this distance of the survey points.

Table 15: Summary statistics for the straight-line distances between the home postcode of each interviewee and their respective interview location. Shading separates different kinds of grouping. N is the sample size (number of valid postcodes) and Q3 is the 75th percentile.

Location	N	Distance (km)				
		Mean (+ 1SE)	Min	Median	Q3	Maximum
All interviewees with valid postcode	105	5.57 (+1.01)	0.25	1.43	6.33	72.04
Survey location 1	45	4.49 (+0.72)	0.49	2.01	6.39	21.73
Survey location 2	60	6.38 (+1.68)	0.25	1.15	5.74	72.04

3.48 These statistics varied between the interviewees at the two survey locations (see Table 15), with visitors to survey location 1 travelling a mean distance of

4.5km (median distance of 2.0km) and visitors to survey location 2 travelling a mean distance of 6.4km (median distance of 1.2km). Nevertheless, the majority of interviewees at both survey locations (approximately 75%) had travelled from postcodes within 6.4km of the site, respectively, as evidenced by the 75th percentile values.

3.49 Dog walkers were more likely to have travelled from postcodes within 5.1km of the site, whilst walkers were visiting from further afield (see Table 16). This disparity is reflected in both the mean and 75th percentile values, although it should be noted that fewer walkers were interviewed at each locality. Joggers tended to be much more local than either walkers or dog walkers.

Table 16: Summary statistics for the straight-line distances between the home postcodes of interviewees, stratified by activity. N is the sample size (number of valid postcodes) and Q3 is the 75th percentile.

Activity	N	Distance (km)				
		Mean (+ 1SE)	Min	Median	Q3	Maximum
Dog walking	54	4.39 (+1.38)	0.25	1.24	5.08	72.04
Walking	35	6.84 (+1.45)	0.53	5.01	9.48	37.21
Jogging	9	3.42 (+2.29)	0.53	1.15	1.64	21.73
Cycling	1	1.53 (+0.00)	1.53	1.53	1.53	1.53
Fitness/formal sports	2	0.81 (+0.23)	0.58	0.81	na	1.03
Horse riding	1	1.43 (+0.00)	1.43	1.43	1.43	1.43
Enjoying scenery	1	53.93 (+0.00)	53.93	53.93	53.93	53.93
Other	2	9.53 (+8.72)	0.81	9.53	na	18.24

3.50 Interviewees who visited at least once a week were more likely to originate from closer postcodes than those who visited less frequently (see Table 17), with 75th percentiles of 1.4km and 12.0km, respectively. Interviewees undertaking their first visit to the site travelled the largest distances of any category (mean of 13.5km and 75th percentile of 17.6km).

3.51 Those interviewees who travelled to the interview location on foot were more likely to have travelled from a closer postcode than those who have travelled by car, with 75th percentiles of 1.2km and 11.3km, respectively (see Table 18).

Table 17: Summary statistics for the straight-line distances between the home postcode of interviewees at their respective interview locations and the regularity of their visits to the locality. N is the sample size (number of interviewees) and Q3 is the 75th percentile.

Visit regularity	N	Distance (km)				
		Mean (+ 1SE)	Min	Median	Q3	Maximum
Visiting at least once a week	60	1.36 (+0.20)	0.25	0.92	1.44	8.12
First visit	16	13.50 (+3.08)	0.67	9.63	17.61	53.93
Less than once / week	29	9.90 (+2.74)	0.58	5.88	12.04	72.04

Table 18: Summary statistics for the straight-line distances between the home postcode of interviewees at their respective interview locations and their mode of transport to the locality. N is the sample size (number of interviewees) and Q3 is the 75th percentile.

Mode of transport	N	Distance (km)				
		Mean (+ 1SE)	Min	Median	Q3	Maximum
Car / van	48	10.08 (+1.95)	0.58	6.10	11.32	72.04
On foot	54	1.57 (+0.44)	0.25	0.83	1.19	21.73
Bicycle	2	7.55 (+6.02)	1.53	7.55	na	13.57
Other	1	1.43 (+0.00)	1.43	1.43	na	1.43

Visitor routes during their visit (Q9-10)

3.52 For 57% of interviewees the route they took was reflective of their normal route (Q9); a further 13% did not have a typical visit and 5% were on their first visit. Of those whose route was not reflective of a typical route, 24 interviewees (21%) indicated it was much shorter than normal and 3 interviewees (3%) indicated their route was much longer than normal.

3.53 A range of factors influenced the interviewees' choice of routes (Figure 4). Previous experience of the area was the most commonly given response within the predetermined categories (19 interviewees, 17%), although the non-predetermined 'other' category accounted for by far the most responses (47 interviewees, 42%). The presence of a viewpoint/feature, the activity being undertaken, and time available were also relatively common reasons (13 (12%), 10 (9%), and 9 (8%) interviewees, respectively).

