Banstead Heath

Site Management Plan

2024-2033

SWT Ecology Services was commissioned by the Banstead Commons Conservators (BCC) to prepare ten-year management plans for Banstead Commons. This project was kindly sponsored by the Reigate and Banstead Community Infrastructure Levy Fund.

Author	Jamel Guenioui BSc (Hons) ACIEEM – Senior Ecologist	Date	29/05/2024
Reviewer	Isobel Girvan BSc (Hons) MCIEEM FLS – Principal Ecologist	Date	29/05/2024
Approver	Claire Gibbs BSc (Hons) MSc MCIEEM – Principal Ecologist	Date	29/05/2025
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3.0	Original report
3.1	Update in line with comments from BCC (received 12/02/2024)
3.2	Update in line with further comments from BCC (received 07/04/2024)
3.3	As amended by the BCC in line with feedback from the Public Consultation. Final version.

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Acronyms and abbreviations

Acronym	Definition
BCT	Bat Conservation Trust
BNG	Biodiversity Net Gain
BOAs	Biodiversity Opportunity Areas
CIEEM	Chartered Institute of Ecology and Environmental Management
DEFRA	Department for Environment, Food and Rural Affairs
HPI	Habitats of Principal Importance
ILP	Institute for Lighting Professionals
IRZs	Impact Risk Zones
KPI	Key Performance Indicator
LNR	Local Nature Reserve
NERC	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
NVC	National Vegetation Classification
OPM	Oak Processionary Moth
SAC	Special Areas of Conservation
SNCI	Site of Nature Conservation Importance
SNP	Surrey Nature Partnership
SPA	Special Protection Areas
SPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System

1 Vision statement

The vision for the site is to maintain an area rich in biodiversity supporting a mix of acid grassland, lowland heathland, dense scrub and woodland in good condition. The mosaic of habitats will support a range of species including invertebrates such as Small Heath and Brown Hairstreak butterflies; amphibians and reptiles; bats; breeding birds such as Skylark; Badger and other mammals; and rare/notable vascular plants. In addition, the site will serve the local community as a well-managed and attractive open space forming an important part of the local green infrastructure.

Woodland management will focus on the removal of invasive species, particularly Cherry Laurel and Rhododendron, maintaining and increasing the open space, further developing edge habitats (ecotones), thinning to reduce dominance of certain species (e.g. Silver Birch) in areas where they form dense stands and creating connective corridors through woodland habitats linking areas of open grassland and woodland glades. Dead wood habitat will remain on site and bat boxes will be erected to provide enhanced opportunities for roosting.

The prescriptions set within Banstead Commons Higher Level Stewardship (HLS) agreement compartments on the site will be achieved, with a focus on maintaining an acid grassland sward.

The grassland and scrub complex will be managed to maintain a 60:40 mosaic, through mechanical means and in selected areas hand management, to maintain important microhabitats. Opportunities for grazing as a management tool will be pursued as this would be the ideal management approach for grassland habitats across Banstead Heath.

The ponds will be managed to increase their value for a range of species. Priorities for management will include removing bankside and overhanging trees and shrubs to allow more light into the ponds particularly on the southern edges of the ponds. This will also reduce the rate of silting up due to leaf fall. Further de-silting some of the ponds may also be required.

A clear and safe public right of way will be maintained across the commons, through maintenance of the Public Rights of Ways (PRoWs) including the Bridleways and popular footpaths.

Public engagement will enable the public to become educated in the land that they use, minimising antisocial activity and promoting respect for habitats and wildlife.

It is intended that this management plan will be a valuable resource to anyone with an interest in Banstead Heath. It will help supporters and user groups to work together towards the future wellbeing of the site. A flexible approach to management is important and, inevitably, the need for additional work may arise. In these circumstances, such tasks would be assessed according to the management objectives and priorities identified in this plan.

2 Summary

Surrey Wildlife Trust (SWT) Ecology Services was commissioned on 18 October 2022 by Banstead Commons Conservators to prepare a management plan for Banstead Heath to cover the years 2024-2033.

The aim of the management plan is to assess the importance of the biodiversity recorded on the site and determine suitable management to enhance biodiversity.

The following significant ecological features were identified on the site which have the potential to support locally, nationally and internationally important wildlife:

- Grassland (including lowland acid grassland, neutral and modified grassland)
- Woodland (including line of trees)
- Lowland Heathland
- Dense scrub
- Standing open water (ponds)

Factors that were considered when producing this plan include:

- Value of these habitats and their potential to support notable species
- Legal and other obligations (including statutory site obligations and agri-environment scheme requirements)
- Public access / amenity value
- Survey, monitor and review

Figure 1 presents the habitats recorded, and their condition using the Biodiversity Net Gain condition criteria (Natural England, 2023) in Figure 3. Figure 4 presents the management measures. The works programme is detailed in Table 2 and the survey, monitoring and review programme is detailed in Table 3.

The main body of the report provides background and describes the management measures.

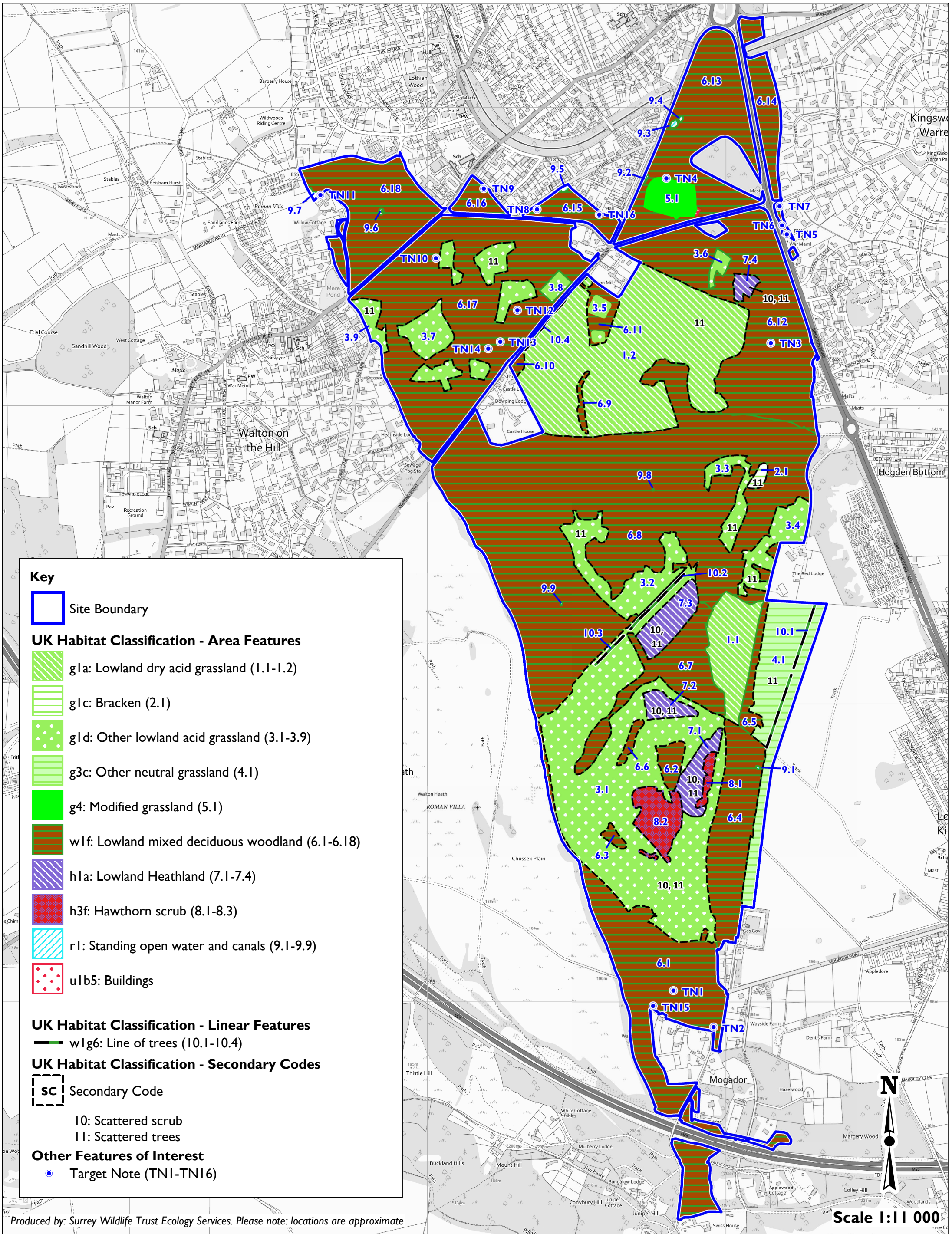
Table 1 details the biodiversity gains that could be generated as a result of implementing this management plan (further details of how this was calculated can be found in Appendix 2: Methodology and in the BNG Spreadsheet provided as a separate document).

Table 1: Biodiversity gains

Headline results		Banstead Heath[1]
Onsite baseline	Habitat units	4827.68
	Hedgerow units	5.06
Onsite post-intervention	Habitat units	5120.08
	Hedgerow units	6.83
Total unit change	Habitat units	**292.40**
	Hedgerow units	**1.77**
Total % change	Habitat units	**6.06%**
	Hedgerow units	**35.01%**

[1]

> 10 % gain	0 – 9% gain	< 0% gain



Key

Site Boundary

UK Habitat Classification - Area Features

- g1a: Lowland dry acid grassland (1.1-1.2)
- g1c: Bracken (2.1)
- g1d: Other lowland acid grassland (3.1-3.9)
- g3c: Other neutral grassland (4.1)
- g4: Modified grassland (5.1)
- w1f: Lowland mixed deciduous woodland (6.1-6.18)
- h1a: Lowland Heathland (7.1-7.4)
- h3f: Hawthorn scrub (8.1-8.3)
- r1: Standing open water and canals (9.1-9.9)
- u1b5: Buildings

UK Habitat Classification - Linear Features

- w1g6: Line of trees (10.1-10.4)

UK Habitat Classification - Secondary Codes

SC Secondary Code

- 10: Scattered scrub
- 11: Scattered trees

Other Features of Interest

- Target Note (TN1-TN16)

Produced by: Surrey Wildlife Trust Ecology Services. Please note: locations are approximate

5974-1, June 2025

Figure 1: Banstead Heath - Habitat Baseline Plan

(Survey undertaken between 05/06/2023 & 20/06/2023)

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Ecology Services

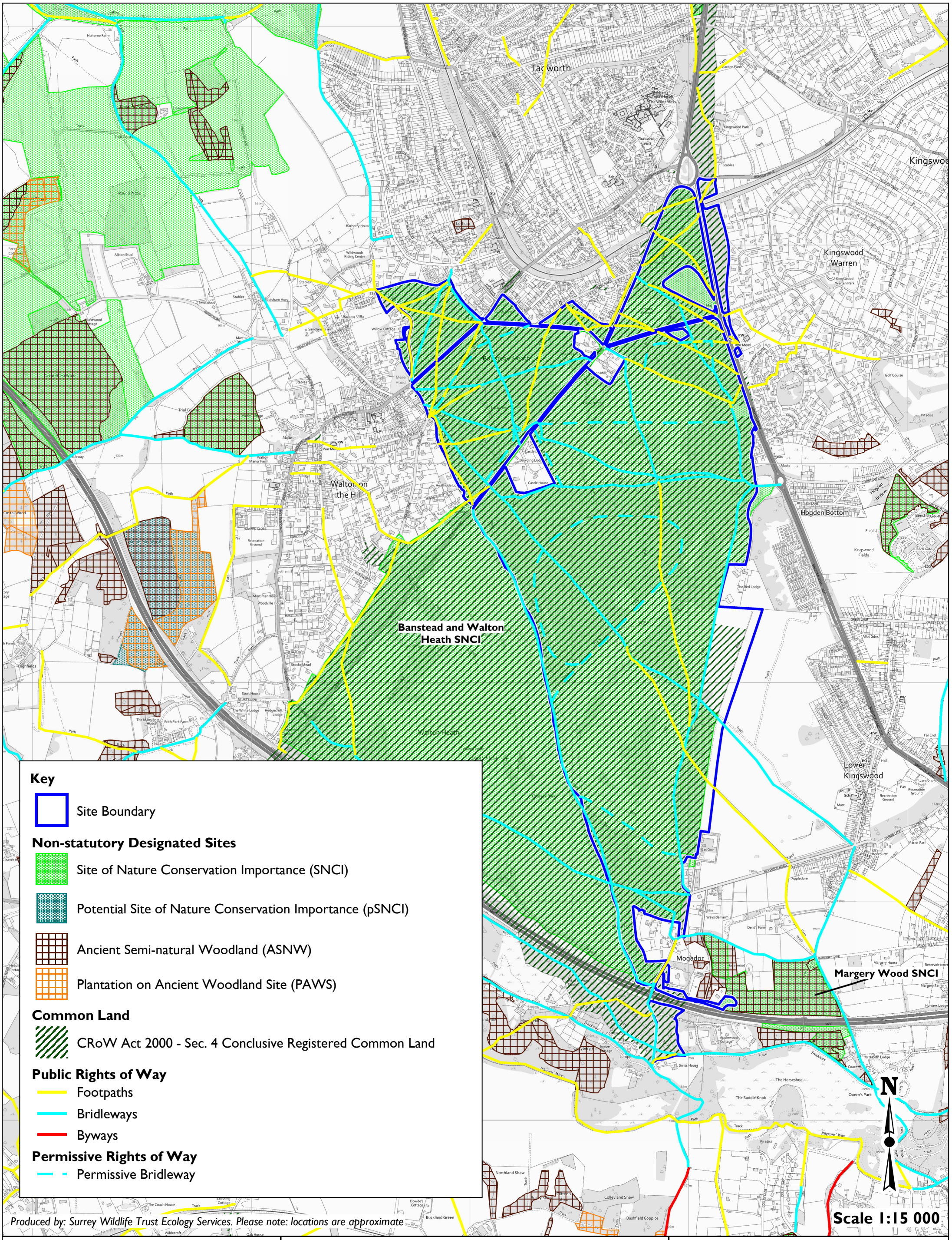

Figure 2: Banstead Heath - Statutory and Non-statutory Designations

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Key

- Site Boundary

Habitat Condition - Area Features

- Good Condition
- Moderate Condition
- Poor Condition
- N.A. Other

Habitat Condition - Linear Features

- Moderate Condition

Produced by: Surrey Wildlife Trust Ecology Services. Please note: locations are approximate

Scale 1:11 000

5974-1, June 2025

Figure 3: Banstead Heath - BNG Habitat Conditions

(Assessed between 05/06/2023 & 20/06/2023)

Surrey Wildlife Trust
Ecology Services

Key

- Site Boundary

Management Prescription - Area Features

- Manage grassland by cutting
- Manage grassland by cut and collect
- Remove Cherry Laurel/Rhododendron
- Light thinning
- Woodland glade management
- Scrub management
- Heathland scrub/tree and turf strip management
- Pond management.

Management Prescription - Point Features

- Bat box install
- Banstead Commons Conservators Notice Board
- Dead wood habitat
- Proposed compost heap

Produced by: Surrey Wildlife Trust Ecology Services. Please note: locations are approximate

Scale 1:11 000

5974-1, June 2025

Figure 4: Banstead Heath - Management Map

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Table 2: Works programme

Feature	Objectives	Map reference	Management measure	Priority	Timing of works												Year required									
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
Grassland	Retain the current areas acid grassland and whilst increasing the biodiversity value across all grassland compartments.	Compartments 1.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9 (see Figure 1).	Manage the sward by cutting (first cut between mid July and September and a second cut between October and December if resources allow). 10% of the grassland should be left uncut each year.	High				■	■	■	■	■	■													
		Compartments 1.1, 1.2 and 3.1.	Manage the sward by cutting and collecting in highlighted areas (see Figure 4 - first cut between mid July and September and a second cut between October and December if resources allow). 10% of the grassland should be left uncut each year.	High				■	■	■	■	■	■													
		General	Scattered scrub management within grassland (where required).	Moderate							■	■	■	■	■											
		General and as agreed in HLS areas (see Appendix 11).	Rotational bracken management.	Moderate			■	■	■																	
		Green triangle icon on Figure 4.	Create compost heaps in designated locations.	Moderate				■	■	■	■	■	■													
Woodland	Retain woodland on the site at their current extent or greater and increase their biodiversity value.	Vertical brown lines on Figure 4.	Light woodland thinning management to increase light levels and encourage shrub and ground layered vegetation, removal of invasive non-native species, standing dead wood creation.	High						■	■	■	■	■	■											
		Green diamond hatching on Figure 4.	Maintenance of existing woodland glades by tree management. As required.	Medium						■	■	■	■	■	■											
		Green diamond hatching on Figure 4.	Maintenance of existing woodland glades by mowing small grassy glades.	High				■	■	■																
		Brown spot icon on Figure 4.	Create log/habitat piles following habitat management works.	High							■	■	■	■	■											
		All woodland compartments (6.1-6.18 as required).	Encourage understorey, shrub and field layers.	High	■	■	■	■	■	■	■	■	■	■	■											
		Whole site.	Continue Japanese Knotweed treatment programme.	High	■	■	■	■	■	■	■	■	■	■	■											
		Compartments 6.1, 6.2, 6.4, 6.9, 6.11, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18 (see Figure 1 and horizontal green lines on Figure 4).	Remove Cherry Laurel and Rhododendron.	High						■	■	■	■	■	■											
		Compartment 6.16.	Remove Variegated Yellow Archangel (TN9)	High						■	■	■	■	■	■											
		Red square icon on Figure 4.	Install 8 bat boxes at four locations within woodland habitat.	Moderate	■	■	■	■	■	■	■	■	■	■	■				■							
Lowland Heathland	Retain the current area and increase the biodiversity value of the lowland heathland on the site.	Purple square hatching on Figure 4.	Rotational turf stripping across heathland compartments (7.1 - 7.4).	High					■	■									■			■	■		■	■
		All heathland compartments (7.1 - 7.4).	Scrub and sapling management (as required).	High						■	■	■	■	■	■											
		All heathland compartments (7.1 - 7.4).	Heathland mowing for fire break/fairway management (where required).	Moderate							■	■	■													