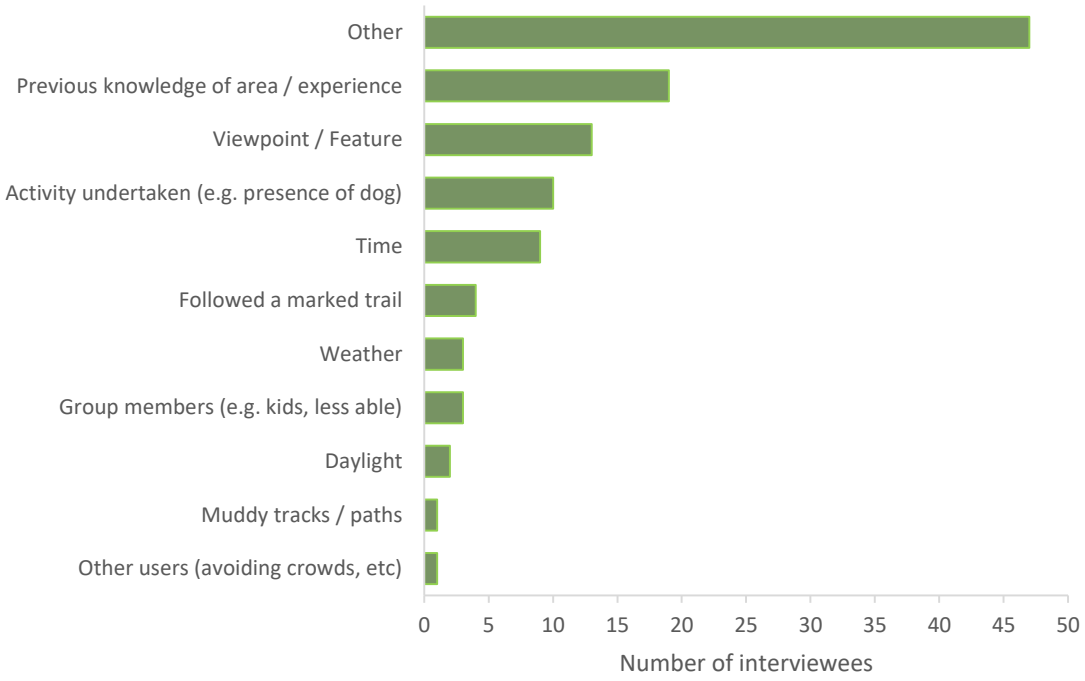


Figure 4: Factors influencing choice of route (Q10). Note that interviewees could give multiple responses.

3.54 'Other' reasons provided by the 47 interviewees varied with respondent, although 14 (13%) indicated that they were avoiding the cows, 12 (11%) had randomly chosen or varied their route on whim, 4 (4%) had injuries, 3 (3%) had considerations for their safety, and 1 (1%) had done so due to the presence of accessible parking.

3.55 A total of 110 visitor routes were mapped. Table 19 provides summary route length data for both of the interview locations and indicates that mean route length did not vary significantly between either (2.7km at survey location 1 and 2.4km at survey location 2). These similarities were repeated across the other summary statistics detailed in the table.

Table 19: Summary statistics of interviewee route length for each of the interview locations. N is the sample size (number of interviewees) and Q3 is the 75th percentile.

Location	N	Length (km)				
		Mean (+ 1SE)	Min	Median	Q3	Maximum
Survey location 1	45	2.69 (+0.16)	1.03	2.70	3.37	5.78
Survey location 2	65	2.40 (+0.11)	0.66	2.31	3.13	4.59
Combined	**110**	**2.52 (+0.09)**	**0.66**	**2.50**	**3.22**	**5.78**

3.56 The mapped routes are shown in Maps 10a to 10c, within which route density is indicated through the use of a heat map (with colour intensity congruous with route density). We have summarised them as a way of highlighting areas with the most use and broadly indicating where the most footfall (of the interviewees) occurs.

3.57 Map 10a depicts route densities for all mapped interviewees, as well as identifying the access point/s used by each interviewee whose route was mapped. Map 10b depicts route densities for frequent visitors only (28 interviewees), and Map 10c depicts route densities for infrequent visitors (81 interviewees).

3.58 Footfall within all user categories is concentrated along three main areas; the avenue running south-west from the Tring Museum bridge, the main path heading south-east across the site from the Tring Museum bridge, and along the Ridgeway/Woodland Walk running east/west through the wooded southern section of the site. The footpath at the base of the steep scarp bordering the woodland block, and that running alongside the site's northern perimeter, are also relatively heavily used.

3.59 At least one interviewee stated they had got lost and wandered off path within the southern edge of the site and one interviewee marked a loop where they wandered away from the path to have a picnic. Nevertheless, it would appear that interviewees generally keep to mapped routes within the site, rather than wandering 'off-piste'.

3.60 The Tring Museum bridge entrance is a honeypot location, with the largest number of interviewees recorded using it as an access point (67). The entrances on the site's eastern boundary (to the north of Wigginton) and south-western extent were also frequently used (23 and 19 interviewees, respectively).

Comments/views on recreation management (Q15 & 16)

3.61 The last part of the questionnaire included free text boxes for the surveyors to log any changes interviewees would like to see regarding how the site is managed for recreation and people (Q15). The subsequent question asked for any further comments or feedback about the interviewee's visit (Q16). All comments are listed in Appendices 5 and 6.

3.62 We also summarise the combined comments to both questions in Figure 5. The majority of responses were positive about the site and its' management,

although common themes in many responses included a request for more dog waste bins, a greater number of benches, and mixed feelings towards the presence of free-roaming cattle (although largely negative).

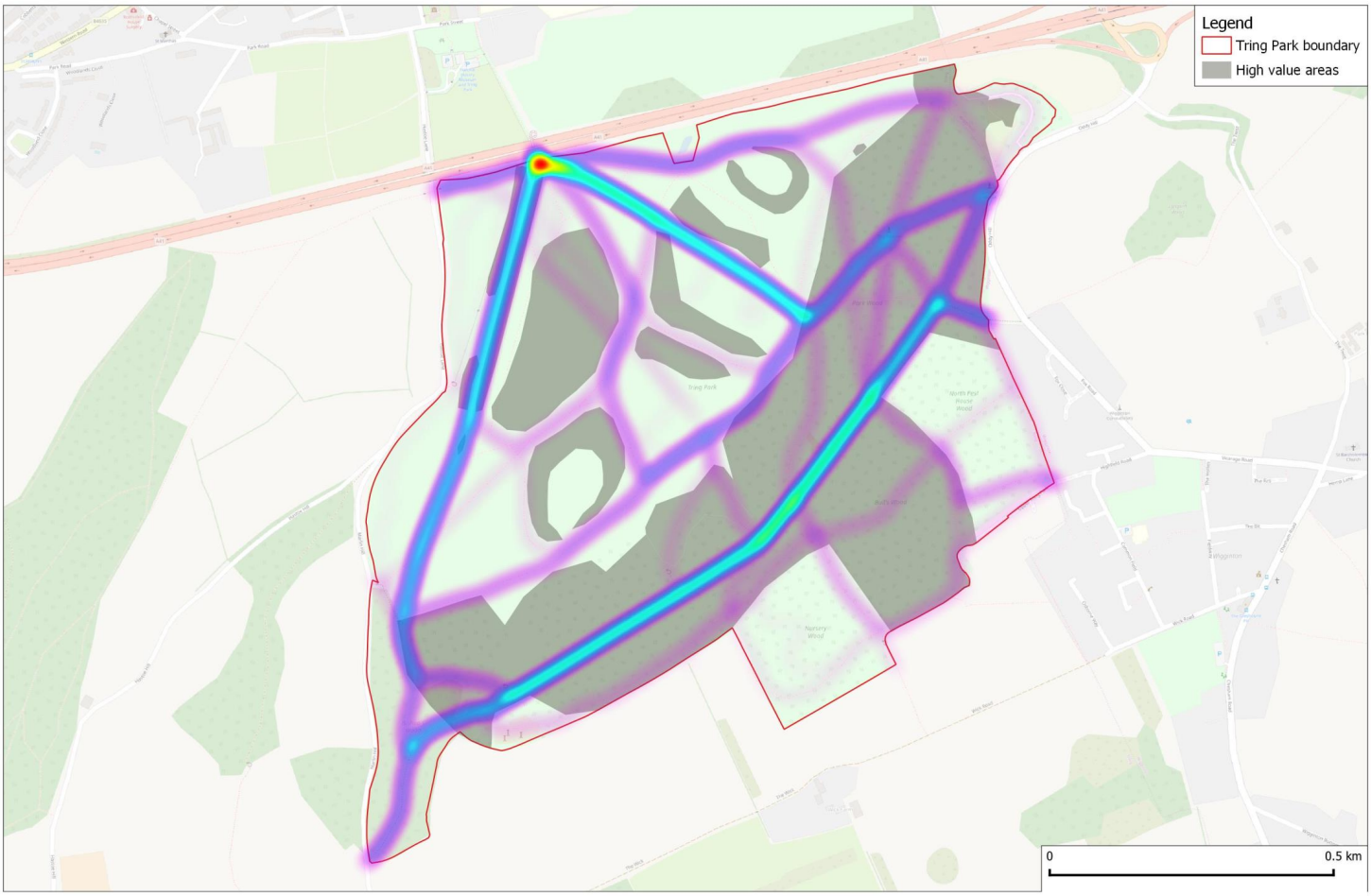
Map 10: Route densities from interviewee data for (a) all interviewees combined, (b) frequent visitors only, and (c) infrequent visitors only

Figure 5: Word cloud giving free text responses to Q15. Graphic created using the [Wordclouds](#) app

Visitor routes and important ecological features

3.63 Map 11 overlays the route densities of all interviewees (previously displayed in Map 10) upon the important ecological features identified during the walkover survey (and previously detailed in Map 3). It can be seen that, outside of the main woodland block, concentrated interviewee footfall largely avoids the majority of important features (e.g. the floristically diverse scarp swards). It would also appear that interviewees predominantly stuck to the identified path network, rather than wandering randomly across the site.

Map 11: Route density of all interviewees overlaid upon previously identified high value areas within Tring Park



4. Discussion

4.1 The results of both the Ecological Walkover and visitor interview surveys carried out at Tring Park, and detailed in this report, provide a 'snapshot' of current visitor behaviour and its' ecological impacts upon the site. The effect of any changes to local infrastructure or housing, which could alter visitor numbers and patterns within Tring Park, are therefore outside the scope of this report.

Observed levels of recreational impact

4.2 Observations made during the walkover survey indicate that the majority of recreational impacts are currently localised within Tring Park, with trampling and erosion on the site's path network the most frequently recorded effect. Similarly, areas of erosion around access/egress points, within den-building areas, and on the scarp and parkland slopes appear limited in extent.

4.3 The issue of dog fouling, and disturbance of breeding birds and other wildlife, cannot be accurately assessed however using the data available. Direct evidence of dog fouling was observed during the walkover survey and it is possible that this practise is relatively widespread across the site. Similarly, few observations were made of people walking off from the established path network, although this may not be the case during busy weekends or at other points in the year.

Use of the site by visitors

4.4 Dog walkers and walkers comprised the key interviewee demographic, and nearly two thirds of interviewees spend less than one hour on the site during a typical visit. The visitor survey data also indicated that there is a high level of site fidelity and visit frequency amongst interviewees. More than half of people interviewed had been visiting the site for at least a decade and/or visited at least once a week, with a third of interviewees using Tring Park for at least 75% of the visits for their main activity during the course of the week.

4.5 The majority of interviewees were from the local area (within approximately 5-6km of Tring Park), with most originating from locations within 2km of the site. Proximity of Tring Park to interviewees home addresses was one of the key drivers of site choice, and the prevalence of local use was further identified via the high numbers of interviewees accessing the site on foot.

Nevertheless, a significant proportion of interviewees comprised first-time visitors to the site, and the majority of interviewees across all user types were not members of the Woodland Trust.