Feature	Objectives	Map reference	Management measure	Priority	Timing of works												Year required									
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
Dense scrub	Retain the current area of dense scrub on the site and increase its biodiversity value. There will be a good age range and all of the following should be present: seedlings, young shrubs and mature shrubs.	8.1 and 8.2	Cut back a quarter of the edges in each compartment every three years (starting year 5) alternating between the quarters. Create some small channels and bays within the scrub.	High						■	■	■	■	■	■			■			■			■		
Standing open water (ponds)	Retain the current ponds across the Banstead Heath and increase their value for biodiversity.	9.1	Coppicing and thinning every five years.	Moderate						■	■	■	■				■					■				
			Consider reprofiling and protective measures.	Moderate						■	■	■	■				■	■	■	■	■	■	■	■	■	■
		9.2	Coppicing and thinning every five years.	Moderate						■	■	■	■				■					■				
			Consider reprofiling and protective measures.	Moderate						■	■	■	■				■	■	■	■	■	■	■	■	■	■
		9.3	Further visual assessment required when access to the waterbody improves.	Moderate							■	■	■	■	■		■	■	■	■	■	■	■	■	■	■
		9.4	Coppicing and thinning every five years.	Moderate						■	■	■	■				■					■				
			Consider reprofiling and re-puddling.	Moderate						■	■	■	■				■	■	■	■	■	■	■	■	■	■
		9.5	Thinning every five years.	Moderate						■	■	■	■				■					■				
			Remove non-native species.	High						■	■	■	■				■									
			Investigate whether New Zealand pygmyweed and a terrapin are still present and if present strategy for removal.	High	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		9.6	Thinning of trees in woodland along southern edge.	Moderate						■	■	■	■					■								
			Consider reprofiling and protective measures.	Moderate						■	■	■	■				■	■	■	■	■	■	■	■	■	■
		9.7	Coppicing and thinning every five years.	Moderate						■	■	■	■						■				■			
			Reduce leaf litter with suitable hand tools (if resources allow).	Low						■	■	■	■						■							
			Consider reprofiling and dredging measures.	Moderate						■	■	■	■				■	■	■	■	■	■	■	■	■	■
		9.8	Reprofile pond and implement protective measures.	Moderate						■	■	■	■					■								
		9.9	Tree thinning at west/south-western tree line edge, reprofiling and protective measures.	Moderate						■	■	■	■							■				■		
		General	As resources allow aim to create at least 1 hibernaculum and 2 log piles near each pond	Moderate	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Public access and engagement	To maintain the public access across the site for enjoyment, recreation and education.	Whole site	Visual inspection of all paths and tracks with maintenance where required.	High	■			■			■			■			■	■	■	■	■	■	■	■	■	■
		Compartments 1.1, 1.2, 3.1 and 4.1.	Regularly mow paths through grassland (as required).	Moderate	■	■	■	■	■	■	■	■					■	■	■	■	■	■	■	■	■	■
		Whole site	Visual inspection of furniture, with maintenance where required	Moderate										■			■	■	■	■	■	■	■	■	■	■
		Whole site	Running of volunteer work parties	Moderate	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
		Whole site	BCC Quarterly Meeting open to the public	Moderate	■			■			■			■			■	■	■	■	■	■	■	■	■	■
		Whole site	Quarterly meetings for the Banstead Commons Consultative Group	Moderate	■			■			■			■			■	■	■	■	■	■	■	■	■	■
		Whole site	Programme of public engagement including guided walks, family bioblitz days and presentations to local groups and societies	Low	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Feature	Objectives	Map reference	Management measure	Priority	Timing of works												Year required									
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
		Whole site	Implement Professional Dog Walking Licence Scheme	High																						
		Whole site	Site patrols and removal of litter and fly tipping (as required).	High																						
Legal and other obligations	All legal and other obligations will be met.	Whole site	Follow precautions in section 13.3 of management plan to prevent committing an offence under protected species legislation.	High																						
		Whole site	Liaise with relevant organisations such as Reigate & Banstead Borough Council, Natural England and Forestry Commission.	High																						
		Whole site	Tree safety inspection.	High																						
		Whole site	Ensure an up-to-date Risk Assessment Method Statement (RAMS) is in place for any work being undertaken.	High																						
		Whole site	Consult local council regarding tree preservation orders before any tree work takes place.	High																						
		Whole site	Patrol for site encroachments	Moderate																						

Table 3: Survey, monitoring and review programme

Other focus point of management plan.	Objective	Map reference	Management measure	Priority	Timing of works												Year required									
					Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32	32/33	33/34
Survey, monitor and review	This management plan will be monitored to ensure that the management remains effective and that the objectives and targets are achieved. Adequate survey data for the species and habitats should be used to inform management activities. The plan will be reviewed in its entirety in year 2032.	All habitats	Updated condition assessment and habitat survey within the optimal survey period. Signs of ash dieback in woodland areas should also be checked.	High																						
		All habitats	Monitor annually for the presence of Schedule 9 non-native invasive plant species. If found create an action plan for their control.	High																						
		Woodland compartments 6.1, 6.8, 6.13 and 6.17 (see Figures 1 and 2).	Check number and condition of bat boxes. Investigate partnership with Surrey Bat Group to check usage of bat boxes.	Moderate																						
		All habitats	Check grass cutting piles each October for signs of use (broken grass snake egg shells).	Low																						
		All habitats covered by reptile transect	Continue reptile surveillance in collaboration with SARG.	Moderate																						
		Compartments 6.1 and 6.4 Also consider other woodland and dense scrub compartments (if resources allow).	Hazel Dormouse survey of woodland areas 6.1 and 6.4 and other woodland and dense scrub compartments (if resources allow).	Moderate																						
		All habitats	Consider additional species surveys for amphibians, birds, bats, other mammals and invertebrates including the Bog Bush-cricket.	Moderate																						
		All habitats	Review progress towards achieving objectives and targets.	High																						
		All habitats	Staff and visitor wildlife recording scheme.	Low																						
		All habitats	Review management plan and update plan for the next 10 years.	High																						

3 Introduction

3.1 Background

SWT Ecology Services was commissioned on 18 October 2022 by the Banstead Commons Conservators to prepare a ten-year Site Management Plan for Banstead Heath to cover the years 2024-2033. The development of the plan was funded by the Reigate and Banstead Borough Council Community Infrastructure Local Fund and forms part of a larger project which will also see plans produced for the other sites managed by the Banstead Commons Conservators; Burgh Heath, Banstead Downs and Park Downs.

3.2 Scope of work

The scope of work included:

- A review of existing information for the site including past management plans, agri-environment schemes and past survey and monitoring data
- A data search for biological records within the site and an appropriate buffer
- A habitat survey following UK habitat classification methods
- Condition assessment of the vegetation on site and calculation of baseline biodiversity units
- An assessment of the likelihood of the site to support rare and/or protected species
- Site visit and meeting with relevant staff.
- Identification of important features of the site and setting of objectives and targets.
- Description of the management measures required to meet objectives and targets including a monitoring strategy
- Ten-year work plan and associated mapping

The information and data provided have been prepared in accordance with current best-practice guidance (CIEEM, 2022b), (CIEEM, 2021), (BSI, 2013) and (BSI, 2021). Our ecologists are bound by CIEEM's 'Code of Conduct' (CIEEM, 2022a). For the detailed methodology see Appendix 2.

4 Legislative and planning policy framework

Certain designated sites, habitats and species are protected under UK legislation and planning policies. These have been considered when writing this plan and it is important that this is taken into account when carrying out site management or when planning any future improvements on the site. Section 8.2 considers legal and other obligations relevant to the management plan. Relevant legislation is detailed in Appendix 6 of the supporting document.

5 The site

The site, presented in Figure 1, bounded by the village of Tadworth and the residential area of Kingswood to the north, the village of Mugswell, Lower Kingswood, and a mosaic of arable land and small parcels of woodland to the east, the M25 motorway and areas of woodland beyond this to the south and the village of Walton on the Hill and Walton Heath Golf Club to

the west of the survey area. It covers a total of approximately 310 hectares. Banstead Heath is located in Reigate and Banstead Borough Council.

Further information on the site, along with historical information collected is detailed in Appendix 1.

6 Site information and baseline conditions

6.1 Designated sites

The majority of the site is within the Banstead and Walton Heath Site of Nature Conservation Importance (SNCI) (see Figure 2 for the extent of the SNCI). Only three areas fall outside of the SNCI. The southern section of woodland compartment 6.1, a large part of neutral grassland compartment 4.1 and the woodland compartment 6.14 located to the east of Brighton Road (see Figure 1).

Banstead Heath is registered common land (CL109).

6.2 Site within the wider area

In addition to the designation within the site itself, two statutory designated sites were recorded within 2 km of the survey area, including one Special Area of Conservation (SAC), and one Site of Special Scientific Interest (SSSI).

Eight non-statutory designated sites, comprising Sites of Nature Conservation Importance (SNCI), were recorded within 2 km of the survey area.

The distance of these statutory and non-statutory designated sites from the survey area is presented in Table 6.

Biodiversity Opportunity Areas

A number of Biodiversity Opportunity Areas (BOAs) have been identified within Surrey. These areas are described by the Surrey Nature Partnership as **"***extensive areas where improved habitat management, as well as efforts to restore and re-create Priority habitats will be most effective in enhancing connectivity to benefit recovery of Priority species in a fragmented landscape. They are therefore the basis for achieving Sir John Lawton's vision of a "coherent and resilient ecological network" in Surrey."*

The site is located within the ND08: North Downs; Banstead and Walton Heath BOA.

The following habitats have been identified as important in the area statements for this BOA:

- Heathland
- Acid grassland
- Mixed deciduous woodland

The following priority species have been identified as important in the area statements for this BOA (Surrey Nature Partnership, 2019):

- Small Heath
- Woodlark
- Adder

6.3 Public access/amenity value

Banstead Heath is located just to the north of the M25 motorway and is bounded by residential areas to the north, north-west and north-east.

Many informal footpaths, public footpaths and bridleways cross the site from the north through to southern areas of the Heath. Bridleway 101 crosses the southern grassland and provides access across Walton Heath Golf Club towards residential areas to the west. A number of informal permissive routes were also observed through many of the woodland habitats (see Figure 2).

Commercial activity on Banstead Commons is regulated. Professional Dog Walkers operating on the site are required to be licensed to ensure visitor safety and protect habitats.

Traffic can be heard in locations close to the M25 motorway and the Brighton Road (A217) which is located along the north-eastern boundary of the site. In central areas it is much more difficult to hear traffic and these central woodland and grassland areas provide visitors with a break from surrounding urbanisation.

Banstead Heath also provides an important corridor of green space between the south-western (including Walton Heath Golf Club) and south-eastern habitats north of the M25 motorway.

6.4 Ecosystem Services

Banstead Heath provides an invaluable ecosystem. As well as providing space for wildlife and natural processes such as nutrient cycling and photosynthesis, the site also contributes to sustainable drainage, flood and erosion control as well as contributing towards good air quality and carbon storage. Other important ecosystem services that the site provides includes cultural aspects such as its use for recreation and to improve people's physical health and mental wellbeing as well as providing a sense of place and opportunities for learning.

6.5 Ownership and management responsibilities

Banstead Heath is owned by Reigate and Banstead Borough Council. The Banstead Commons Conservators (BCC) are legally responsible for overall site management and maintenance. Reigate and Banstead Borough Council are responsible for rights and duties associated with land ownership and management of highways trees. Most roadway verges are managed by Reigate and Banstead Borough Council (RBBC) or Surrey County Council (SCC) depending on location.

6.6 Archaeology/scheduled ancient monuments

Three scheduled monuments (medieval stock enclosures) are present on site. Historic England List Entry Number: 1005944**.** Two are located in grassland compartment 3.5 and another north-west of the Dorking Road in compartment 3.7 (see Figure 1 and Appendices 11 and 12).

Because of their finite nature and national status, protecting locations designated as Scheduled Monuments is a priority work scheme for the Conservators.

6.7 Existing or planned agri-environment schemes and/or other agreements

Large areas of grassland at Banstead Heath are currently under a HLS agreement which has been in place since February 2012. An extension under this scheme has been granted which commences in February 2023 and ends in February 2028.

6.8 Funding

In addition to funding provided through the HLS scheme, Reigate and Banstead Borough Council provides an operational grant to contribute towards the management of the site.

6.9 Recent management (past achievements)

Recent and current ongoing management of the site includes;

- Maintaining a varied “mosaic” of heathland and woodland habitats
- Cutting of the main grassland areas
- Woodland glade management
- Keeping footpaths open
- Bracken management by cutting mid June/July, two cuts a year
- Control of invasive species including Variegated Yellow Archangel and Japanese Knotweed in priority areas
- Maintaining site fire breaks

6.10 Site restrictions

A restriction highlighted by the Banstead Conservators is the funding available to carry out management on the site. Income is received through the Higher Level Stewardship scheme for Park Downs, Banstead Heath and Banstead Downs. In addition some funding is provided by Reigate and Banstead Borough Council to manage all four sites. This allows the Banstead Conservators to employ just two full time staff and two part time staff to manage over 500ha of land over the four sites; Banstead Downs, Banstead Heath, Burgh Heath and Park Downs. The limited funding means that management tasks need to be prioritised and it may not be possible to carry out all recommendations within the timescales provided in this report.

Table 4: Statutory and non-statutory designated sites desk study results

Site name	Brief description	Distance from survey area (m)
Statutory designated sites		
Mole Gap to Reigate Escarpment SAC	Woodland, chalk grassland, chalk scrub and heathland form an interrelated mosaic at this site on the North Downs. Qualifying habitats: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex 1: 1. *Taxus baccata* woods of the British Isles. (Yew-dominated woodland)*, 2. *Asperulo-Fagetum* beech forests. (Beech forests on neutral to rich soils), 3. European dryheaths, 4. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (Dry grasslands and scrublands on chalk or limestone), 5. Seminatural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (important orchid sites). (Dry grasslands and scrublands on chalk or limestone, including important orchid sites)*, 6. Stable *xerotherrnophilous* formations with *Buxus sempervirens* on rock slopes (*Berberidion* p.p.). (Natural box scrub). Qualifying species: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II: 1. Bechstein's bat (*Myotis bechsteinii*), 2. Great Crested Newt (*Triturus cristatus*) N.B. Annex 1 priority habitats are denoted by an asterisk.	50
Mole Gap to Reigate Escarpment SSSI	A Site of Special Scientific Interest notified under Section 28 of the Wildlife and Countryside Act 1981. Notified in 1986. “This site contains the largest part of the North Downs in Surrey which has remained relatively undisturbed by the pressures of modern farming and building. It stretches for 8 miles (12 km) between Leatherhead and Reigate, and includes a range of outstanding wildlife habitats representative of the best of those found on the North Downs. Woodland, chalk grassland, chalk scrub and heathland form an interrelated mosaic which supports a wide diversity of characteristic plants and animals, of which many are local or rare. The site includes the Mole Gap, Box Hill and Headley Heath areas which have been studied for many years and are used for teaching school-children and students at all levels.”	50

Site name	Brief description	Distance from survey area (m)
Non-statutory designated sites		
Banstead and Walton Heath SNCI	Extensive Oak (Quercus robur) – Birch (Betula sp.) woodland, acid grassland, remnant heathland, ponds and scrub. Includes Walton Heath Golf Course. Selected for the diversity of habitats and species present.	0
Margery Wood SNCI	Selected as Ancient Semi-natural Woodland which includes colony of Wood Barley (Hordelymus europaeus). 25 ancient woodland indicator species present. Site originally recommended by Surrey Flora Committee (now Surrey Botanical Society) and Surrey Amphibian and Reptile Group (SARG).	100
Beechen Copse SNCI	Ancient Semi-natural Woodland.	600
Burgh Heath SNCI	Secondary broad-leaved woodland, scrub, grassland and ponds. Selected for mosaic of habitats and as site supporting Great Crested Newt (Triturus cristatus).	700
Sandhill Wood SNCI	Ancient Semi-natural Woodland. Over 5ha of Ancient Semi-natural Woodland containing Bluebell (Hyacinthoides non-scripta) and Hornbeam (Carpinus betulus) coppice (which is rare in Surrey). Sixteen ancient woodland indicator species have been recorded.	700
Langley Bottom Farm SNCI	The site is selected as a valuable arable complex. It supports considerable arable plant interest including at least 10 Nationally Rare plant species and 7 species rare or scarce within Surrey. It is the best site in Surrey for the Night Flowering Catchfly (Silene noctiflora), RDB – IUCN (2001) – Vulnerable. Most of the site meets the Plantlife Important Arable Plant Area criteria (either at a County or National level). The site also supports fragments of chalk grassland. At least 33 species typical of grassland of conservation interest in Surrey have been recorded on the site. The site also supports areas of Ancient Semi-natural Woodland (ASNW) and potentially ancient shaws and hedgerows. Although much of the interest of the site is at the field margins, the entire site is important as part of the arable complex.	700
Downs View Wood SNCI	Ancient Semi-natural Woodland with some broadleaved planting. Retains ancient woodland flora. Selected as Ancient Semi-natural Woodland and woodland flora.	900

Site name	Brief description	Distance from survey area (m)
Colley Copse / Colley Wood SNCI	Two separate areas of Ancient Semi-natural Woodland on Gault Clay with species rich woodland flora and at least 23 Ancient Woodland Indicator species. Selected as Ancient Semi-natural Woodland with species rich woodland flora. Site originally recommended by Surrey Flora Committee (SFC) (now Surrey Botanical Society (SBS)).	1000

6.11 Habitats

Geology and soils

Clay-with-flints Formation - Clay, silt, sand and gravel. Sedimentary superficial deposit formed between 23.03 million and 11.8 thousand years ago during the Neogene and Quaternary periods. (British Geological Survey, Viewed 18/09/2023).