4.6 The presence of a scenic landscape, with wide open spaces and an extensive path network, is clearly appreciated by a large number of interviewees, and the majority of those with an opinion expressed their appreciation for the way the site is managed. Nevertheless, a significant proportion of interviewees have strong (and largely negative) opinions on the behaviour of free-ranging cattle within the park, and requests for the installation of additional dog waste bins and benches have also been identified.

Recommendations

4.7 The results of the visitor survey suggest that the important ecological features identified during the Ecological Walkover of the site currently remain largely unaffected by visitor footfall. Nevertheless, the erosion observed along footpaths in the northern and western areas of the site can now be directly linked to a higher incidence of visitor footfall in these localities identified in the route density maps. Similarly, the path-side erosion noted on the Ridgeway/Woodland Walk main east/west track can be interpreted in the light of that particular routes greater use by visitors.

4.8 Nevertheless, it is important to highlight the fact that many interviewees struggled with interpretation, recollection, and/or prediction of their likely route on-site and therefore the visitor route maps will have some degree of error. The approach will lack some of the subtle differences between visitors walking on paths or slightly off paths (e.g. avoiding bare ground in wet conditions), cutting corners, or creating new desire lines. If detailed assessment of such impacts is required in the future, additional methods (such as direct observation or the deployment of remote cameras) would be required to more accurately record fine-scale patterns of footfall.

Habitat management

4.9 It was apparent during the Ecological Walkover that the main issue affecting some of the key ecological features on site were due to a lack of effective habitat management, rather than recreational activities, and this conclusion has been strengthened by the visitor survey results. The following recommendations therefore refer to management activities which could be

carried out on site to improve the quality and/or extent of the features identified.

4.10 Although there is some good quality scrub present which enhances the conservation interest of the site, it appears that the current grazing regime is barely containing the scrub in key locations. These include the steep southern scarp grasslands (Map 3: Target Notes 1 and 3) and Oddy Hill (Map 3: Target Note 2). The current regime of autumn sheep grazing followed by brush-cutting appears insufficient to control scrub regrowth. The ongoing scrubbing up of these areas has the potential to completely override their value for calcicolous flora and invertebrates, and therefore negatively impact the value of the qualifying features of the Site of Special Scientific Interest incorporated within the site boundary.

4.11 We would suggest that a novel grazing and brush-cutting regime is designed, which takes into account the sensitivities of the autumn flowering Chiltern Gentian, and late spring/early summer flowering orchid species found on site. The gentian in particular has extremely specific ecological requirements, including the availability of areas of bare ground upon which to germinate and a low sward lacking in competitor species[3]. Extending the autumn grazing period within Oddy Hill, and/or increasing the stocking density, could therefore assist in maintaining the required sward structure, in addition to exposing areas of bare ground.

4.12 In existing areas where mature scrub has been previously cleared on site, all that remains are enriched mesotrophic swards of limited interest. It is therefore recommended that scrub management is promoted at the most appropriate age class (i.e. younger scrub), followed by targeted effort in controlling any regrowth at the locality.

4.13 The main scarp (Map 3: Target Note 1) is under-grazed, although it may be possible to enclose sheep within this area on a seasonal basis. Alternatively, it may be possible to encourage grazing of the slope by the cattle already present within the park, following the removal of areas of scrub at the base of the scarp (which may be currently dissuading their access). This would follow on from autumn brush-cutting already carried out on the slope, and allow any regrowth to be targeted by grazers.

[3] Species Action Plan for Chiltern Gentian: *Gentianella germanica* in Buckinghamshire

4.14 Any consideration of changes to the grazing regime will however need to take into account the (largely) negative feelings felt by interviewed visitors towards the behaviour of free-roaming cattle currently present within the park. This may therefore necessitate the installation of additional fencing upon the scarp slope, which could potentially comprise temporary structures and/or electric fencing.

4.15 The prevalence of rank, semi-improved, grassland across the scarp tops and in the western extent of the site could be countermanded via the introduction of hay cutting. This would strip nutrients from the mesotrophic swards over time, allowing development of higher-quality, nutrient-poor, grassland types, and also provide winter fodder for any grazing stock on site.

Future monitoring

4.16 Trampling and erosion along paths was identified as the key current recreation impact upon the site's biodiversity (based upon information form the 'snapshot' Ecological Walkover and Visitor Survey), and as such it is recommended that these impacts are monitored in the future. A biennial assessment of path characteristics at predetermined locations within the site boundary could be undertaken, with the data collected used as a proxy for changes in the level of recreation pressure. Similar monitoring programmes have been used at other sites (e.g. Hatfield Forest) to produce a time series of changing footpath characteristics.

4.17 The exact methodology and metrics used, and the survey timings and locations selected, will be dependent upon the specific objectives of any such monitoring programme, in addition to the abilities of any surveyors (e.g. specialist site staff versus volunteers). Metrics which could be used within predetermined survey sections as part of such a programme however include:

- Path width;
- Amount of bare ground;
- Vegetation height, and;
- Plant species count within 1m of the path centre.

Monitoring of these path characteristics would allow changes in trampling pressure and erosion to be identified over the long term, and access management to be revised as necessary.

4.18 A significant proportion of interviewees expressed concerns, or negative comments, about the presence of free-roaming cattle within the park, and it

is therefore recommended that a repository is maintained of any reported interactions between the livestock and recreational users. This could be used to record both any incidences of cattle worrying by dogs, and any unwanted interactions between the cattle and site visitors, and could therefore prove useful during any future assessment of the role of grazing livestock within the park boundary.

Visitor communication

4.19 The visitor survey data makes clear that the majority of visitors to the park are from the local area (with more than half of interviewees accessing the site on foot), and that there is a high level of site fidelity, visitation frequency, and affection. Nevertheless, the majority of visitors are not members of the Woodland Trust.

4.20 One of the key issues affecting any future changes to site management or access will therefore be how to effectively communicate these changes to site users. The production of a suitable communication strategy lies outside the scope of this report, but it is likely to require the use of communicators 'in the field' in order to connect with visitors within the park. The visitor survey suggests individuals are passionate about Tring Park, but also that these come from a relatively small catchment making this group easier to engage with.

Further considerations

4.21 This report exclusively refers to the ecological features within, and visitors to, the existing Tring Park site, and as such it is important to note that the majority of current visitors to the park do so on foot and are of local origin. This is perhaps due to the limited parking options at the site, which has been suggested as currently limiting the numbers of people visiting (M. Hicks, *pers. comm*.).

4.22 Any increase in parking provision, for example, could therefore potentially increase visitor footfall, potentially drawing different types of visitor from a wider area. This could potentially exacerbate/initiate impacts upon the site's ecology, although any such predictions are outside the scope of this report. Furthermore, potential spill-over effects of any increase in visitor numbers to other nearby designated sites for nature conservation (e.g. Tring Woods SSSI) will also need to be a key consideration under such a scenario.

References

Liley, D., Lake, S., Panter, C., and Saunders, P. (2019). *In prep. Potential impacts of recreation on Woodland Trust reserves: a general review*. Unpublished report for the Woodland Trust by Footprint Ecology.

Saunders, P., Lake, S. & Liley, D. (2019). *Potential Impacts of Recreation on the Woodland Trust's Tring Park Site*. Unpublished report by Footprint Ecology

Appendix 1: Questionnaire

Good morning/afternoon. I am conducting a visitor survey on behalf of the Woodland Trust, who are interested in gathering visitor's views about Tring Park and how they use it. Can you spare me a few minutes please?

Q1 ...

- ◯ **Are you on a day trip/short visit and have travelled directly from your home today**... *if no*
- ◯ **Are you on a short trip/short visit & staying away from home with friends or family** ... *if no*
- ◯ **Are you staying away from home, e.g. second home, mobile home or on holiday**
- ◯ If none of the above, **How would you describe your visit today?**

Further details

Q2 **What is the main activity you are undertaking today?** *Tick closest answer. Do not prompt. Single response only.*

- ◯ Dog walking
- ◯ Walking
- ◯ Jogging/ power walking / running
- ◯ Outing with family
- ◯ Cycling/Mountain Biking
- ◯ Bird/Wildlife watching
- ◯ Enjoying scenery / fresh air
- ◯ Photography
- ◯ Meeting up with friends
- ◯ Picnic
- ◯ Horse riding
- ◯ Visiting cafe/visitor centre
- ◯ Fitness/formal sports
- ◯ Other, please detail:

Further details

Q3 **Over the past year, roughly how often have you visited Tring Park?** *Tick closest answer, single response only. Only prompt if interviewee struggles.*

- ◯ Daily
- ◯ Most days (180+ visits)
- ◯ 1 to 3 times a week (40-180 visits)
- ◯ 2 to 3 times per month (15-40 visits)
- ◯ Once a month (6-15 visits)
- ◯ Less than once a month (2-5 visits)
- ◯ Don't know
- ◯ First visit
- ◯ Other, please detail

Further details:

Q4 **How long have you spent / will you spend in Tring Park today?** *Single response only.*

- ◯ Less than 30 minutes
- ◯ Between 30 minutes and 1 hour
- ◯ 1-2 hours
- ◯ 2-3 hours
- ◯ 3-4 hours
- ◯ 4 hours +

Further details

Q5 **Do you tend to visit Tring Park at a certain time of day?** *Tick closest answers. Multiple answers ok.*

- ☐ Early morning (before 7 am)
- ☐ Late morning (between 7 am and 10 am)
- ☐ Midday (between 10 am and 2 pm)
- ☐ Early afternoon (between 2 pm and 4 pm)
- ☐ Late afternoon (between 4 and 6 pm)
- ☐ Evening (after 6 pm)
- ☐ Varies / Don't know
- ☐ First visit

Q6 **Do you tend to visit Tring Park more at a particular time of year for [***insert given activity***]?** *Multiple answers ok.*

- [ ] Spring (Mar-May)
- [ ] Summer (Jun-Aug)
- [ ] Autumn (Sept-Nov)
- [ ] Winter (Dec-Feb)
- [ ] Equally all year
- [ ] Don't know
- [ ] First visit

Q7 **How long have you been visiting Tring Park?** *Single response only. Do not prompt.*

- ◯ Don't know
- ◯ First visit
- ◯ less than or approximately 6 months
- ◯ less than or approximately 1 year
- ◯ less than or approximately 3 years
- ◯ less than or approximately 5 years
- ◯ less than or approximately 10 years
- ◯ more than 10 years

Further details:

Q8 **How did you get here today?** *if necessary prompt with:* **What form of transport did you use?** *Single response only.*

- ◯ Car / van
- ◯ On foot
- ◯ Train (mainline)
- ◯ Bus
- ◯ Bicycle
- ◯ Other, please detail

Further details:

Now I'd like to ask you about your route today. Looking at the area shown on this map, can you show me where you started your visit today, the finish point and your route please. *Probe to ensure route is accurately documented. Use **P** to indicate where the visitor parked, **E** to indicate the start point and **X** to indicate the exit. Mark the route with a line; a solid line for the actual route and a dotted line for the expected or remaining route.*

Q9 **Is / was your route today the normal length when you visit here for [***insert given activity***]?** *Tick closest answer, do not prompt. Single response only.*