The Cranfield Soil mapping tool, shows that the site sits on freely draining slightly acid loamy soils (Cranfield Soil and Agrifood Institute, Viewed 18/09/2023).

Desk study

Habitats recognised within SNCI citation.

The following habitats are recognised within the SNCI citations for the site: Oak-Birch woodland, acid grassland, remnant heathland, scrub and ponds.

Waterbodies

Nine waterbodies were recorded within the site.

In addition, four waterbodies were recorded within 250 m of the survey area. These are listed below:

- Mere pond which is located approximately 10m west of the survey area at TQ 22681 55380 (what3 words: rents.fonts.host)
- A woodland pond to the north of the above pond and approximately 98m west of the survey area at TQ 22599 55597 (axed.lakes.stress)
- A small pond approximately 5m west of the survey area at Walton Heath Golf Club at location TQ 23365 53883 (rips.head.decay)
- A small pond close to residential properties to the north-west of the survey area and west of Dorking Road at TQ 23880 56222 (bend.backs.regard)

Great Crested Newt has been recorded in pond 9.6.

Other small garden waterbodies that were not on available mapping may be present.

Ancient woodland and veteran trees

No parcels of ancient woodland were identified within the site.

Thirty-four parcels of ancient woodland were identified within 1 km of the site, of which the closest is approximately 10m away from the survey area boundary south of Mogador Road. The ancient woodland parcels within 1km of the survey area total approximately 70 ha.

Trees with veteran features are present within the survey area but due to the large size of the survey area an accurate count of veteran trees present has not been recorded.

Habitat survey results

Ten habitats were recorded during the habitat survey. The location of these is presented in Figure 1. A summary of each habitat is provided in Table 5.

Table 5: Habitat survey results

Habitat and code	Compartment number	Description	Condition	HPI
Lowland dry acid grassland (g1a)	1.1	Open grassland on a gentle slope with frequent Sweet Vernal Grass, Wavy Hair-grass, Cock's-foot, Crested Dog's-tail, locally frequent Bracken, Bird's-foot Trefoil, Ribwort Plantain, Common Knapweed, locally frequent Heath Bedstraw and Tormentil, occasional Heath Speedwell, Meadow Buttercup and Lesser Stitchwort. Silver Birch and Hawthorn also present.	Good	Yes
	1.2	Large area of open grassland in the centre of the survey area with moderate public pressure along the main routes. Species include frequent Red Fescue, Sweet Vernal Grass, Heath Wood-rush, occasional Ling, frequent Tormentil, locally frequent Mouse-ear Hawkweed and Heath Speedwell, Heath Bedstraw, occasional Lesser Stitchwort, Goat's-beard, Meadow Buttercup, and Bird's-foot Trefoil. There are also areas of neutral influence along the edges of permissive access routes and junctions where other grasses such as Yorkshire-fog, Cock's-foot and False Oat-grass are more frequent. This area has been included as priority acid grassland habitat here as it sits on the boundary of that criterion with its range of indicator species and species richness. With further positive management this will certainly sit comfortably within the lowland dry acid grassland category.	Moderate	Yes
Bracken (g1c)	2.1	Open area dominated by Bracken. Very little else growing apart from occasional Yorkshire-fog. This area was cleared in January 2023 and is currently being restored.	Poor	No
Other lowland acid grassland (g1d) Secondary codes: 11 (scattered trees).	3.1	This is a large area of open grassland with species including Wavy Hair-grass, Common Bent, Yorkshire-fog, Rough Meadow-grass, Square-stalked St. John's-wort, occasional Ling, Tormentil, Bird's-foot Trefoil, Common Sorrel, locally frequent Bracken, Lesser Stitchwort, Sweet Vernal Grass and Red Fescue. There are localised areas where neutral grassland species dominate such as Yorkshire-fog and Cock's-foot. These areas tend to be alongside major access routes and junctions.	Moderate	No
	3.2	Large area of open grassland (narrow in places) bordered by woodland with frequent Wavy Hair-grass, Pill Sedge, Red Fescue, Yorkshire-fog, locally frequent Bracken, Ling and Heath Bedstraw. Sheep's Sorrel, Tormentil and a Gorse sp. also present. Scattered trees across the areas include Silver Birch and Scots Pine.	Good	No
	3.3	Narrow area of open grassland surrounded by woodland with frequent Sweet Vernal Grass, Wavy Hair-grass, locally frequent Yorkshire-fog, False Oat-grass, Bracken, Red Fescue, Honeysuckle, Tormentil and occasional Heath Bedstraw.	Moderate	No
	3.4	Area of grassland along the eastern edge of the site with Sweet Vernal Grass, Red Fescue, Wavy Hair-grass, Fine-leaved Fescue, occasional Bluebell and Foxglove and open areas with frequent Bracken. In the north of this area the grassland has a more neutral influence with grasses dominating and species include Cock's-foot, Yorkshire-fog and False Oat-grass. Creeping Jenny also recorded in this area.	Moderate	No
	3.5	Two areas of grassland designated as scheduled monuments (see Appendix 12, SU45b and SU45c) and were described as medieval stock enclosures by site managers. Stock enclosures of medieval and later dates provided winter shelter and corralling of livestock over open pasture (Historic England, 2023). These two areas of grassland are currently mown and Bracken is frequent across both parcels. Other species include Yorkshire-fog, a Bent sp., Sweet Vernal Grass, occasional Tormentil and Common Knapweed, Honeysuckle, Bramble, an Oak sp. (seedling), and a birch sp. (seedling).	Poor	No
	3.6	A small area of open grassland with locally frequent Bracken. Other species include frequent Yorkshire-fog, Sweet Vernal Grass, locally frequent Wavy Hair-grass, Cock's-foot, a Bent sp., occasional Tormentil, Heath Bedstraw and Honeysuckle.	Poor	No
	3.7	A network of small grassland compartments surrounded by woodland to the north-west of Dorking Road. Species recorded include Wavy Hair-grass, Yorkshire-fog, Red Fescue, Cock's-foot, Sweet Vernal Grass, Bracken, Ling, Heath Wood-rush, Heath Bedstraw, Sheep's Sorrel, Fine-leaved Fescue, Tormentil and Fox-and-cubs. One of these compartments is a scheduled monument (see Appendix 12, parcel SU45a) similar to those in compartment 3.5 above.	Poor	No
	3.8	Open area of mown grassland with occasional Wavy Hair-grass and Sweet Vernal Grass. Yorkshire-fog, Common Bent, and Tormentil are frequent across the grassland. Other occasional species include, Creeping Buttercup, Yarrow, Selfheal, Rough Hawkbit, Heath Speedwell and Heath Wood-rush.	Moderate	No

Habitat and code	Compartment number	Description	Condition	HPI
	3.9	Mown grassland at western edge of the site opposite The Blue Ball public house. Species recorded include occasional locally frequent Common Bent and Sheep's Sorrel and a Fescue sp. Other species recorded as occasional across the grassland include Yorkshire-fog, Perennial Ryegrass, Greater Plantain and Common Cat's-ear. Species were difficult to identify here due to the grassland recently being cut. An SNCI review survey in 2008 (Cooper, 2008) recorded this area as acid grassland but there are certainly areas of neutral grassland influence and possibly higher levels of nutrient input from dog walking activities.	Moderate	No
Other neutral grassland (g3c)	4.1	Open grassland at the south-eastern edge of the survey area. The edges have been managed and are short with a retained belt of longer grass in a central strip over the southern part of the areas. Species include False Oat-grass, Rough Meadow-grass, Common Sorrel, a Vetch sp., Yorkshire-fog, Ribwort Plantain, occasional Grass Vetchling, Agrimony, Red Clover, Common Vetch. Creeping Thistle is occasional along the edges along with locally frequent Hogweed. The grassland widens out in the northern area of this compartment and scattered trees include Silver Birch, Hawthorn, Pedunculate Oak and occasional Goat Willow.	Good	No
Modified grassland (g4)	5.1	Closely mown cricket field just to the north of Mill Road. Species recorded include Annual Meadow-grass, Daisy, occasional Rough Meadow-grass, Creeping Buttercup, locally frequent White Clover and Perennial Ryegrass, Common Sorrel, Yarrow, a Cinquefoil sp. and locally frequent Yorkshire-fog. The grassland is longer around the edges where species identification improved. Some disturbance creating patches of bare ground were also noted. Japanese Knotweed was recorded along the northern edge of this field (see target note TN4). Signs of possible treatment of this species was noted but some younger regrowth is present.	Poor	No
Lowland mixed deciduous woodland (w1f)	6.1	Broadleaved woodland at the southern end of the survey area. Pedunculate Oak is frequent in the canopy. Beech and Sycamore are occasional across the compartment. Silver Birch is locally frequent with stands of Cherry Laurel occasional. A Periwinkle sp. was recorded close to residential properties (see target note TN2). Rhododendron is rare and recorded in the woodland parcel to the south of the M25 motorway. In this area Pedunculate Oak, Silver Birch and Yew are frequent. Across the woodland Holly, Broad Buckler-fern, Yorkshire-fog, Rough Meadow-grass, Annual Meadow-grass, and Bracken are locally frequent. Other species recorded as occasional include Rowan, Perennial Ryegrass, Germander speedwell, Herb-Robert and Creeping Buttercup.	Good	Yes
	6.2	A small area of woodland with Silver Birch and Pedunculate Oak in the canopy. Hawthorn is locally frequent in the shrub layer and the woodland is particularly dense in places, heavily shaded with a very sparse ground layer of vegetation. Other species recorded as occasional include Goat Willow, Rowan and Bramble. Some fallen deadwood habitat is present. Rhododendron is occasional.	Moderate	Yes
	6.3	A small area of young woodland surrounded by the most southern area of acid grassland. Pedunculate Oak is occasional and Hawthorn abundant. Bramble and Male Fern are frequent. Wood Meadow-grass was recorded as locally frequent. Other species occasional across the compartment include Honeysuckle, Dogrose, Common Gorse, Ground Ivy, Holly (saplings), Yew (seedlings), Garlic Mustard, Ground Elder and Sycamore.	Moderate	Yes
	6.4	Broadleaved woodland at the south-eastern area of the site just to the north of The Sportsman public house. Pedunculate Oak, Holly and Hawthorn are frequent. Ash, Wild Cherry and Silver Birch are locally frequent across the area. Species recorded as occasional in the canopy include Yew, Rowan and Field Maple. The field layer supports locally frequent Bracken, Common Nettle and Bluebell. Bramble is frequent across the woodland. A network of small woodland glades are present to the north where Cock's-foot is locally abundant. Rough Meadow-grass, Bracken, Yorkshire-fog, Sweet Vernal Grass and False Oat-grass are locally frequent in these more open habitats. Other species recorded as occasional across the compartment include Wood Meadow-grass and Wood Speedwell. Black Bryony and Cherry Laurel are present but rare.	Moderate	Yes
	6.5	A narrow strip of broadleaved woodland with frequent Pedunculate Oak and Holly. Blackthorn, Broad Buckler-fern, Bramble and Wood Meadow-grass are locally frequent. Other species recorded as occasional across the compartment include Silver Birch, Elder, Goat Willow and Cleavers. Sweet Chestnut (a sapling) and Wood Avens are also present but rare. The ground flora in the woodland is sparse.	Moderate	Yes
	6.6	A small narrow strip of broadleaved woodland surrounded by acid grassland. Pedunculate Oak and Holly are frequent in the canopy. Silver Birch, Rowan and Goat Willow were occasionally recorded. Bramble, Bracken, Broad Buckler-fern and Honeysuckle are locally frequent in the field layer. Holly saplings are occasional in the field layer along with Common Gorse.	Moderate	Yes

Habitat and code	Compartment number	Description	Condition	HPI
	6.7	Broadleaved woodland with frequent Pedunculate Oak in the canopy. Hawthorn and Silver Birch are both locally frequent across this area. Rowan is locally frequent. Wood Meadow-grass is locally frequent in the field layer. Other species recorded as occasional include Wood Speedwell, Broad-leaved Willowherb, Common Ragwort, Enchanter's Nightshade, Common Nettle, Male Fern and Creeping Bent. Bracken is locally abundant across this woodland compartment.	Moderate	Yes
	6.8	Large central area of broadleaved woodland with frequent Pedunculate Oak, Hawthorn and Holly. Scots Pine is locally abundant in some areas but broadleaved species dominate across the area. There are also areas of locally frequent Silver Birch. At the field layer locally frequent species include Bramble, Thyme-leaved Speedwell, Tormentil. Wood Meadow-grass is frequent along the edges of access routes. Other occasional species recorded include Yew, Sycamore, Sweet Chestnut, Rowan, Ling and Wood Speedwell. The woodland varies in structure with mainly three storeys of canopy structure (upper, middle and lower shrub layer) and there are some areas where there is a clear two storey canopy structure comprised of abundant Hawthorn in the middle layer. A shrub layer is lacking in these areas. There are also areas of undulating topography with deep hollows.	Good	Yes
	6.9	Thin strip of broadleaved woodland with frequent Pedunculate Oak. Silver Birch is locally frequent. Bracken is locally abundant in the field layer. Bramble is locally frequent across the compartment. Other species recorded occasionally include Hawthorn, Rowan, Sycamore, Holly, Common Gorse and Dogwood. Cherry Laurel is also present and occasional.	Moderate	Yes
	6.10	Small area of broadleaved woodland along the southern edge of Dorking Road. Silver Birch is abundant across the compartment with frequent Pedunculate Oak. Bracken and Bramble are also both locally abundant at the field layer and it is difficult to see any other ground flora. Sycamore and Common Gorse were occasionally recorded.	Moderate	Yes
	6.11	Broadleaved woodland just to the south of Walton Mill with frequent Pedunculate Oak and Silver Birch. Bracken is locally abundant at the field layer. Other species recorded as occasional across the compartment include Rowan, Yew, Elder, Holly, Sweet Chestnut and Common Gorse. Cherry Laurel is also occasional. The woodland structure here is lacking at the understorey layer.	Moderate	Yes
	6.12	Broad leaved woodland along the eastern edge of the survey area to the south of Mill Road. Silver Birch is locally abundant across the compartment. Other species recorded as occasional include Pedunculate Oak, Sweet Chestnut, Downy Birch, Scots Pine, Ash, Holly, Foxglove and Herb-Robert. Bracken and Wood Meadow-grass are frequent in more open areas of the woodland and Common Nettle is locally frequent across the compartment. There is a glade that supports a very small area of heathland (see target note TN3). Ling is locally frequent at this location. Other species recorded here as occasional include Sweet Vernal Grass, Heath Speedwell, Tormentil, Lesser Stitchwort, Common Gorse and Hawthorn. Site managers have recorded Adder in this area and habitat management should focus on enhancements with this species in mind as there are very few populations of Adder remaining within the M25 motorway around London.	Moderate	Yes
	6.13	Broadleaved woodland to the north of the survey area and to the west of Brighton Road (A217). Pedunculate Oak and Sycamore are frequent across the compartment. Beech, Scots Pine, Hawthorn, Rowan and Field Maple were all recorded occasionally. Silver Birch is locally abundant and Holly and Yew locally frequent. There is a good mix of shaded and open areas in this woodland. Rough Meadow-grass and Yorkshire-fog are locally frequent along more open access routes. Several glades are present where Wavy Hair-grass, Yorkshire-fog, Red Fescue and Bracken are frequent. Ling and Heath Bedstraw are locally frequent in these more open habitats. Other species recorded as occasional include Sweet Vernal Grass, Honeysuckle, Wood Dock, Wood Avens and Wood Speedwell. Dense stands of Cherry Laurel, of varying sizes, were recorded occasionally across the area.	Good	Yes
	6.14	A strip of dense broadleaved woodland to the east of the Brighton Road (A217) with frequent Pedunculate Oak, coppiced Hazel and Cherry Laurel. The Cherry Laurel is mainly located along the boundary with neighbouring properties to the east. Sycamore and Holly are both locally frequent. Ivy is locally frequent and Wood Dock frequent at the field layer with wood sedge occasional. Wall Barley, Bittersweet and Rhododendron were also recorded but were all rare. Dumped green waste was recorded at the south of the compartment close to St. Andrew's Church (see target note TN5) and some fly tipped waste was also recorded along the western edge of the woodland close to the road (see target note TN6).	Moderate	Yes

Habitat and code	Compartment number	Description	Condition	HPI
	6.15	Broadleaved woodland located to the north of New Road. Pedunculate Oak is frequent in the canopy with Hazel and Holly frequent at the understorey. Silver Birch is locally frequent. Ash, Yew, Sycamore, Horse Chestnut and Beech are recorded as occasional across the compartment. Bracken, Hogweed, Herb-Robert and Common Nettle are locally frequent at the field layer. Ivy is locally abundant. Nipplewort and Cherry Laurel are occasional in this compartment. A Bamboo sp. is also locally frequent.	Moderate	Yes
	6.16	A smaller area to the east of the above area also north of New Road. These two areas of woodland are separated by residential properties. Pedunculate Oak is frequent in the canopy with locally frequent Silver Birch and Cherry Laurel. Rowan is occasional. Bramble, Common Nettle, Rough Meadow-grass, Wood Meadow-grass, Wood Avens and Bluebell are locally frequent at the field layer. Other species recorded as occasional include Wood Dock, Nipplewort and Bush Vetch. A Pine sp. was recorded but is rare. Variegated Yellow Archangel is locally frequent towards the northern edge of the compartment (see target note TN9).	Moderate	Yes
	6.17	Large are of broadleaved woodland to the north-west of Dorking Road and south-east of Mere Road. Peduculate Oak, Silver Birch, Holly and Cherry Laurel are frequent across the compartment. Sycamore and Hazel are occasional. Silver Birch is locally abundant at the northern area close to Mere Road (see target note TN10). Scots Pine is locally frequent. Bracken and Bramble are locally abundant at the field layer. The understory is lacking close to access points and this may be managed to promote a sense of openness at these locations.	Moderate	Yes
	6.18	Broadleaved woodland to the north of Mere Road. Pedunculate Oak and Yew are frequent at the canopy layer. Silver Birch and Holly are locally frequent. Sycamore and Beech are occasional. Bramble is locally abundant at the field layer. Cherry Laurel is locally abundant across this woodland and Grey Squirrel were observed multiple times. Green waste was recorded close to The Bell public house at the north-west of the woodland (see target note TN11). Public access across this compartment was higher compared with other areas of the site at the time of the survey.	Moderate	Yes
Lowland heathland (h1a)	7.1	Area of heathland with locally abundant Ling. Low lying young Hawthorn is frequent across this area along with Yorkshire-fog and Sweet Vernal Grass. Bramble and Bracken are also locally frequent. Other species which were recorded as occasional include Lesser Stitchwort, Slender St. John's-wort, Heath Speedwell and Honeysuckle. The majority of the Heather is at the building/mature stage where present and provides good low lying cover for resident wildlife. However the degenerate phase of Heather was not recorded and Hawthorn scrub is frequent.	Poor	Yes
	7.2	Heathland with locally abundant Ling. Tormentil, Heath Bedstraw and a feather moss sp. are locally frequent across this area. Species recorded as frequent include Red Fescue, Sweet Vernal Grass, and Hawthorn. Cock's-foot and Broom are occasional. The compartment has frequent stands of Common Gorse and Hawthorn scrub with a mosaic of acid grassland. The areas of dense scrub cover >50% of the area.	Moderate	Yes
	7.3	Lowland heathland with a mosaic of acid grassland and locally abundant Bracken and Ling. Red Fescue, Yorkshire-fog and Sweet Vernal Grass are locally frequent. Young Hawthorn scrub is frequent along with Tormentil. Other species recorded as occasional include Heath Bedstraw, Fine-leaved Fescue, Common Knapweed, Heath Wood-rush, Ribwort Plantain. There are areas where Bracken is abundant and little else is growing at the field layer due to the layers of dead Bracken.	Poor	Yes
	7.4	Heathland compartment at the north-east end of the survey area south of Mill Road. Ling is locally frequent along with Wavy Hair-grass, Sweet Vernal Grass, Tormentil and Heath Speedwell. Bracken is frequent. Other species recorded occasionally include Bell Heather, Cross-leaved Heath, Silver Birch, an Oak sp., and Fine-leaved Fescue.	Moderate	Yes
Hawthorn scrub (h3f)	8.1	A strip of abundant Hawthorn scrub just to the east of a small patch of remnant heathland (h1a (1)). Pedunculate Oak, Honeysuckle, Bramble and Common Gorse are all occasional in this habitat.	Moderate	No
	8.2	Area of dense dominant Hawthorn scrub with a mosaic of acid grassland. Common Gorse, Bramble and Pedunculate Oak are occasional within the scrub. Bracken and Ling are locally frequent in open areas of habitat within the scrub. In these open patches Hawthorn (saplings), Sweet Vernal Grass, Red Fescue and Common Sorrel are occasional.	Moderate	No

Habitat and code	Compartment number	Description	Condition	HPI
Standing open water and canals, r1 Secondary codes: 362 (artificial lake or pond).	9.1	Heavily shaded woodland pond at the eastern edge of the survey area within compartment w1f (4) at What3words location **farm.lies.employ**. Some standing water is present and turbidity is high. No emergent or marginal vegetation and the water level was low at the time of the survey.	Moderate	No
	9.2	Woodland pond located to the east of Dorking Road close to The Duke's Head public house at location **spray.sums.thanks**. This pond is also heavily shaded by nearby vegetation but is holding some water. The pond is long and narrow and parallel to the road.	Poor	No
	9.3	Pond also located to the east of Dorking Road at location **flies.radio.pizza**. The pond was not holding water at the time of the survey and the surrounding vegetation is dense. The marginal and vegetation in the wider area comprises Yellow Iris, Common Comfrey, and locally dominant Common Nettle. There is also a connecting ditchline present to the south of the pond.	Poor	No
	9.4	Another pond close to the above pond at location **Lanced.forced.rising** also to the east of Dorking Road. The pond is dry and heavily shaded by the woodland habitat.	Moderate	No
	9.5	Pond located south of Chapel Lane at **gains.paper.dinner**. >50% of the pond is shaded by the woodland habitat to the south-east. Marginal species include locally frequent Yellow Iris, an introduced non-native iris sp., occasional Bittersweet, Hawthorn and Broad-leaved Dock. Emergent vegetation includes occasional White Water-lily. An anecdotal record of a non-native Terrapin was provided by a local resident.	Poor	No
	9.6	Woodland pond, also known as Priests Mere Pond, at north-west of Mere Road location **thigh.dime.trying**. Open water present with occasional Yellow Iris along the margins. Surrounding vegetation includes occasional Pendulous Sedge, a Brome sp., Goat Willow and Creeping Buttercup. The pond looks as though it is disturbed fairly often. Possibly due to the proximity of the nearby access route.	Moderate	No
	9.7	Heavily shaded woodland pond to the north-west of The Bell public house at the north-west of the survey area at location **milk.lucky.wins**. A willow species is abundant around and emerging from the pond. Fringe vegetation includes occasional Hazel, Ash, Cleavers and Hogweed. Common Nettle is locally frequent.	Poor	No
	9.8	A body of standing water along a woodland ride at location **boot.code.patio**. No marginal or emergent vegetation present. Fringe vegetation includes frequent Yorkshire-fog and Rough Meadow-grass. Remote Sedge is locally frequent. Other species recorded as occasional include Bramble and Bracken.	Moderate	No
	9.9	Pond within woodland compartment 6.8 at location **juror.remit.cafe**. The pond is heavily shaded, turbidity levels are high and there is no marginal or emergent vegetation. A Duckweed sp. was recorded.	Moderate	No
Line of trees (w1g6)	10.1	A line of trees within grassland compartment 4.1. Pedunculate Oak and Hawthorn are frequent. Dogwood is locally frequent along this line. Other species recorded as occasional include Silver Birch and Wild Cherry.	Moderate	No
	10.2	A line of trees just south of woodland compartment 6.8. Pedunculate Oak and Hawthorn are both frequent. Bramble is locally frequent. Other species recorded as occasional include Sweet Chestnut, Dog Rose and Bracken. There area couple of gaps >5m.	Moderate	No
	10.3	A line of semi-mature and mature trees to the south-west of line of trees compartment 10.2. This line is composed of frequent Hawthorn and occasional Pedunculate Oak, and Elder.	Moderate	No
	10.4	Line of trees along the edge of Dorking Road with frequent Pedunculate Oak and locally frequent Silver Birch. Sycamore and Hawthorn are both occasional. Bramble, Common Gorse and Common Nettle are all locally frequent at the shrub layer.	Moderate	No

6.12 Species

Desk study

Below is a summary of known species information for the site gathered from past surveys and other documents relating to the site. It includes the results of the data search (Surrey Biodiversity Information Centre, 2023) which lists protected species and species of conservation concern recorded within 1 km of the site. The full results of the data search are presented in Appendix 7.

Fauna

Invertebrates

The survey area supports suitable habitat for invertebrates including lowland mixed deciduous woodland, acidic and neutral grassland, lowland heath, dense scrub and ponds.

The desk study returned records of Species of Principal Importance (SPI) within the site including Small Heath, Dingy Skipper, White Admiral, Grizzled Skipper and Brown Hairstreak. Additional SPI results returned within 1km of the site include Small Blue, Grey Dagger, Dusky Thorn, White Letter Hair-streak, and Stag Beetle.

A number of red data list species records were also returned within the search area. These include Stag Beetle and Purple Emperor Butterfly (within 1km), Lobe Spurred Furrow Bee and Reticulate Blood Bee (both within the site boundary) which can be both found in areas of heathland and acid grassland habitats. See Appendix 7 for the results list.

The nationally scarce Bog Bush-cricket has been previously recorded at Banstead Heath in 1982 on an open heathy area to the east of the site. The colony was still hanging on in 1998 in the small remaining patch of Heather (Baldock, 1999).

Oak Processionary Moth (OPM) is present on Banstead Heath. As well as weakening the tree leaving it vulnerable to other threats, this species is also a hazard to human and animal health.

Amphibians

The survey area supports aquatic habitat suitable for amphibians including Smooth, Palmate and Great Crested Newt, Common Frog and Common Toad. Suitable breeding habitat includes the various ponds across the site. Terrestrial habitat includes areas of woodland, dense scrub and long grassland areas. No amphibians were recorded during the site survey.

Great Crested Newt have been recorded within the site boundary. The data search returned records of Great Crested Newt, Smooth Newt, Common Frog and Common Toad within the 1 km search area. Great Crested Newt and Common Toad are SPI.

Reptiles

The survey area supports suitable habitat for all widespread reptile species; Adder Grass Snake, Common Lizard and Slow-worm. Suitable habitats include areas of lowland heathland, longer grassland, dense scrub, woodland edges and ponds.

Four of the six native species of reptile are recorded within the site boundary including Adder, Common Lizard, Grass Snake and Slow-worm. All UK reptile species are SPI.

The population of Adder at Banstead Heath is an important one as the number of Adder populations within the M25 area are limited. Six known meta-populations between M25 motorway and Greater London have previously been recognised (SARG, 2024) and four populations have been recognised within the Greater London area (English Nature, 2005).

Birds

The site supports suitable breeding bird habitat within woodland, line of trees, areas of longer grassland, lowland heathland, dense scrub and pond habitats. The desk study returned records of the following notable bird species within the 1km search area including Skylark, Northern Lapwing and Tree Pipit which are all SPI. The following bird species were recorded during the survey:

- Blackcap
- Dunnock
- Blackbird
- Chiff chaff
- Carrion crow
- Jackdaw
- Wood pigeon (BoCC[2] - Amber)
- Skylark (SPI, BoCC - Red)
- Magpie
- Buzzard
- Pheasant
- Yellowhammer (SPI, BoCC – Red)
- Robin
- Tree creeper
- Moorhen (BoCC – Amber)
- Jay

In addition, the data search returned records of two notable bird species within 1km, including Hobby and Common Crossbill that are listed as Schedule 1 species under the Wildlife and Countryside Act 1981, as amended.

Mammals

Badger

An active Badger sett known to BCC is present in woodland compartment 6.8 (for compartment location see Figure 1). Signs of Badger activity including setts, latrines, foraging signs, push-throughs, hairs were not recorded during the survey.

Bats

Six habitat groups were recorded as being suitable for foraging and commuting bats. Details of these are provided in Table 6. BCC are working with Surrey Bat Group to carry out an intensive survey of the site in 2024 to establish which species are using the site to commute, forage and roost.

[2] Birds of Conservation Concern

Table 6: Habitats in the survey area suitable for use by bats

Habitat	Suitable Use for Bats
Broadleaved woodland	Commuting, foraging and roosting
Grassland habitats	Commuting, foraging
Lowland heathland	Commuting, foraging
Dense scrub	Commuting, foraging
Standing Water	Foraging
Line of trees	Roosting, foraging and commuting

No desk study records of bats were returned within the site boundary.

Records of common pipistrelle, Nathusius' Pipistrelle, Leisler's, Noctule, Serotine, a Myotis sp. and Brown Long-eared were returned as part of the data search within 1km of the site.

Noctule and Brown Long-eared are both SPIs.

Hazel Dormouse

The survey area supports suitable Hazel Dormouse habitat in the form of broadleaved woodland, areas of dense scrub and line of trees.

Signs of Hazel Dormouse activity were not recorded during the survey.

The desk study did not return records of Hazel Dormouse within the site or within 1km of the site. However a record of a granted European licence application for Hazel Dormouse was found within 1km of the site online approximately 200m east of the site boundary in the Mogador area (DEFRA, n.d.)

Hazel Dormouse is a SPI.

Other mammals

The desk study revealed historical records of West European Hedgehog and Polecat within 1km of the site. None of these records were within the site itself. West European Hedgehog and Polecat are both SPI.

During the habitat survey evidence of Mole was recorded and Grey Squirrel were observed.

Flora

One hundred and forty-eight vascular plants were recorded during the survey. This is a fairly typical number given the habitats present, the large area covered by the survey and the time of year. A list of vascular plant species recorded within each habitat type and their abundance is provided in Appendix 3.

Rare and notable species

The desk study returned records of 26 notable plant species within the site which include Ling, Bell Heather, Cross-leaved Heath, Harebell, Common Eyebright, Petty Whin, Common Rock-rose, Mat-grass, Tormentil, Sanicle and Heath Speedwell.

In addition the data search returned records of an additional 52 notable plant species within 1 km of the site.

Of the species recorded in the survey 31 of these are listed as Surrey axiophytes which are notable plant species, indicators of habitat and are important for conservation (BSBI, n.d.). Axiophytes recorded during the site survey include the three Heather species mentioned above and also Field Maple, Grass Vetchling, Bush Vetch, Wood Anemone, Heath Bedstraw, Mouse-ear Hawkweed, Tormentil, Yellow Rattle and Black Bryony.

Area of acid grassland, lowland heathland, broadleaved woodland and pond habitats have the potential to support further rare/notable plant species. See appendix 7 for the species list returned with the desk study.

Invasive and non-native plant species

The data search returned records of 6 invasive non-native Schedule 9 species within the boundary of the site:

- Wall Cotoneaster
- New Zealand Pigmyweed
- Variegated Yellow Archangel
- Parrot's Feather
- Japanese Knotweed
- Rhododendron

Of the above species Variegated Yellow Archangel, Japanese Knotweed and Rhododendron were recorded during the survey.

In addition to these a further three schedule 9 species have been recorded within 1km of the site (see appendix 7).

Furthermore, the following species that are not listed on Schedule 9 but which are known to be non-native invasive species were recorded during the survey:

- Cherry Laurel
- A Bamboo sp.
- Greater Periwinkle
- An Iris sp.
- A Pheasant Berry sp.

A Japanese Knotweed survey and management plan for the Banstead Commons including this site was undertaken in 2022 (Japanese Knotweed Specialists, 2022). The 2022 survey found six locations of Japanese Knotweed at Banstead Heath. Only one of these was found during this survey (see target note TN4).

The Eastern Grey Squirrel, a non-native invasive, is abundant across the site. A local resident provided an anecdotal record of a Terrapin in the pond south of Chapel Lane (see pond 9.5, Figure 1). Oak Processionary Moth have been recorded on site.

Target notes

Details of target notes recorded during the survey are presented in Table 7 below.

Table 7: Target notes

Target note number	Description
1	Large Birch tree with moderate bat roosting suitability. Located at TQ 23824 53041 (what3words volume.lawn.silks)
2	Greater Periwinkle recorded on the edge of a wooded road close to residential properties. Located at TQ23956 52924, spicy.timing.club.
3	Woodland glade within woodland compartment 6.12.
4	Japanese Knotweed recorded along the northern edge of grassland compartment 5.1 at location TQ23796 55770, **called.ground.path**.
5	Overgrown bar-way access point and dumped green waste.
6	Fly tipped metallic waste located on the edge of woodland close to the roadside at TQ 24190 55601, **penny.awards.scare**.
7	Pheasant Berry located at TQ 24188 55676, **closet.fade.glare**.
8	Depression at woodland edge at location TQ 23362 55659, minute.brands.giant. A possible historic pond location.
9	Variegated Yellow Archangel recorded in woodland compartment 6.16 at location TQ 23186 55730, **long.bucket.money**.
10	Locally abundant Silver Birch at location TQ23023 55483, **filled.couches.backs**.
11	Green waste observed at location TQ22642 55708, rock.recall.scans north-west of The Bell public house.
12	Area of dominant Silver Birch woodland located at woodland compartment 6.17 TQ 23295 55325, **bleak.system.pools**.
13	A hollow within woodland compartment 6.17 at location TQ 23252 55219, **normal.print.loud**.
14	Woodland floor modified by mountain biking activities at location TQ 23199 55200, **backs.forces.oath**.
15	Green waste close to residential properties at approximate location TQ23759 52986 **pretty.claims.comic**.
16	A Bamboo sp. close to the Blue Anchor public house at approximate location TQ23576 55647 **early.proven.candy**

7 Management Plan Features

Based on the assessment above, the following ecological features have been selected as the focus of this management plan.

- Feature 1 – Grassland (including lowland acid grassland, neutral and modified grassland)
- Feature 2 – Woodland (including line of trees)
- Feature 3 – Lowland Heathland
- Feature 4 – Dense scrub
- Feature 5 – Standing open water (ponds)

7.1 Feature 1 - Grassland

Assessment of significance

The grassland on site falls within the following habitat categories:

- Lowland dry acid grassland
- Other lowland acid grassland
- Other neutral grassland
- Modified grassland
- Bracken

Lowland dry acid grassland

Two of the grassland compartments (see 1.1 and 1.2, Figure 1) fall within the definition of this priority habitat (UK habitat Ltd, 2023). These two areas of grassland met the definitions due the number of species per square metre, number and frequency of acid grassland indicator species present such as Tormentil, Heath Speedwell, Heath Bedstraw, Bird's-foot Trefoil, Ling and Mouse-ear Hawkweed.