- ◯ Yes, normal
- ◯ Much longer than normal
- ◯ Much shorter than normal
- ◯ Not sure / no typical visit
- ◯ First visit

Q10 **What, if anything, influenced your choice of route here today?** *Tick closest answers, do not prompt. Multiple responses ok.*

- ☐ Weather
- ☐ Daylight
- ☐ Time
- ☐ Other users (avoiding crowds etc)
- ☐ Group members (eg kids, less able)
- ☐ Muddy tracks / paths
- ☐ Followed a marked trail
- ☐ Previous knowledge of area / experience
- ☐ Activity undertaken (eg presence of dog)
- ☐ Interpretation / leaflets / promotion
- ☐ Viewpoint / Feature
- ☐ Other, please detail

Further details:

Q11 **Why did you choose to visit this specific location today, rather than another local site?** *Tick all responses given by visitor in the 'other' column. Do not prompt, tick closest answers. Then ask* **Which single reason would you say had the most influence over your choice of site to visit today?** *Tick only one main reason. Use text box for answers that cannot be categorised and for further information.*

	Other	Main
Don't know / others in party chose	◯	◯
Close to home	◯	◯
No need to use car	◯	◯
Quick & easy travel route	◯	◯
Good / easy parking	◯	◯
Particular facilities	◯	◯
Refreshments / cafe / pub	◯	◯
Choice of routes	◯	◯
Feels safe here	◯	◯

Quiet, with no traffic noise	○	○
Not many people	○	○
Scenery / variety of views	○	○
Rural feel / wild landscape	○	○
Particular wildlife interest	○	○
Habit/familiarity	○	○
Good for dog / dog enjoys it	○	○
Ability to let dog off lead	○	○
Closest place to take dog	○	○
Closest place to let dog safely off lead	○	○
Appropriate place for activity	○	○
Suitability of area in given weather conditions	○	○
Other, please detail	○	○

Further details:

I would now like to ask about other local sites that you visit for [*given activity*].

Q12 **What proportion of your weekly visits for** *[given activity]* **take place at Tring Park compared to other sites. Can you give a rough percentage?** *Do not prompt*

- ○ All take place here
- ○ 75% or more
- ○ 50-74%
- ○ 25-49%
- ○ less than 25%
- ○ Not sure/don't know/first visit

Q13 **Which one location would you have visited instead today if you could not visit Tring Park?** *Do not prompt, tick closest answer.*

- ○ Not sure/Don't know
- ○ Nowhere/wouldn't have visited anywhere
- ○ Site Named

Record site name:

Q14 **Are you a member of the Woodland Trust?**

- ◯ Yes
- ◯ No
- ◯ Don't know / unsure

Q15 **Are there any changes you would like to see here with regards to how Tring Park is managed for recreation and people?** *Do not give options*

Q16 **Do you have any further comments or general feedback about your visit and access to Tring Park?**

Q17 **Finally, to identify which areas people travel from to Tring Park, what is your full home postcode?** *This is an important piece of information, please make every effort to record correctly.*

Q18 *If visitor is unable or refuses to give postcode:* **What is the name of the town or village where you live?**

Q19 *If visitor is on holiday ask:* **Which town / village are you staying in?**

That is the end. Thank you very much indeed for your time.

Q20 **TO BE COMPLETED AFTER INTERVIEW FINISHED.**

Surveyor initials	
Survey location code	
Map Reference Number	
Gender of respondent	

Total number in interviewed group	
Total males	
Total females	
Total minors (under 18)	
Total number of dogs	
Number of dogs seen off lead	

Q21 **Surveyor comments.** *Note anything that may be relevant to the survey, including any changes to the survey entry that are necessary, eg typos/mistakes/changes to answers/additional information.*

Appendix 2: Scientific names for plant species mentioned in the text and tables

Note that the species included below by no means comprise a full species list for the site.

Common name	Scientific name
Bee Orchid	*Ophrys apifera*
Bird's-foot-trefoil	*Lotus corniculatus*
Broad-leaved Plantain	*Plantago major*
Bulbous Buttercup	*Ranunculus bulbosus*
Black Medick	*Medicago lupulina*
Cock's-foot	*Dactylis glomerata*
Common Bent	*Agrostis capillaris*
Common Mouse-ear	*Cerastium fontanum*
Common Rock-rose	*Helianthemum nummularium*
Cock's Foot	*Dactylis glomerata*
Creeping Bent	*Agrostis stolonifera*
Fairy Flax	*Linum catharticum*
False Oat-grass	*Arrhenatherum elatius*
Fescue sp.	*Festuca sp.*
Glaucous Sedge	*Carex flacca*
Hogweed	*Heracleum sphondylium*
Hop Trefoil	*Trifolium campestre*
Lady's Bedstraw	*Galium verum*
Meadow Buttercup	Ranunculus acris
Meadow Oat-grass	*Avenula pratensis*
Perennial Ryegrass	*Lolium perenne*
Nettles	*Urtica dioica*
Pyramidal Orchid	*Anacamptis pyramidalis*
Quaking Grass	*Briza media*
Ragwort	*Senecio jacobea*
Red Clover	*Trifolium pratense*
Red Fescue	*Festuca rubra*
Ribwort Plantain	*Plantago lanceolata*
Rough Hawkbit	*Leontodon hispidus*
Salad Burnet	*Sanguisorba minor*
Self-heal	*Prunella vulgaris*
Sheep's Fescue	*Festuca ovina*
Small Scabious	Scabiosa columbaria
Stemless Thistle	*Cirsium acaule*
White Clover	*Trifolium repens*
Yarrow	*Achillea millefolium*