Lowland dry acid grassland is an uncommon and declining habitat and is recognised as a HPI under Section 41 of the NERC Act 2006. The lowland dry acid grassland habitat is an important part of the mosaic of habitats which make up the site at Banstead Heath which has been recognised as being of county importance.

Other grassland

Nine other areas of grassland (g1d 3.1 – 3.9, see Figure 1) fall into the category of other lowland acid grassland. Acid grassland indicator species are present in these areas but they don't quite meet the criteria for the priority habitat as above. Some of these areas have a mosaic of neutral grassland especially along main access routes and junctions where the footfall from site users is higher.

One area each of Bracken (2.1), neutral grassland (4.1) and modified grassland (5.1) were also recorded across the site. All areas of grassland habitats fall within the Banstead and Walton Heath SNCI so are regionally important and form part of the diversity of habitats for which the site was designated.

Objective

Retain the current areas of acid grassland whilst increasing the biodiversity value across all grassland compartments.

Threats to habitat and associated species

Grassland requires active management in order to retain its conservation interest. Without management, tall vigorous grasses will dominate and dead plant matter will accumulate. This will suppress the less vigorous species and the botanical diversity of the grassland will decrease. Eventually without management natural succession will cause grassland to become scrub and finally woodland.

If the grassland is managed by cutting without removing the arisings, the nutrients in the soil can increase and a thatch of dead plant material will accumulate. This also can lead to tall vigorous grasses dominating and little opportunities for new plants to germinate.

Nutrient enrichment is a threat to areas of acid grassland as the acidic sward has evolved to rely on free draining sandy soils with low fertility. Nutrients can enter the soil as a result of dog walking activities, the dumping of green waste, and also through inappropriate management such as mowing without collecting arisings or application of fertiliser. Where soil becomes more nutrient rich, vigorous grasses and forbs will establish, which can additionally spread over the wider area and outcompete the acidic species. Many of these species, once established, can be difficult to remove without intensive management.

Invasive non-native species such as Japanese Knotweed, can cause problems in grassland habitats as can invasive native species such as Thistles, Docks, Common Nettle, Field Bindweed and Bracken if allowed to dominate and spread into neighbouring habitats.

The hotter, drier summers and wetter winters with more extreme events predicted as a result of climate change are likely to alter the composition of grassland habitats. For example drier conditions will favour stress tolerant (e.g. deep-rooted) and ruderal species due to the increased gaps/bare ground in swards (Natural England and RSPB, 2019). The longer growing season may mean that more than one cut a year, avoiding bird nesting season due to the Skylark population, may be required to suppress the more dominant grassland species (Plantlife, 2019)

Management measures and rationale

Table 8 presents the management measures and Table 9 presents the targets and Key Performance Indicators (KPIs), supported by the rationale detailed in the sections below.

Targets for grassland areas under the HLS agreement will take priority. In these areas condition assessments under Biodiversity Net Gain (BNG) have been provided for information only and do not form a part of the agreement. The BNG elements can be used as guidance in these areas.

In order to enhance the biodiversity of the existing areas of acid and neutral grassland, it is recommended that each year's growth of vegetation should be removed. This can be achieved by grazing (as in traditional pastureland) for compartments where grazing infrastructure is in place or by cutting (with the cuttings ideally removed from site). Grazing

infrastructure can be permanent in nature, achieved through the use of temporary electric fencing or through the use of virtual GPS fencing systems for grazing livestock.

Grazing

Conservation grazing in combination with mechanical management would be the optimal management approach for the grassland and lowland heath habitats on Banstead Heath.

Mechanical management over the years has produced a relatively uniform sward across the site that lacks in structural diversity. Grazing livestock would create a mosaic of micro habitats that will increase the biodiversity value and enhance plant and animal communities.

Stocking densities and the time of the year the livestock are introduced to a grazing compartment will depend on the condition of the habitat, desired impact and the prevalence of the measured indicators of success which can vary year on year depending on weather patterns.

The creation of several separate enclosures will allow flexibility in managing and achieving the ideal grazing regime. This will enable different compartments to be grazed at slightly different intensities or could be rested for a time if necessary (e.g. in case of wet conditions or drought which may effectively stop plant growth).

Careful consideration of numbers, time of year they are introduced and suitability of different breeds/species of livestock, together with implementation of infrastructure that enables targeted grazing management would be required. Low stocking densities are attributed to anything under one livestock unit per hectare and in the case of the conservation grazing project stocking densities will be closer to 0.5 livestock units per hectare (Gloucestershire Wildlife Trust). This is only a guideline and focus should be on the condition of the sward rather than adhering to a rigidly defined stocking density (RSPB, 1997).

A grazing plan will identify enclosures and infrastructure, management objectives for each enclosure and the monitoring methodology and indicators of success (as detailed in the HLS outcomes). Regular monitoring is required to not only record impact but also prevent overgrazing.

It important that the local community is well informed on what would be considered a significant change in the management of the site. Experience on our chalk downland sites has shown that once animals have been re-introduced, and the public knows that they are there for positive conservation management, then our user groups generally welcome and have been supportive of the return of traditional livestock to the landscape.

Grassland and scrub under the HLS agreement

A total of eleven grassland areas at Banstead Heath are under the HLS agreement. These include (see Figure 1):

- Lowland dry acid grassland (compartments 1.1 and 1.2)
- Bracken (compartment 2.1)
- Other lowland acid grassland (compartments 3.1 to 3.7)
- Other neutral grassland (compartment 4.1)
- Modified grassland (compartment 5.1)

Option HK15 - Management of grassland for target features

Manage the sward by grazing and/or cutting to achieve a sward height of between 5cm and 15cm in April and May and between 5cm and 15cm in November.

If livestock is used the stocking density should not exceed 0.2 livestock units (LU) per hectare for a six week period between 01 May and 31 July.

Due to limited resources only select areas will be cut and collected (see Figure 2). All other grassland areas will be cut only with the arising left in situ. Monitoring will be undertaken to compare the results for neighbouring areas with these differing management approaches.

In areas where there are no ground nesting birds, an annual cut can be taken from mid-July to September. A second later cut between October and December can be undertaken, if resources allow, and this may help to remove the last season's thatch as the winter becomes milder and the growing season lengthens (Plantlife, 2019).

Field operations and stocking must not damage the soil structure or cause heavy poaching. Take particular care when land is waterlogged.

Do not cut hay or silage before 30 June, always leaving at least 10% uncut in any one year (this does not need to be the same 10% each year). All cutting that could damage the sward must be removed.

Do not apply fertilisers, organic manures or waste materials (including sewage sludge) unless specifically agreed in writing with your Natural England adviser and / or stated in a capital works programme.

Do not top, roll or harrow between 01 October and 30 June. Do not treat more than 30% of the total grassland area in any one year, and always leave a minimum of 5% tussocks / longer grass.

Ploughing, sub-surface cultivation and reseeding are not permitted.

Do not install new drainage or modify existing drainage systems unless agreed with your Natural England adviser.

Control undesirable species such as Creeping Thistle, Spear Thistle, Curled dock, Broad-leaved Dock, Common Ragwort, Common Nettle so that their cover is less than 5% of the area. Agree all methods of control with your Natural England adviser.

To benefit Great Crested Newt, the land within a 200m radius of a breeding pond must be managed extensively and no new barriers such as buildings, walls, tracks, or footpaths created. Potential hibernation sites such as Rabbit burrows, log piles, rocky areas or woodland should be retained. Consult your Natural England adviser, and get an agreement in writing, before starting any management operations.

Follow a programme (agreed in writing with your NE adviser) of rotational Bracken management through cutting / bruising / spraying / burning of dense Bracken stands / deep Bracken litter layers. Never manage more than 20% of the site in any one year.

An excessive coverage of Bracken across a grassland is an indicator of poor condition, as Bracken can grow in large swathes forming a dense canopy which can out-compete other

grassland species. However, where Bracken does not grow excessively, it can form an important part of the vegetation mosaic within a grassland, providing shelter for the fauna on site, including food plants for some butterfly and moth species. Dead Bracken can also provide important cover for reptiles, and Adder are often associated with Bracken stands.

Compartment 2.1 is currently dominated by Bracken. This can be maintained as such as it does provide some variety for the mosaic of habitats across the site but this should be monitored so that Bracken does not spread too much into neighbouring grassland compartments 3.3 and 3.4 (see Figure 1).

Grassland outside of the HLS agreement

In order to enhance the biodiversity of the three remaining grassland areas, it is recommended that each year's growth of vegetation should be removed. This can be achieved by cutting (with the cuttings ideally removed from site or placed in a designated spot for composting (see green triangle icons on Figure 4 for proposed locations)). These can provide habitat for fauna such as Grass Snake and allows for the survival of any invertebrate larvae/pupae present in the stems of the cut grassland plants.

Like the measures above an annual cut should be taken from mid July to September. A second later cut between October and December can be undertaken, if resources allow.

Grassland compartments should only be cut where possible as some areas are difficult to access due to the topography or are wet. Wetter areas should be avoided or sensitive areas where Adder are known to overwinter.

Leaving some areas (approximately 10% of the grassland areas) uncut each year will be important as a refuge for overwintering invertebrates and shelter for a range of species including reptile and small mammals. This optional enhancement can be rotated so that different areas are left unmanaged each year.

Bracken should be managed in the summer months either by mechanical methods, such as mowing or scything, or using a targeted herbicide by an appropriately qualified operative.

Grassland management across all compartments

Bracken and scattered scrub in all grassland compartments should be managed so that it is present below 20% and 5% cover respectively. This should be monitored each year and managed with a staggered approach as mentioned above in the areas under the HLS agreement. At the time of the survey the extent of Bracken cover was greater than 20% in compartments 3.3, 3.4, 3.5, 3.6 and 3.7. The Bracken here should be managed so that it is reduced in cover across these grassland areas.

Cutting of dense areas of scattered scrub habitat should be achieved by an operator on foot using a brushcutter or heavier machinery using a hydraulic arm to reach the scrub outside of the breeding bird nesting season, September to February inclusive. Any management of scrub habitat using machinery within the breeding bird season, March to August inclusive, should be avoided or undertaken under supervision of a suitably experienced ecologist.

Table 8 presents a summary of the management measures.

Table 8: Feature 1 - Grassland - management measures

Map reference	Action	Timing
Compartments 1.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9 (see Figure 1).	Manage the sward by cutting.	Mid July – September (and 2nd cut between October and December if resources allow).
Compartments 1.1, 1.2 and 3.1.	Manage the sward by cutting and collecting.	Mid July – September (and 2nd cut between October and December if resources allow).
General and as agreed in HLS areas (see Appendix 11).	Rotational Bracken management.	June - August (as required).
General	Scattered scrub management within grassland (where required).	Winter (October to February inclusive) and outside of the breeding bird season.
Green triangle icon on Figure 4.	Create compost heaps in designated locations.	Following management in cut and collect areas.

Targets and KPIs

The targets and KPIs are detailed in Table 9.

Table 9: Feature 1 - Grassland - targets and KPIs

Target type	Number	Target	KPI
HLS – HK15	1	**Compartments 1.1, 1.2, 2.1, 3.1 (partially), 3.2, 3.3, 3.4 (partially), 3.6, 3.7, 4.1.** From 1st September to 28th February at least 10% of the field should have grasses that are allowed to go to seed and with the seed heads left undisturbed.	Percentage of grasses with retained seed heads in autumn/winter.
HLS – HK15	2	**Compartments 1.1, 1.2, 2.1, 3.1 (partially), 3.2, 3.3, 3.4 (partially), 3.6, 3.7, 4.1.** At least two of the positive indicator species should be occasional: Common Knapweed, Common Bird's-foot Trefoil, Autumn Hawkbit, Tormentil, Ox-eye Daisy, Goat's Beard, Meadow	Abundance of listed indicator species.

Target type	Number	Target	KPI
		Vetchling, Harebell, Bell Heather, Common Stork's-bill, Heath Bedstraw, Sheeps Sorrel, Wood Sage, Wavy Hair-grass, Sheep's Fescue, Sweet Vernal Grass.	
HLS – HK15	3	**Compartments 1.1, 1.2, 2.1, 3.1 (partially), 3.2, 3.3, 3.4 (partially), 3.6, 3.7, 4.1.** By year 2 of HLS agreement, cover of indicators of water logging (tufted hair-grass, rushes, large sedges, large grasses) should be <30%.	Percentage coverage of indicators of water logging.
HLS – HK15	4	Archaeological features in compartments 3.5 and 3.7 to have suffered no further degradation. The depth of soil covering the features has been maintained. Detrimental indicators (e.g. burrows, bare patches, scrub growth, poaching and erosion) cover <5% of the area.	Condition of archaeological features.
HLS – HK15	5	**Compartments 1.1, 1.2, 2.1, 3.1 (partially), 3.2, 3.3, 3.4 (partially), 3.6, 3.7, 4.1.** Populations of nationally rare/nationally scarce/locally significant species should be maintained.	Abundance of notable species.
HLS – HD5	6	**Compartments 3.5 and 3.7.** Scrub cover to be <5% on the scheduled monuments.	Cover of scrub.
HLS – HD5	7	**Compartments 3.5 and 3.7.** A grass sward to be present across the scheduled monuments.	Presence of a grass sward.
HLS – HD5	8	**Compartments 3.5 and 3.7.** Scheduled monuments – Three quadrangular earthworks at Banstead Heath to be maintained in good condition.	Condition of scheduled monuments.
HLS – HD5	9	**Compartments 3.5 and 3.7.** There should be no active Rabbit burrows in the banks of the earthworks.	Presence of active Rabbit burrows.
BNG	10	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Varied sward height.

Target type	Number	Target	KPI
BNG	11	Cover of Bracken is less than 20% and cover of scrub (including Bramble) is less than 5%.	Extent of Bracken and scrub habitat.
BNG	12	All grassland compartments to be in moderate or good condition by 2033	Condition of grassland compartments

7.2 Feature 2 – Woodland (including line of trees)

Assessment of significance

The woodland in Banstead Heath, compartment 6.1 – 6.18 (see Figure 1), comprises Lowland Mixed Deciduous woodland, which is a HPI. In addition, the majority of the woodland falls within the SNCI. It is therefore of regional importance, supporting notable and protected species including Schedule 5 invertebrates, mammals and reptiles and Schedule 1 birds.

Amphibians including Great Crested Newt are likely to be supported by the woodland during their terrestrial phase. In addition, the woodland will support a range of breeding birds, and mammals such as bats, Badger and potentially Hazel Dormouse.

Four line of trees habitats were recorded during the survey, compartments 10.1 – 10.4 (see Figure 1).

Objective

Retain woodland and line of trees on the site at their current extent or greater and increase their biodiversity value.

Threats to habitat and associated species

Left unmanaged, woodland tends to deteriorate in terms of biodiversity value. This is generally due to a loss of open space due to a closure of the tree canopy. This can lead to a loss of ground flora and associated species such as butterflies as well as a lack of tree regeneration.

Other threats to woodland include the spread of invasive plant species such as Japanese Knotweed, Rhododendron, Cherry Laurel, Bamboo and Variegated Yellow Archangel. All these species have been recorded within the woodland on this site. Cherry Laurel in particular can severely reduce the biodiversity of woodlands. If left unmanaged Cherry Laurel can easily spread and will subsequently become even more difficult to eradicate. Its tendency to form dense stands prevents natural regeneration of the canopy, understorey and field layer severely degrading the biodiversity value of the site. Japanese Knotweed has the ability to outcompete native flora with detrimental impacts on biodiversity and local infrastructure such as buildings and railways (CABI, 2023).

Dumping of waste vegetation within woodland areas can cause nutrient enrichment and the spread of non-native species through seeds and/or rhizomes (see target notes TN5, TN11 and TN15, Figure 1 and Table 7).

Over tidying of standing and fallen deadwood can remove the habitat for a number of protected and notable species that rely on this habitat, in particular fungi and invertebrates.

Grazing animals such as Roe Deer and Grey Squirrel can cause significant browsing damage to trees. Numbers of Grey Squirrel in England have been increasing in recent years and are predicted to continue rising (Matthews, 2018). Numbers of deer such as Roe Deer and Muntjac have increased in recent years and Muntjac is predicted to continue rising although Roe Deer are now considered to be stable (Matthews, 2018).

Tree diseases such as Ash dieback will likely cause the loss of the majority of Ash trees over the coming years.

The effects of climate change over the next decade are likely to have significant impacts on the woodland habitat. The greatest threat to woodlands from climate change is likely to be an increase in the frequency and severity of summer drought. This could lead to an increase in stressed trees which are more susceptible to insect pests and diseases (Natural England and RSPB, 2019). In addition the majority of insect pests that currently affect UK woodlands are likely to benefit from climate change as a result of increased activity and reduced winter mortality (Broadmeadow, 2005). In addition the risk of wind-throw may increase if the UK experiences more storms (Natural England and RSPB, 2019).

Management measures and rationale

Previous management

The Banstead Commons Conservators manage a large amount of land covering over 500ha split over four sites. Two of the sites are all or partly covered by SSSI designation. Two of the sites, including Banstead Heath are not SSSIs but are selected as SNCIs in the Reigate and Banstead Borough Council Local Plan. Banstead Commons Conservators must use their limited resources to manage all four sites and inevitably priority is given to the sites with the SSSI designation. Therefore, woodland management on this site in the past has mainly been limited to maintaining footpaths, existing glades, and tree safety issues. The main glades within the woodland are cut on an annual basis.

Future management

The woodland on site is currently in varying condition as assessed under the condition assessment criteria of biodiversity net gain metric version 4.0 (Natural England, 2023). The results of the condition assessment of the woodland compartments on site is shown in Figure 3 with the detail given in Appendix 5. Priority will be given to enhancing the condition of the woodland blocks currently assessed as in poor condition (to moderate condition) before proceeding to enhancing those currently assessed as being in moderate condition (to good condition).

In general focus will be given to;

- Removal of invasive species – particularly Cherry Laurel;
- Maintaining and increasing the open space within the woodland;
- Further developing edge habitats (ecotones) at boundaries of woodland with other habitats;
- Thinning to reduce dominance of Silver Birch woodland in areas where this species is dense and in areas where this management work would increase and enhance connectivity between existing woodland glades which will benefit the Adder.
- Increasing the deadwood habitat (both standing and fallen dead wood).

- Creation of species enhancements such as hibernacula, Stag Beetle loggeries and bat boxes.

No intensive management is currently required within the areas of woodland, other than to enhance them through light thinning management in specific areas (see Figure 4), removal of invasive non-native species and the introduction of additional features such as log piles and bat boxes as shown in Figure 4.

Light thinning and the removal of invasive non-native species will create temporary areas of open space and will allow the remaining trees to develop more fully. As well as increasing the diversity of woodland ground flora, increasing the light in these areas will make conditions more suitable for woodland butterflies such as Speckled Wood as well as encouraging the production of good quantities of seeds, berries and nuts on which the site's small mammals can feed.

In a natural or near natural state a woodland should contain a full range of structures in balance. This includes:

- A canopy layer of mature trees
- An understorey of immature and low growing trees
- A shrub layer of low growing shrub species and scrub
- A field and ground layer of herbaceous plants, ferns, grasses and bryophytes
- Deadwood habitat in each woodland layer and on the woodland floor

Trees should be managed for health and safety reasons. If woodland areas have not been managed for some time it is likely that some trees will need to be inspected and assessed. Unhealthy trees that are located close to well-used access routes may pose more of a risk for visitors. Fallen or hung-up trees may need to be managed and secured to remove a potential hazard. Some of the cut brash or cord wood (cut sections of the main trunk and limbs) material from this management should be retained in the woodland as decaying wood habitat piles which will provide refuge and a food source for amphibians, reptiles, small mammals and invertebrates. Any such trees should be dealt with first, and often larger trees in such a scenario can significantly change the canopy structure and light levels so further management may not be as intense or required.

Native species tend to be of greater value to wildlife than non-native species so when thinning trees and shrubs, priority will be given to removing non-native species.

New tree growth in managed compartments should be protected from browsing wildlife such as Roe Deer, Rabbit and unsympathetic management activities. For small areas using sustainable biodegradable tree guards to protect saplings or using cut brash material and lying this over cut stumps when coppicing can protect any regeneration. Tree guards should be 1.2 m tall and monitored and removed when the trees grow and become too large for the guard. Larger areas of woodland may need to use deer fencing to aid regeneration in order to enhance woodland structure in those compartments where a diverse structure is not present.

Some areas of woodland will be left as non-intervention areas to provide a refuge for species that prefer undisturbed habitats such as some species of bat.

Further detail on the above areas of focus is given below with details including area of work and timing given in table 10.

Line of trees

Trees should be inspected annually and managed if necessary, as some tree species may encroach on neighbouring habitats.

Establishment of trees in the medium and old age classes: this will have to occur naturally over time.

Removal of non-native invasive species

Although the removal of invasive non-native species as described below will be time consuming and costly, this management is essential in order to prevent the further deterioration of the woodland on the site. This is the most important priority in order to maintain and enhance the condition of the woodland across the site and therefore if resources are limited to carry out all the recommendations in this plan, this should take precedence.

Cherry Laurel

Cherry Laurel is widespread throughout the woodland on the site and is becoming locally frequent in some areas. If left unmanaged this species will spread further and become even more difficult to eradicate. The species can form dense stands which prevents natural regeneration of the vegetation beneath and around it severely degrading the biodiversity value of the site. Therefore prioritising the removal of Cherry Laurel has the potential for significant biodiversity gains on the site.

Removing Cherry Laurel will open some areas up, especially closer to existing corridors and glades, and in time will encourage a more diverse shrub and field layer. It may take a few years to remove this species as it will often sprout back up even if spot treated with herbicide. Mechanical removal by manually cutting and pulling the stump from the ground using a heavy duty hand operated winch is another option to consider. This technique can be effective at removing the root systems of these plants from the soil in a shorter timeframe although this may be more labour intensive. The cut material should be burnt to prevent its regrowth.

The management using herbicide spot treatment can be harmful to wildlife, therefore where possible it is recommended that environmentally friendly eco-plugs are utilised to prevent regrowth. This can be undertaken by drilling into the stump to create a hole and then inserting the glyphosate or a glyphosate containing ‘eco plug’ (see Weed Killer For Woody Plants | Weed Control | ProGreen) is an effective way to kill off the plant while reducing the potential contamination of surrounding habitat.

Cherry Laurel was recorded as occasional in compartments 6.1, 6.2, 6.4, 6.9, 6.11, 6.14 and 6.15. It was frequent in compartment 6.17, locally frequent in 6.13 and locally abundant in 6.18 (see Figure 1 for compartments and Figure 4 for invasive non-native species removal).

Rhododendron

Rhododendron, a schedule 9 invasive non-native species under the Wildlife and Countryside Act, 1981 (as amended) was only recorded occasionally across the survey area. A small stand within compartment 6.1 in the woodland located south of the M25 motorway and also in woodland compartment 6.2. This species was also recorded in compartment 6.14 east of the Brighton Road at the north-east of the survey area.

Like Cherry Laurel this species can either be cleared by manually cutting and pulling the stump from the ground or by cutting and then treating the remaining stump with an approved herbicide. Either painting the freshly cut stump or drilling into the stump to create a hole and then inserting the glyphosate or a glyphosate containing 'eco plug' an effective way to kill off the plant while reducing the potential contamination of surrounding habitat. Re-growth of these invasive non-native plants should be checked each year and action taken if necessary to prevent its re-growth. The Forestry Commission have published some best practice guidance for managing Rhododendron (Forestry Commission, 2006).

Japanese Knotweed

Japanese Knotweed was recorded on the northern edge of grassland compartment 5.1 (see TN4, Figure 1). This species is listed on Schedule 9 of the Wildlife and Countryside Act 1981. Some dead plant material and a small amount of re-growth was observed at this location during the habitat survey. A management plan is already in place for the control of this species on the site (Japanese Knotweed Specialists, 2022) and this will be followed until the species is confirmed eliminated from the site. Another five locations were highlighted in the Japanese Knotweed management plan but these were not found during the survey. The management plan recommends a herbicide treatment plan via spraying and/or stem injection. Treatment and monitoring will be carried out twice a year (June-Nov) in years 1-3 with an annual monitoring visit carried out in years 4 and 5 if required. Two monitoring growing seasons that show no evidence of Japanese Knotweed growth are required before monitoring can stop. Green barrier temporary fencing and signage will be installed to prevent the public accessing the area.

Variegated Yellow Archangel

Only one patch of Variegated Yellow Archangel was observed during the survey in woodland compartment 6.16 (see target note TN9, Figure 1). It is possible this plant is present in other locations too. This species is listed on Schedule 9 of the Wildlife and Countryside Act 1981. It is extremely invasive and can quickly out-compete native woodland species. This species will be removed as a priority. Its presence is currently relatively localised, but if left, it could spread throughout the woodland.

It is difficult to completely eradicate this plant by mechanical methods alone. This is because any root or stem fragments left in the soil will quickly form new plants and the stems often break during manual removal. If manually removing, the plants should be pulled up by the roots followed by sifting through the soil for any remaining root or stem fragments. Autumn to early spring is the easiest time to do this when the soil is moist. Manual control combined with herbicide treatments is likely to be required to remove the plant from the site. Areas should be reassessed regularly to monitor for new plants.

Basic biosecurity measures should be implemented on site for site staff working close to any invasive non-native species (see Appendix 9).

Other invasive non-native plants

Greater Periwinkle (see target note TN2), a pheasant berry sp. (see target note TN7), an iris sp. (at pond 9.5) and a Bamboo sp. (see target note TN16) were all recorded during the site survey. All these species should be removed from the site.

Oak Processionary Moth (OPM)

The management and guidance as set out by the Forestry Commission for the management of OPM on Banstead Commons will be accorded with as well as reporting all new sightings of OPM via Tree Alert.

Maintaining and increasing the open space within the woodland

As discussed above, a lack of open space can lead to a loss of ground flora and associated species such as butterflies as well as a lack of tree regeneration. Therefore existing open space within the woodland will be maintained and opportunities to increase the amount of open space will be sought.

Existing glades are maintained by annual cutting. Where resources allow, glades with greater than 20% Bracken cover will be cut twice a year to manage the abundance of this species.

The interface between the woodland and shorter vegetation of the open glade habitat should be managed to maximise the amount of interface/edge habitat especially in areas where reptiles have been recorded. These habitat interface zones are of major significance to reptiles (Edgar, 2010).

Some areas of existing glade enhancement have been highlighted in Figure 4. It is recommended that light management in these areas is undertaken with hand tools rather than heavy machinery and that any scrub and tree cutting should take place between mid-September and February (inclusive).

The clearance of Cherry Laurel and Rhododendron as described above will also help to open the woodland up further across Banstead Heath. In addition, some Ash trees will inevitably need to be felled as Ash dieback takes hold and this will have the effect of further opening up the woodland in some areas of the site.

Encouraging edge habitat

The interface or ecotone between the woodland edge and surrounding natural habitat such as grassland is particularly important. Like the glade habitats above this graduated transition from woodland to open neighbouring grassland habitats provides a sheltered microclimate for invertebrates, reptiles, birds and small mammals. Retaining this as a scrub edge and enhancing this as part of the on-going management of the site will help to provide an important habitat.

The best way to achieve this will be to allow a scrub border (3-5m) to develop where woodland meets the grassland habitat. On the edge of the scrub, a buffer zone of long uncut grass (at least 1m wide) should be maintained. In order to maintain this, the grassland strip and scrub will need to be cut every three years rotationally in sections so that only part of the strip is cut in any one year.

Thinning

Thinning to reduce the dominance of certain species (e.g. Silver Birch) in areas where they are dense will help to open up the woodland, let more light reach the woodland floor and will boost the health of the remaining trees.

Three areas of thinning have been highlighted within this management plan. Two areas of dominant Silver Birch woodland in woodland compartment 6.17 (see target notes TN10 and TN12, Figure 1), and a network of thinning opportunities around the glade in compartment 6.12 (see target note TN3).

The glade in compartment 6.12 is a known area for reptiles and management here should be undertaken sensitively. Thinning areas of Silver Birch woodland to create corridors between the glade in compartment 6.12 and compartment 7.4 to the north as well as other smaller glade habitats to the south will improve connectivity for reptiles and also provide open habitat and microclimate opportunities for other species.

The work in this area will be undertaken by operators on foot and the risk of mortality to reptiles will be minimised by undertaking the work in the winter and not disturbing below the ground surface.

Corridors which comprise tree stumps, unwanted timber to form mounds mixed with soil and leaf litter will create beneficial habitat features for reptiles. These corridors should be created in sunnier lighter woodland running in an east to west orientation, if possible, to maximise long south facing sides (Edgar, 2010). Some survey work for reptiles is already being undertaken by the site managers at Banstead Heath and further survey work in collaboration with the Surrey Amphibian and Reptile Group (SARG) will help to plan beneficial scrub and tree removal and highlight existing sensitivities.

When undertaking thinning operations described above, some trees could be ring barked, pollarded or stripped of branches and crown to create standing deadwood.

When removing trees during thinning activities, priority should be given to removing Birch, Ash (showing signs of Ash dieback) or Sycamore. Mature trees will be avoided. It is important to note that before removing any trees an assessment should be made regarding the wildlife value of the target tree as some of these may support features which are suitable for roosting bats and birds.

Deadwood

Decaying standing woodland (standing dead wood) and lying dead wood are vital for the health and longevity of woodland habitat. This valuable dead wood habitat comes in many forms from dead twigs to large decaying trunks. Some of the woody material left over from habitat management tasks can provide valuable decaying wood habitat and be placed along the edges of rides and glades as refuge and provide a food source and basking opportunities for many species, especially on south facing edges. Proposed log/habitat pile locations are indicated by the brown spots in Figure 4.

Species enhancements

A lack of suitable roosting sites can be a limiting factor for the presence of certain bat species on a site and can limit the increase in numbers of others. A total of 8 bat boxes will be erected at Banstead Heath at four locations (see Figure 4). Two groups of three crevice bat boxes and one multi chamber at two locations will be installed. Within the clustered groups, the boxes will be located on one or nearby trees but facing different aspects. This is recommended by the Bat Conservation Trust (BCT) to provide a number of different options of temperature that the bats can move between based on their needs. At least one of the boxes in each group will

have a south-easterly to south-westerly aspect (see Appendix 9 for further information on installing bat boxes).

It is recommended that 6 crevice type boxes such as the Schwegler 1FF, or Beaumaris Woodstone Midi and 2 Large Multichambered Woodstone Bat Box or equivalent are erected within the woodland compartments.

Most bat species will use higher positioned boxes (approximately 4 m high). This will help protect the bats from vandalism and potential predators (Bat Conservation Trust, 2018). It is important to locate access points where they are unobstructed by vegetation.

Once installed the bat boxes should only be disturbed by an ecologist with a bat licence.

Protected Species

Good practice guidance specifically developed to protect wildlife and habitats to legally undertake work in woodland and forests indicates that works must be planned carefully and necessary check undertaken (Forestry Commission and Natural England, 2020). This must be implemented to ensure works comply with guidance and avoid the need for a mitigation licence for bats, Great Crested Newt and Hazel Dormouse. See section 8.2 for measures to be taken to reduce impacts on protected species while undertaking this work.

Table 10 presents a summary of the management measures.

Table 10: Feature 2 Woodland - management measures

Map reference	Action	Timing
Vertical brown lines on Figure 4.	Light woodland thinning management to increase light levels and encourage shrub and ground layered vegetation, removal of invasive non-native species, standing dead wood creation.	Mid September to February (inclusive), Year 2 (2025/2026), Year 4 (2027/2028), Year 6 (2029/2030), and Year 8 (2031/2032).
Green diamond hatching on Figure 4.	Maintenance of existing woodland glades by tree management.	Mid September to February (inclusive). As required.
Green diamond hatching on Figure 4.	Maintenance of existing woodland glades by mowing small grassy glades.	July to September (annually).
Brown spot icon on Figure 4.	Create log/habitat piles following habitat management works.	As wood is created from woodland management work.
All woodland compartments (6.1-6.18 as required).	Encourage understorey, shrub and field layers.	As required.
Whole site.	Continue Japanese Knotweed treatment programme.	2023-2027 (June-Nov) Ongoing as required

Map reference	Action	Timing
Compartments 6.1, 6.2, 6.4, 6.9, 6.11, 6.13, 6.14, 6.15, 6.16, 6.17, 6.18 (see Figure 1 and horizontal green lines on Figure 4).	Remove Cherry Laurel and Rhododendron	Mid September to February (inclusive). 2024-2033.
Compartment 6.16 (see target note TN9, Figure 1).	Remove Variegated Yellow Archangel (TN9)	Mid September to February (inclusive). 2024-2033.
Red square icon on Figure 4.	Install 8 bat boxes within woodland habitat.	Year 3 (2026/2027).

Targets and KPIs

The targets and KPIs are detailed in Table 11.

Table 11: Feature 2 Woodland - targets and KPIs

Target type	Target Number	Target	KPI
BNG	13	No invasive plant species in woodland habitats.	Presence of invasive plant species.
BNG	14	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth.	Number of woodland regeneration classes.
BNG	15	Recognisable NVC plant community present	Vegetation and ground flora composition.
BNG	16	All woodland compartments to be in moderate or good condition by 2033.	Condition of woodland compartments.
General enhancement	17	At least 8 bat boxes present on trees throughout the site by 2033.	Number of bat boxes.

7.3 Feature 3 – Lowland heathland

Assessment of significance

The heathland on site falls within the following habitat category:

- Lowland Heathland (HPI).

Lowland heathland is a Nationally Scarce and declining habitat and HPI. This habitat is important for invertebrates such as solitary bees and wasps as well as a range of other wildlife including reptiles and birds.

Four distinct areas of lowland heathland were recorded on site, compartments 7.1 – 7.4 (see Figure 1).

Two of the compartments, 7.1 and 7.3, were assigned poor condition based on the BNG condition criteria for the heathland habitat type (Natural England, 2023). Compartment 7.2 and 7.4 were assigned moderate condition. None of the areas are extensive and the heathland on site is competing with scattered scrub and grassland habitats.

The heathland compartments on site cover an area of approximately 6ha.

Objective

Retain the current area and increase the biodiversity value of the lowland heathland on the site.

Threats to habitat and associated species

Climate change in the UK is likely to cause increased temperatures, hotter and drier summers, and warmer and wetter winters. This change in climate may result in a longer growing season, increased evapotranspiration, increased risk of wildfire, drought, increased surface runoff and increased nitrogen deposition. As such, heathland is at risk of encroachment from grasses and trees, resulting in a loss of characteristic heathland plant species, which could then impact on availability of food and shelter for heathland specialist fauna. Invertebrates are particularly sensitive as some species are specialised to microclimates and a loss in heathland structure and biodiversity may result in local loss of some of these specialists. Increased fire risk will not only result in regular damage to heathland, but will result in an increase in carbon released into the atmosphere, by reducing the ability of heathland to act as a carbon sink (Natural England, 2020).