Appendix 3: Species observations from Tring Park

Table A3.1: Opportunistic species observations during ecological walkover survey

Common name	Scientific name
Birds	
Skylark	*Alauda arvensis*
Red Kite	*Milvus milvus*
Nuthatch	*Sitta europaea*
Grey Partridge	*Perdix perdix*
Mistle Thrush	*Turdus viscivorus*
Blackbird	*Turdus merula*
Stock Dove	*Columba oenas*
Woodpigeon	*Columba palumbus*
Green Woodpecker	*Picus viridis*
Carrion Crow	*Corvus corone*
Jackdaw	*Corvus monedula*
Chiffchaff	*Phylloscopus collybita*
Whitethroat	*Sylvia communis*
Blackcap	*Sylvia atricapilla*
Yellowhammer	*Emberiza citrinella*
Bullfinch	*Pyrrhula pyrrhula*
Butterflies	
Painted Lady	*Vanessa cardui*
Red Admiral	*Vanessa atalanta*
Marbled White	*Melanargia galathea*
Meadow Brown	*Maniola jurtina*
Small Heath	*Coenonympha pamphilus*
Large Skipper	*Ochlodes sylvanus*
Common Blue	*Polyommatus icarus*

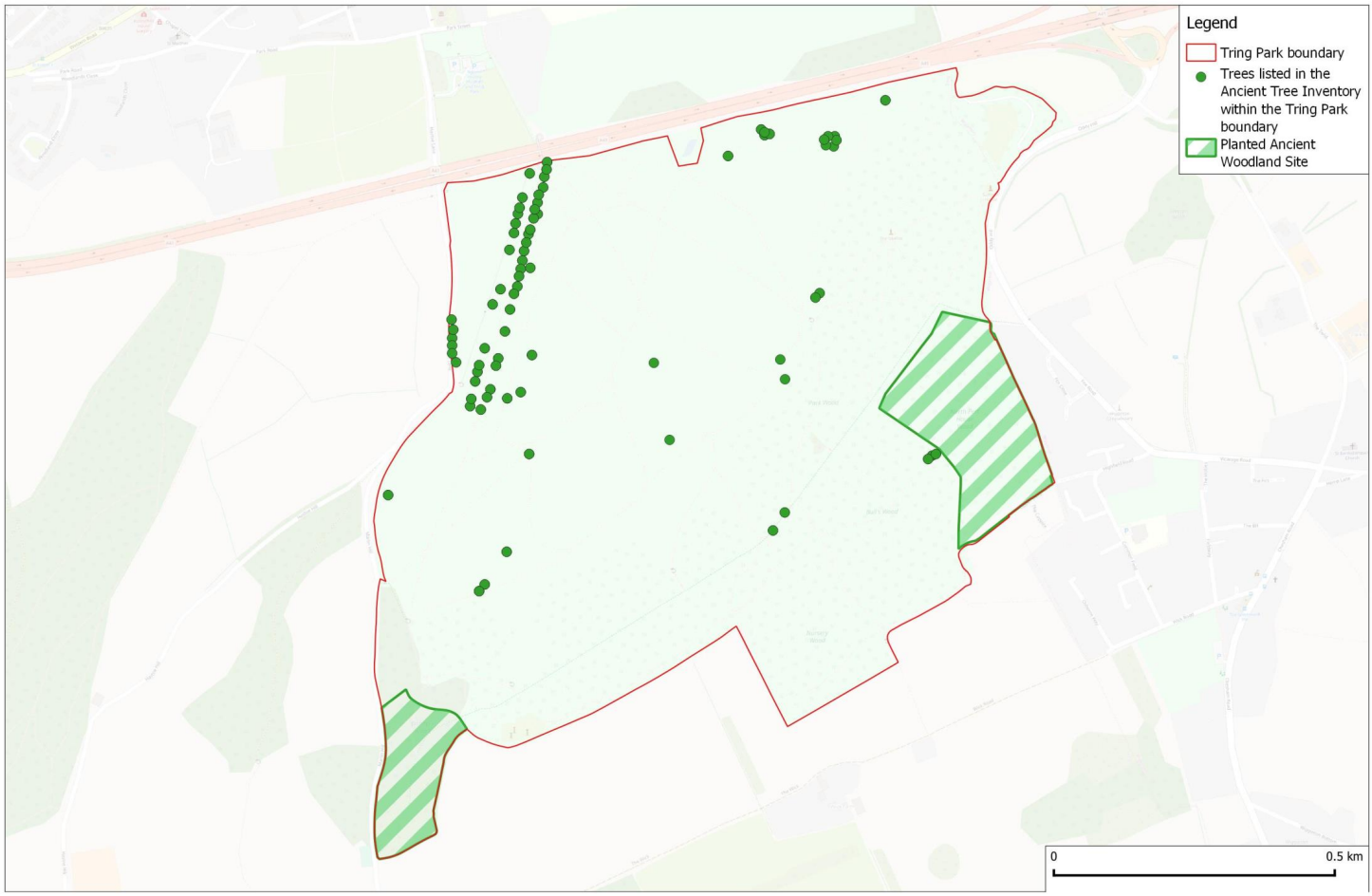
Table A3.220: Butterfly records from Tring Park 2016 - 2018

Species	Scientific name	Most recent record	Max count (year)
Peacock	*Aglais io*	2018	7 (2016)
Small Tortoiseshell	*Aglais urticae*	2018	14 (2016)
Orange-tip	*Anthocharis cardamines*	2018	7 (2018)
Purple Emperor	*Apatura iris*	2018	2 (2016)
Ringlet	*Aphantopus hyperantus*	2018	69 (2018)
Dark Green Fritillary	*Argynnis aglaja*	2018	1 (2018)
Silver-washed Fritillary	*Argynnis paphia*	2018	12 (2018)
Brown Argus	*Aricia agestis*	2018	9 (2018)
Green Hairstreak	*Callophrys rubi*	2018	5 (2018)
Holly Blue	*Celastrina argiolus*	2018	2 (2028)
Small Heath	*Coenonympha pamphilus*	2018	22 (2018)

Clouded Yellow	*Colias crocea*	2018	2 (2018)
Dingy Skipper	*Erynnis tages*	2018	6 (2017)
Brimstone	*Gonepteryx rhamni*	2018	14 (2017)
Small Copper	*Lycaena phlaeas*	2018	2 (2017)
Meadow Brown	*Maniola jurtina*	2018	231 (2016)
Marbled White	*Melanargia galathea*	2018	112 (2016)
Purple Hairstreak	*Neozephyrus quercus*	2018	1 (2018)
Large Skipper	*Ochlodes sylvanus*	2018	6 (2018)
Speckled Wood	*Pararge aegeria*	2018	16 (2016)
Large White	*Pieris brassicae*	2018	25 (2018)
Green-veined White	*Pieris napi*	2018	7 (2018)
Small White	*Pieris rapae*	2018	40 (2018)
Comma	*Polygonia c-album*	2018	8 (2017)
Chalkhill Blue	*Polyommatus coridon*	2017	2 (2017)
Common Blue	*Polyommatus icarus*	2018	59 (2018)
Gatekeeper	*Pyronia tithonus*	2018	28 (2018)
White-letter Hairstreak	*Satyrium w-album*	2018	1 (2018)

Appendix 4: Location of Ancient Tree Inventory trees and Planted Ancient Woodland Sites within the Tring Park boundary

Map A4: Location of Planted Ancient Woodland Sites and individual trees identified within the Woodland Trust's Ancient Tree Inventory



Appendix 5: Responses to Q15; are there any changes you would like to see here with regards to how this area is managed for recreation and people?

All responses are listed below. These were typed as part of the interview and often it was necessary to paraphrase, as such the comments do not necessarily reflect the precise words stated by the interviewee.

A few more dog bins please
A poo bag dispenser would be great
A poo bin somewhere would be nice
A water point to fill bottles and some poo bins would be appreciated
Better fencing between here and dual carriageway needed as has lost one dog there to the traffic
Dog bin should be moved further into park
Make site more natural if possible
Make sure all fences are secure to prevent dogs escaping
More benches or logs to sit on, and more waymarks on walks and tree identification aids
More bridle paths to enable riding across more of the park
More bridleways
More dog bins
More dog bins
More dog bins
More dog bins at entrance
More info boards and tree identification aids
More poo bins through the park, in places such the Ridgeway, as I think this will stop people dumping poo bags
More seating
Need dog bins in the park, as there is a temptation not to pick up after your dog as waste then has to be carried
No
No, keep it as it is
No, really like the current management
Should maybe have bins
Slightly long to walk from car park, so closer parking would be good
Some info boards about the history of the park would be good
Some more dog bins needed
Thinks bins may be a good idea near the Ridgeway entrance
Want purpose-built bike tracks
Would be good to have more water sources for dogs
Would like a dog poo bin
Would like a toilet
Would like less change, with no more signs; leave it as it is

Would like to see a community effort to help plant more trees
Would like to see better signed or marked paths, as it's easy to get lost (there're more paths here than are shown on maps)
Would like to see less in the way of signs and infrastructure. Not keen on people flying drones here.
Would like to see more maps and wildlife/management information boards. Also some waymarks on paths
Would like to see more parking
Would like to see one or two bins
Would rather have no cows
Would rather not have cows, but understand why they're there
Would remove the cows as have been charged by them

Appendix 6: Responses to Q16; Do you have any further comments or general feedback about your visit and access to this area?

All responses are listed below. These were typed as part of the interview and often it was necessary to paraphrase, as such the comments do not necessarily reflect the precise words stated by the interviewee.

A shuttle bus from the station would be great
Access really good. Like that there are few facilities. Wants it kept natural
All good
Appreciate the bins. Signs would be good, showing ways in and out towards places like Wigginton
Beautiful and will come again
Boundary with Oddy Hill used to be more overgrown and has since being cleared. Respondent says it is insecure for dogs, and his dog in fact ran through there onto the road and was killed. Otherwise thinks park is very secure for dogs.
Car park closes too early
Cattle can be intimidating. Appreciates the Park Run.
Clean and well kept
Don't like cows; don't come in when they are near
Don't over-tame it. Don't want to see too many signs or facilities. It is a wonderful wild place
Don't put any more facilities or manmade items here, other than dog bins. Appreciates being able to do the Park Run and hopes that it can continue
Don't think the park needs proscribed activities; it should be natural
Don't want to see it go the way of Wendover Woods with a big car park and café. Like that it connects to other footpaths in the area, such as those from Ivinghoe Beacon or Wendover
Feel lucky to have it
Fine as it is. Really like the wandering tree
Gates not so secure for dogs on the south side
Glad it is not too commercialized
Glad woodland Trust are managing it. It's nice and natural
Good clear paths. Like the cleared vistas
Heard a rumour that Nordic walking, and other fitness trainers, may be charged to use the park and I think this is a bad idea
It's gorgeous
It's great; love the wildlife
It's lovely
Keep it as it is. Like the fields, cows, and quiet
Keep it as natural as possible. Need a larger poo bin because the one near the lane often overfills. Surprised that the Park Run route had to change due to ground damage, when the cows are grazing (which are much heavier). Happy the Buzzards are doing alright