Birch and Hawthorn scrub are likely to establish across open heath areas if left unmanaged. In the absence of management heathland tends to be invaded by Bracken, scrub and trees and is eventually replaced by woodland (English Nature, 1996).

Management measures and rationale

A healthy heathland is one that has a varied diversity of dwarf shrub species, age classes, distribution of shrubby growth, and structure. This is created through a dynamic landscape of bare ground, pioneer, building, mature and degenerate Heather, with additional pockets of other shrubs (e.g. Gorse) and shaded areas (e.g. through feature trees or small Bracken stands). This structure creates diversity in microclimates, thus supporting a wider range of specialist species, particularly invertebrates.

Turf stripping

Turf stripping is a means of creating a dynamic habitat, perpetuating the growth of Heather across all age classes over time. Heather age classes are as follows:

- Pioneer phase (0-5 or 6 years)
- Building phase (~5-15 years)
- Mature phase (~15-30 years)
- Degenerate phase (30+ years)

Bare ground presence is also an important feature of a healthy heathland. If left to its own devices, the heathland would eventually produce a habitat with all age classes once again, however this would take a very long time. Turf stripping, done sensitively on a rotational basis, speeds up this process, by purposefully removing strips of Heather to leave behind bare

ground, which can then be colonised by Heather seedlings. It is both a breeding and hunting habitat for a range of invertebrates and vertebrate species and provides conditions for plants unable to tolerate any competition (Symes, 2003).

Opportunities to enhance and recreate heathland will continue to be undertaken as they form an important mosaic for a variety of flora including rare and notable species as well as fauna including bird assemblages and healthy reptile populations.

Stripping is particularly useful in combination with mowing to create areas of bare ground and short Heather turf in amongst taller, more mature Heather. Bare ground created through turf stripping may persist up to ten years in dry heaths (Plantlife, 2016). The surrounding Heather provides firm structure that provides a range of niches. Suitable structure for web spinning spiders, good shelter for other invertebrates and litter that harbours a range of species. Open bare sandy areas are associated with nesting burrowing bees and wasps, Tiger Beetles, Dung Beetles, ants and spiders (Price, 2003).

Aside from this benefit, turf stripping can be used as a local source of native Heather to be transplanted across other areas of Banstead Heath. This results in a low carbon means of sourcing this, as there are less emissions generated as opposed to importing from outside of the site. It also aids in local biodiversity as it supports native invertebrate communities carried over on the Heather and extending the available habitats across the site.

Areas to be stripped should prioritise gently sloping and ideally south-facing sites (although all aspects will be useful to some degree). Areas of wet heathland must be avoided.

Stripped areas should be spread around the site, to maximise the chances of survival in the event of wildfire, etc.

Narrow strips (<3 m wide) tend to favour reptiles (e.g. Common Lizards) whereas broader areas (3-4 m) are needed by many invertebrates. A mixture of these two methods should be undertaken, alternating each year.

Refuges (patches/strips of longer Heather) should be left between strips to provide shade and shelter for wildlife.

The edges (between bare ground & Heather or mown and unmown areas) are of particular importance and should be maximised. Many small areas are better than a single large area as there are more edges and more variety.

Disturbing created areas of bare ground habitat with site vehicular movements should be avoided.

The Banstead Commons Conservators can decide which are the most appropriate locations within each of these compartments to create turf strips as they will need to balance the structural diversity with their local knowledge of the site.

Scrub and sapling control

Ongoing maintenance will be required to manage new scrub and saplings in order to provide a varied age-structure and prevent either becoming too dominant. This should also include the pulling of tree seedlings to reduce further establishment of encroaching tree species. Hawthorn and Common Gorse scrub is also locally frequent in some compartments (notably

compartments 7.1 and 7.2). The level of scrub will need to be managed so that its cover is reduced slightly in these compartments so that the level of Common Gorse scrub remains below 50% and other scrub species below 15%. Some arisings can be kept on site as brash and log piles. All other arisings should be either chipped and removed from the site or burnt on corrugated iron sheets by an experienced land manager. Scrub and sapling management should be carried out in the winter months.

Fire breaks

With climate change continuing to result in hotter, drier summers, heathland is more and more at risk of wildfire. It is important to increase the resilience of the heath to fire and increase the effectiveness of fighting fires when they do establish. This can be done in part through management activity.

The heathland compartments at Banstead Heath are not extensive but as new areas of heathland are created thought will be given to layout of the heathland parcels so they incorporate 10m breaks or shorter vegetation between parcels and neighbouring habitats increasing their resilience to any fire events.

Fire breaks should be maintained as pioneer and low-growing vegetation. This acts to reduce fuel loading: although it will not necessarily prevent fire from crossing, it will result in a much slower burn which allows for a defendable line, and as such is much more manageable. Bare ground should be incorporated into this fire break as a mosaic, to both increase the resilience and to provide habitat to invertebrates.

Table 12 presents a summary of the management measures.

Table 12: Feature 3 Lowland Heathland - management measures

Map reference	Action	Timing
7.1-7.4	Rotational turf stripping across heathland compartments.	August, September (avoiding the peak of the bird nesting season and ground disturbance mid-winter for hibernating reptiles). Years 1, 3, 5, 6, 8, 9, 10.
7.1-7.4	Scrub and sapling management.	Mid-September to February (as required).
7.1-7.4	Heathland mowing for fire break management (where required).	October to December (as required).

Targets and KPIs

The targets and KPIs are detailed in Table 13.

Table 13: Feature 3 Lowland heathland - targets and KPIs

Target type	Target Number	Target	KPI
BNG	18	All age classes present with at least 10% pioneer Heather.	Presence of all Heather age classes.
BNG	19	The canopy cover of scattered trees and scrub (not including Gorse) is less than 15%.	Extent of scattered trees and scrub.
BNG	20	Total Gorse cover is <50%, with Common Gorse <25%.	Extent of Gorse scrub.
BNG	21	Unshaded bare ground is between 1-10%.	Extent of bare ground habitat.
BNG	22	All lowland heathand compartments to be in moderate or good condition by 2033.	Condition of lowland heathland.

7.4 Feature 4 – Dense scrub

Assessment of significance

The two areas of dense scrub habitat on site, compartments 8.1 and 8.2 (see Figure 1), fall within the Hawthorn scrub category.

The Hawthorn scrub habitat is an important part of a dynamic habitat mosaic with nearby areas of acid grassland, lowland heathland and lowland mixed deciduous woodland. The scrub habitat becomes more problematic when it begins to encroach upon neighbouring habitats, where it begins to act as an invasive on the acid grassland and heathland habitats. Without management intervention, the scrub habitat will naturally tend to increase in area over time.

The scrub supports notable and protected species including birds such as the Yellowhammer and Linnet which have both been recorded within the site boundary and are SPI. Yellowhammer was also recorded during the site survey around the Hawthorn scrub in compartment 8.2. Yellowhammers nest on, or close to, the ground, in ditch vegetation or at the base of short, thick hedgerows and scrub (RSPB).

Part of compartment 8.1 sits within the area of the HLS grassland option HK15 so targets for the HLS grassland option take priority. The BNG condition for this scrub compartment has been provided here for information only.

House sparrows have been recorded in the area (Surrey Biodiversity Information Centre, 2023). This species is now becoming increasingly rare. It has declined by 71% between 1977 and 2008. House sparrow are on the red list of BOCC4 and are also a SPI and associated with scrub habitat.

Objective

Retain the current area of dense scrub on the site and increase their biodiversity value.

Threats to habitat and associated species

Managing scrub inappropriately, either through neglect, over management, over too large an area, at the wrong time of year, can result in a reduction of species and structural diversity and a direct impact on the resources and refuge areas required by invertebrates, reptiles, amphibians, birds and small mammals.

Management measures and rationale

Management of scrub is useful as it helps maintain structural diversity and a range of age classes. Rotational cutting can help achieve this and help meet the criteria for BNG targets.

Cutting of dense scrub habitat, if required, should be achieved by an operator on foot using a brushcutter or heavier machinery using a hydraulic arm to reach the scrub outside of the breeding bird nesting season, September to February inclusive. Any management of scrub habitat using machinery within the breeding bird season, March to August inclusive, should be avoided or undertaken under supervision of a suitably experienced ecologist.

Table 14 presents a summary of the management measures.

Table 14: Feature 4 Dense scrub - management measures

Map reference	Action	Timing
	Cut back a quarter of the edges (approximately 1-2 metres) in each compartment every three years (starting year 2) alternating between the quarters. Create some small channels and bays within the scrub.	Mid-September to February (inclusive). Year 2 (2025), 5 (2028) and 8 (2031).

Targets and KPIs

The targets and KPIs are detailed in Table 15.

Table 15: Feature 4 Dense scrub - targets and KPIs

Target type	Target Number	Target	KPI
BNG	23	There is a good age range – all of the following are present: seedlings, young and mature scrub species by 2028.	Varied age range of scrub.
BNG	24	There are clearings, glades or rides present within the mixed scrub, providing sheltered edges by 2027.	Presence of clearings/glades and rides within the scrub.
BNG	25	All dense scrub compartments to be in moderate or good condition by 2033.	Condition of dense scrub.

7.5 Feature 5 – Standing open water (ponds)

Assessment of significance

The standing water on site falls within the following habitat category:

- Standing open water and canals (secondary code: 362 (artificial lake or pond)).

The nine ponds within the survey area were assigned either poor or moderate condition and some of these can be enhanced to some degree.

Waterbodies such as ponds are very good for local biodiversity and have the potential to support protected species such as Great Crested Newt and other amphibians such as Common Frog, Common Toad (a SPI) and Smooth Newt.

Objective

Maintain the number and increase the biodiversity value of existing ponds.

Threats to habitat and associated species

Non-native invasive species such as New Zealand Pigmy-weed, previously recorded in pond 9.5 (Cooper, 2008), can be a particular problem in ponds where they can quickly spread and outcompete native species. Native species such as blanket weed can also be a problem if allowed to become too dominant.

Excess shading by surrounding trees and shrubs will reduce the diversity of emergent and bankside plants. Falling leaves can also cause the pond to silt up. Eventually if left unmanaged, succession will cause invasion first by emergent vegetation as the pond becomes shallower and then by scrub and trees and in time loss of the pond altogether.

Excessive nutrients within the pond can cause a decline in water quality and species such as Blanket Weed and duckweed sp. to become over dominant. Nutrient enrichment could be caused by natural processes such as leaf fall or man-made factors such as run-off from roads or people feeding ducks.

The presence of large fish within ponds limits the wildlife that can survive. These fish will predate on pond wildlife, particularly tadpoles, larvae, and invertebrates.

Dogs entering ponds can cause disturbance to species using the ponds as well as damage emergent vegetation and erode banks. Chemicals from flea and worm treatments can also pollute the pond and threaten species.

Climate change may lead to more frequent periods of drought. This could have a number of effects through the lowering of the water level including a reduction in water for species to drink from as well as habitat for aquatic species such as dragonflies and damselflies and the larvae of pollinators (such as hoverflies and craneflies). There could also be a reduction in water quality through a decrease in dissolved oxygen in the water column and stagnation of the water.

Management measures and rationale

Priorities for management will include removing further bankside and overhanging trees and shrubs to allow more light into the ponds particularly on the southern side of the ponds. This will also reduce the rate of silting up due to leaf fall. Further de-silting some of the ponds would also be beneficial. Creating a new pond on the site could also bring significant biodiversity gains. Further details on these options are given for the individual ponds below;

Ideally work to a pond should be staggered over a number of years, so that only up to a third, is disturbed per year. This will minimise disturbance to pond life.

It may be beneficial to consider signage or fencing to prevent dogs entering the ponds, particularly if access becomes easier due to tree/shrub clearance. Alternatively, brash created during management work could be used to lock entrance points.

Most amphibians such as Great Crested Newt are usually only present within the ponds during the breeding season. Some individuals do remain in the pond over the winter period. At other times of year, terrestrial habitat is important and in the winter they need somewhere to hibernate. These places are natural hibernacula such as grass tussocks, small mammal burrows and root systems which will be present on the site, however they are often a limiting factor on sites. Therefore, creating some artificial hibernacula will add to the habitat available and provide refuge areas for amphibians on the site particularly during the winter for hibernation. Instructions on building a hibernaculum are shown in Appendix 10. They can be constructed from logs and brash, or bricks and stone, and are topped with soil to prevent frost. The hibernacula will also be used by other species such as reptiles, invertebrates and small mammals.

The management recommendations for the ponds for the next 10 years are summarised below. Where provided local pond names have been used along with the compartment number.

Exchange Lands Pond (9.1)

This pond was holding some water during the site survey but the area was heavily shaded and the water turbid. The trees overhanging the pond and around the fringes should be coppiced to allow more light in with some thinning of the trees along the southern edges. Some reprofiling of the pond may add diversity to the depth and shelving. No marginal vegetation was present.

This pond is small so starting with the tree management work first and assessing how the pond responds would be the recommended approach. Some dead hedging using the material from the management works can be erected in strategic locations along nearby permissive routes and rights of way to funnel dogs and visitors past from the edges of the pond. A dead hedge is an upright structure of woody cuttings woven between vertical stakes. They provide suitable habitat and refuge for birds such as blackbird, robin, wren and dunnock. They can be a good way of splitting areas and providing a natural screen (RSPB, 2023).

Improving the quality of the water for this pond would uplift the BNG condition from moderate to good.

Cricket Ground Pond (9.2)

Like the pond above this pond is holding some water although the water is being heavily shaded from neighbouring trees. Similar to above coppicing overhanging trees and any trees emerging from the water is recommended along with thinning of the trees along the southern edge.

This pond is close to areas with higher public pressure so some measures to protect the edges of the pond from access by dogs such as dead hedging or redirecting non-statutory footpaths would be recommended. Any litter from the nearby Dorking Road should be removed.

Undertaking the management recommendations above would likely uplift the condition from poor to moderate. This particular pond would not be able to meet good condition due to a criterion for surrounding semi-natural habitat and the proximity of the road.

Workhouse Pond (9.3)

This pond was difficult to assess fully due to the density of surrounding vegetation such as Common Nettle. The pond looked dry from the limited view but further survey work should be undertaken during the winter period to assess the waterbody more accurately. The pond is already quite open but some dredging, reprofiling or re-puddling may be required.

With some light management this pond could be uplifted from poor to moderate condition.

A small woodland pond (9.4)

This small remnant pond is located just to the north-east of pond 9.3 (above) although was dry at the time of the survey. The depression in the woodland was evident along with the presence of an iris sp. Some reprofiling of this pond is recommended along with the light thinning of select trees along its southern edge. Whether the pond needs to be re-puddled would depend on how it responds to the initial management measures.

With some light management this pond could be uplifted from moderate to good condition.

Chapel Road Pond (9.5)

This pond alongside Chapel Road was quite shaded from the woodland alongside its south-eastern edge. Some light thinning in the woodland here could improve light levels. A non-native iris was observed and this species should be removed from the margins of the pond. New Zealand Pigmyweed had been noted on a previous survey (Cooper, 2008) but not recorded during the recent site survey. This species could still be present and management should strive to remove this species if it is found to be present.

There are a number of different methods by which New Zealand Pigmyweed can be controlled, but managing this species is challenging. Mechanical and manual methods of control should be undertaken with caution. Fragments of New Zealand Pigmyweed as small as 5mm with a single node are capable of growing, and therefore mechanical or manual control comes with an extreme risk of spreading the plants to other areas. These methods should be used when there is no other possible course of action (NNSS, 2018).

Methods to control New Zealand Pigmyweed which include:

- **Chemical** – Glyphosate is often used but is usually only useful for emergent or terrestrial vegetation. Efficacy is moderate and not useful for submerged plants. This method requires experienced and qualified operatives. In general treat early and regularly (Environment Agency, 2010).
- **Mechanical** – Dredging and then the disposal of material through burning or composting well away from aquatic habitats. High risk of spreading the plant if not undertaken meticulously. Late summer and autumn should be avoided.
- **Manual** – Excavating plants by hand and then disposing of the material through burning or composting well away from aquatic habitats. Only suitable in areas that can be contained and there is high risk of exacerbating the problem.

- **Environmental** – covering the site with a black polythene or similar material for at least three months, but preferably six. Efficacy moderate but requires a site that is free from disturbance.
- **Biological** – There is some research looking at biological control using mites and these have been released across test sites and monitored (CABI, 2023). The host specific nature of some mite species have shown potential for the biological control of New Zealand Pigmyweed in the UK and Europe (Varia, 2022).

The priority going forward will be to raise awareness among staff on site and the prevention of spread to currently uninfected/isolated ponds elsewhere on site by improved biosecurity protocols (see Appendix 9).

Management measures implemented at this pond could uplift the condition from poor to moderate.

Withybed/Priests Mere Pond (9.6)

A small pond holding some water with Yellow Iris occasional along the margins. The water depth seems shallow so some reprofiling is recommended. The woodland here seemed to have higher public pressure with members of the public frequently encountered. Due to the proximity of the pond to a nearby permissive route the waterbody is likely being disturbed by dogs. Some protective measures, such as dead hedges, are recommended in order to funnel site users past the edges of the pond reducing the disturbance.

Some reprofiling of the pond would be recommended along with some very light thinning of the woodland along its southern edge. Surrey Wildlife Trust Ecology Services have recorded the smaller newt species, smooth/palmate, here previously and these species may still be present. Any reprofiling works should be undertaken in Autumn and outside of the amphibian breeding season.

Successful management of this pond could uplift the condition from moderate to good.

Rat Pub Pond (9.7)

A heavily shaded pond close to the Bell Pub (also known as 'The Rat') with Willow emerging from the water and over-hanging the edges of the pond. The water is turbid with high levels of leaf litter. This pond would benefit from some coppicing management of the Willow around the margins and over the pond. The thinning/coppicing of trees should also help reduce leaf litter in the pond.

Reprofiling and dredging may be required but another survey should be made following the coppicing work in order to assess how the pond responds to the coppicing management measures. Reprofiling/dredging management should be staggered so that not more than a third of the pond is impacted in any one year.

Removing silt and leaf litter can be achieved using hand tools such as a 'crome' (also known as a drag fork). The silt removed can be moved to a composting site or around the edges of the pond. This desilted area should recover quite quickly the following season.

Management of this pond could see an uplift from moderate to good condition.

Puddle Pond (9.8)

A small area of standing water along a woodland ride with grasses dominating the fringes. There is an opportunity here for some reprofiling to further define this pond and increase the water depth and encourage the diversity of vegetation.

The pond is situated in the middle of a wide woodland ride and suffers from significant disturbance from dogs. Protective measures, such as dead hedging or redirecting visitors to other nearby routes should be considered.

Management of this pond could see an uplift from moderate to good condition.

Banstead Heath Pond (9.9)

This is a heavily shaded pond lacking marginal vegetation and located in a quiet woodland glade. Due to how shallow this pond is it would probably benefit from reprofiling in order to create some structural diversity. Light thinning along the ponds western/south-western edge may help improve light levels and encourage more marginal and emergent vegetation.

A Duckweed sp. was recorded but was <10% cover. The level of Duckweed should be monitored.

Signs of disturbance from dogs were noted within the surrounding soils, possibly due to the proximity of footpath nearby. This pond may also benefit from some protective dead hedging or other measures to prevent disturbance to the pond margins.

Table 16 presents a summary of the management measures.

Table 16: Feature 5 Ponds - management measures

Map reference	Action	Timing
9.1 Exchange Lands Pond	Coppicing and thinning every five years.	September – December 2024 and 2029.
	Consider reprofiling and protective measures.	September – December. Ongoing.
9.2 Cricket Ground Pond	Coppicing and thinning every five years	September – December 2024 and 2029.
	Consider reprofiling and protective measures and remove litter.	Ongoing.
9.3 Workhouse Pond	Further visual assessment required when access to the waterbody improves.	October to February.
9.4 Small woodland pond	Thinning every five years.	September – December 2024 and 2029.
	Consider reprofiling and re-puddling.	September – December. Ongoing.
9.5 Chapel Road Pond	Thinning every five years.	September – December 2024 and 2029.

Map reference	Action	Timing
	Remove non-native species.	2024.
	Investigate whether New Zealand Pigmyweed and a Terrapin are still present and if present strategy for removal.	Ongoing
9.6 Withybed/Priest Mere Pond	Thinning of trees in woodland along southern edge.	September – December 2025.
	Consider reprofiling and protective measures.	September – December. Ongoing
9.7 Rat Pub Pond	Coppicing and thinning every five years.	September – December 2026 and 2031.
	Reduce leaf litter.	September – December 2026.
	Consider reprofiling, dredging.	Ongoing
9.8 Puddle Pond	Reprofile pond and implement protective measures.	September – December 2025.
9.9 Banstead Heath Pond	Tree thinning at west/south-western tree line edge, reprofiling and protective measures.	September – December 2027 and 2032.
General	If resources allow, aim to create at least 1 hibernaculum and 2 log piles within 250m of each pond but away from paths	Ongoing

Targets and KPIs

The targets and KPIs are detailed in Table 17.

Table 17: Feature 5 Ponds - targets and KPIs

Target type	Target Number	Target	KPI
BNG	26	At least 9 ponds on site by 2033	Number of ponds.
BNG	27	There is an absence of non-native plant and animal species.	Presence of invasive non-native plant and animal species.
BNG	28	All ponds to be in moderate or good condition by 2033.	Pond condition.

8 Other focus points considered within this plan

In addition to the habitat features above, the following features are also important focus points of this management plan;

- Focus point A - Public access and engagement
- Focus point B - Legal and other obligations

- Focus point C - Survey, monitor and review

8.1 Focus point A - Public access and engagement

Objective

To maintain the public access across the site for enjoyment, recreation and education.

Management measures and rationale

Table 19 presents the management measures, supported by the rationale detailed below.

The site supports numerous permissive routes including a number of public rights of way (public footpaths and bridleways) which are well used by the public (see Figure 2). The site seems to be busiest around the north/west of the site close to Mere Road where the woodland here is quite close to Walton on the Hill and Tadworth.

Public rights of way will be regularly monitored and kept free of obstructions and encroaching vegetation. Regularly mown paths will be maintained through grassland areas. In addition, litter picking and the removal of fly-tipping will be undertaken where resources allow.

A number of notice boards are located at key access points at the south of the site close to the Sportsman public house and along the Mill Road access points.

The Banstead Commons Conservators have recently obtained funding to set up a volunteer group for the commons. It is hoped that this will help to engage the local community with the site. The volunteers could be used for tasks such as cutting back the Cherry Laurel, although trained Banstead Commons Conservator staff would need to treat this with pesticide following the cutting to prevent re-growth.

Quarterly Meetings are a statutory requirement and are open to the public. In addition, the Conservators facilitate a consultative group made up of user groups and biological recorders and liaison meetings with our primary funders Reigate and Banstead Borough Council both of which are held quarterly.

Banstead Commons Conservators are implementing a professional dog walking licence scheme on Banstead Commons from April, 2025. From this date, all professional dog walkers operating their business on Banstead Downs must be licensed.

A programme of public engagement opportunities are held each year and include guided walks, family bioblitz days and presentations to local groups and societies.

Table 18: Focus Point A - Public access and amenity value - management measures

Compartment reference	Action	Timing
Whole site	Visual inspection of all paths and tracks with maintenance where required	Every 3 months
Compartments 1.1, 1.2, 3.1 and 4.1.	Regularly mow paths through grassland (as required).	Monthly during growing season (Apr-Nov)
Whole site	Site patrols and removal of litter and fly tipping.	As required

Compartment reference	Action	Timing
Whole site	Visual inspection of furniture including notice boards, with maintenance where required	Once a year
Whole site	Running of volunteer work parties	Throughout the year
Whole site	BCC Quarterly Meeting open to the public	Every 3 months
Whole site	Quarterly meetings for the Banstead Commons Consultative Group	Every 3 months
Whole site	Regulation of Professional Dog Walkers	Throughout year
Whole site	Programme of public engagement including guided walks, family bioblitz days and presentations to local groups and societies	Throughout year

8.2 Focus point B - Legal and other obligations

Objective

To comply with all legislation and other obligations relevant to the site.

The following legislation is relevant to the site:

- Metropolitan Commons 1866 Act and Metropolitan Commons (Banstead) Supplementary Act 1893 (including Banstead Commons Bye-laws)
- Commons Act 2006
- Health and Safety at Work Act 1974
- Wildlife & Countryside Act 1981(as amended)
- The Conservation of Habitats and Species Regulations 2017 (as amended)
- Environment Act (2021)
- Countryside and Right of Way Act 2000
- Natural Environment and Rural Communities Act 2006
- Wild Mammals (Protection) Act 1996
- Protection of Badgers Act 1992
- Forestry Act 1967 (as amended) – Felling Licences

Management measures and rationale

In order to achieve this objective, liaison will take place as required with relevant authorities such as Reigate and Banstead District Council, Natural England and Forestry Commission. A risk assessment will be in place for the site. Table 19 below presents the management measures, supported by the rationale detailed in the sections below.

An assessment of the likelihood of protected species being present on the site can be found in section 6.8 above and a summary of relevant legislation can be found in Appendix 6. Below is an outline of action that will be taken to prevent committing an offence under the relevant legislation.

Breeding birds

Woodland, lines of trees, all grassland habitats, dense scrub and lowland heathland have the potential to support nesting birds. Any management of trees, grassland and scrub will be undertaken outside the bird nesting season (which is typically 1st March to 31st August inclusive) unless there is an overriding need e.g. health and safety. Where this is the case, the area should be checked for nesting birds prior to commencing the activity, and delayed if required in order for chicks to successfully fledge.

Great Crested Newt

Terrestrial and aquatic habitat suitable for Great Crested Newt is present within the site. Records of Great Crested Newt were not returned within the site boundary but records were returned within 1km of the survey area.

Survey work or records generated for amphibians would be useful if undertaken early on so that any sensitive overwintering areas are identified before habitat management activities. This will avoid removing cover over hibernation sites and negatively impacting local populations.

Pond management work will need to be carefully planned to minimise the risk of deliberate killing, injuring or disturbing newts. Work should normally be carried out in late autumn through winter. Great Crested Newts will also be using other habitats on the site as terrestrial habitat. The Forestry Commission have published best practice guidance for woodland management where Great Crested Newt are present (Forestry Commission, 2016). Depending on the nature and location of the management, works should avoid the migration periods (February/March), late summer when young are leaving the water, and during the hibernation period (mid-October to February/March). Grassland should be left at a minimum height of 10cm wherever possible. If any compost heaps or log piles need moving, they should be dismantled by hand and any animals discovered placed in a cool, damp, sheltered place. Particular care should be taken in winter, when animals may be hibernating and are vulnerable to injury or death.

The following are good practice operations most likely to affect Great Crested Newt and their habitat (Forestry Commission, 2016).

- Felling– phase any work near a pond used by Great Crested Newts over several years, so that within key areas of habitat only 25% of the area is affected in any one year. The undisturbed areas will act as reserves of ‘refugia’ from which newts can colonise any worked areas as they become more suitable.
- Stacking - avoid stacking timber close to a pond used by Great Crested Newts unless such stacks are to be left solely as habitat. If you do have to stack timber in close to such ponds, then avoid key areas of habitat and remove the stacks within a few weeks and certainly before October.
- Extraction – where possible extract material using a forwarder rather than a skidder to reduce the risk of harming Great Crested Newts.
- Site preparation – try to avoid scarification or burning up of brash where Great Crested Newts use the woodland, but if it is necessary, ensure all site preparation is done before the area becomes suitable habitat – ideally within a few months of felling. Suitable habitat can establish very quickly and if brash etc is left in situ, then it could quickly be used by

newts, especially if surrounding habitat is of lower value. Do not rake or burn brash, or scarify areas within key areas of habitat near breeding ponds.

- Mowing regimes – modify the ride and glade mowing programme in key areas of habitat to ensure only a small proportion of the grassland habitat is cut in any one year. The undisturbed areas will act as reserves of 'refugia' from which newts can colonise any worked areas as they become more suitable.
- Track construction or other ground-works – avoid undertaking such activities within key areas of habitat.

Should a Great Crested Newt be identified during management works an ecologist should be contacted.

Reptiles

The survey area supports suitable habitat for Slow-worm, Grass Snake, Common Lizard and Adder. These species are protected under Schedule 5, Section 9 (1 & 5a) of the WCA and are SPI.

To prevent any risk of harming reptiles should they be present, mowing of areas of long grassland will only take place during the summer months when reptiles are active and can move away from harm. Likewise, areas of dead wood or vegetation piles will only be moved during the summer months as they may be used by hibernating reptiles and amphibians in the winter months.

It is recommended that reptile survey work already being undertaken continues to take place to determine the use of the site by these species, identify any sensitive areas and to focus site management activities more effectively.

In order to prevent any risk of harming reptiles should they be present, the following precautions will be taken:

- Undertake a high cut (above 10 cm if possible) to avoid injuring reptiles where cutting grassland with machinery.
- If possible, cut each large block in intervals staggered over a few weeks so that there is always sufficient cover available and retain some longer sections of grassland (cut biennially) as a refuge following the annual cut.
- Any established refuge features such as dense scrub habitat and habitat/log piles should be avoided with heavy cutting machinery during site management activities.

Avoid cutting any obvious large grass tussocks or ant hills which can be used as reptile hibernating sites. Likewise areas of dead wood or vegetation piles will only be moved during the summer months as they may be used by hibernating reptiles in the winter months.

Badger

Information provided by BCC highlights the presence of a Badger sett in woodland compartment 6.8. Other woodland compartments within the survey area also provide suitability for Badger.

Prior to any management work in compartment 6.8 a walkover check should be undertaken to check for signs of recent Badger activity.

Elsewhere on site a precautionary approach should be employed prior to any management work and a walkover check also undertaken.

Any works using plant or breaking ground within 30m or hand tools within 10m of a Badger sett is likely to require a licence. Should such works take place, an ecologist should be contacted to discuss the best way forward.

Bats

The survey area supports suitable bat habitat including roosting opportunities within the broadleaved woodland and mature trees found in other habitats. It is very likely that bats are using the habitats on site especially extensive areas of woodland with high potential for roosting opportunities due to the number of mature trees present. Foraging and commuting opportunities for bats also exist over the grassland, mixed scrub habitats. A tree with moderate bat roosting suitability was recorded in woodland compartment 6.1.

Records of seven bat species were returned with the desk study (see section 6.8 above).

As far as possible, all the mature trees on site will be retained, however if any works are planned for mature trees with holes, split limbs or ivy cladding a preliminary ground level roost assessment of trees (PGLRAT)) and/or a presence/likely absence survey will be undertaken prior to any work taking place. If felling of a tree supporting a bat roost cannot be avoided, a bat mitigation licence will be required.

The Forestry Commission and Natural England, with assistance from relevant conservation organisations, have produced guidance to help understand the legislation and to use good practice to operate within the law, avoid the need for licensing and benefit European protected species. Following the guidance will show that site managers have taken all reasonable steps to comply with the regulations (Forestry Commission, 2013).

By following the good practice guidance below you would not expect to require a protected species licence (Forestry Commission, 2013).

Stand management where the presence of a bat roost has been confirmed:

- Clearly mark and protect any trees that contain confirmed bat roosts.
- Retain a buffer or ring of trees and understorey around these roosts in order to maintain the environmental conditions of the roost; this will usually mean a ring with a width of one to two canopies around the tree. Ensure these trees do not become isolated from woodland, but maintain wooded ‘corridors’ or links to the wider woodland.
- Retain a similar buffer ring of trees and understorey around any underground structure or building likely to be used by bats, again ensuring that links are maintained to adjoining woodland.
- Within coppice, where roosts of Bechstein’s bats have been confirmed, try to avoid coppicing work in close proximity (50m) to the major roost site so as to reduce disturbance to their immediate flightlines and foraging area.

Stand management where presence of bat roosts has not been confirmed:

- Where there are comparatively few trees offering potential roosts sites avoid felling or disturbing any of them. Where there is an abundance of trees offering potential roost sites, ensure you are only felling a small proportion in any 10-year period.

- Where you are felling or thinning in woodlands with an abundance of trees offering potential roosts, leave a significant proportion of the area entirely undisturbed in that 10-year period.
- Similarly, when planning felling coupes retain belts of trees, e.g. along watercourses, and avoid creating isolated blocks of woodland. Avoid opening up gaps greater than about 20m in any linear features. This will help free movement of bats within the woodland.

Other woodland management practices:

- Retain (and encourage) as much understorey as is possible, in particular where it directly shelters or shades a known roost.
- Avoid opening up large areas of the canopy, particularly in areas containing bat roosts or in areas that may be used for foraging and commuting.
- Cut ride and/or trackside vegetation to sustain an insect-rich environment, but ensure that potential roosts in trackside trees do not become exposed.
- Ensure smoke and/or heat from managed fires does not affect roosts in trees or structures.
- Avoid major increases in the levels of noise and activity around confirmed roost trees (e.g. from rapid increases in recreational use or on-site wood processing).
- Retain deadwood habitats for the insects they support.
- Ensure a succession or continuity of potential roost trees for the future.
- Conserve mature and over-mature trees in the surrounding landscape.

Hazel Dormouse

Due to the proximity of a granted European Licence application within 1km (see above, section 6.12) a precautionary approach to the management work should be employed and any access route through the woodland habitats should be selected based upon minimal levels of vegetation. Good practice guidelines should be followed where Hazel Dormouse may be present (Forestry Commission, 2019).

8.2.1 The following prescriptions for operations must be followed and relate to specific management aspects for woodland where Hazel Dormouse is present (Forestry Commission, 2019). Records of Hazel Dormouse were not returned with the desk study but this species may be present and a record of a granted European licence application for Hazel Dormouse was identified approximately 200m from the site boundary. A further survey would be advised to ascertain presence or likely absence for Hazel Dormouse. Prior to any survey work best practice guidance should be strictly adhered to.

Size of woodland holding

- Small holding is when this is less than 20 ha in size and more than 500 m from adjacent woodlands and hedgerows
- Large holding is where the woodland is more than 20 ha in size or a series of interconnected woodlands
- Based on this, the woodland compartments at Banstead Heath would be considered as a large holding as the area of woodland within the survey area exceeds 20ha in size

Quality of woodland

- Features such as range of broadleaf tree species of different age classes, presence of shrub layer with Yew, Hazel Honeysuckle or Bramble, species-rich scrub or woodland margins, canopy connections and fruiting trees should be assessed, and the areas of favourable, marginal and unfavourable habitat should be mapped. Management areas should then be overlain and assessed in the context of the woodland holding.

Timing of works

- **Mechanised/motor or manual clear-felling or coppicing of trees.** Acceptable to use large base unit (up to 35 tonnes) with an articulated processing head to create wind-rows of logs and brash
    - Optimal season mid-September to October and April
    - In ancient semi-natural woodland (not present on site): clear-fell less than 10% of total favourable habitat in any one five-year period
    - All other woodland types clear-fell less than one third of total favourable habitat in any one five-year period
    - Avoid unnecessary disturbance of the ground
    - Work from centre of clear-fell outwards towards remaining habitat
    - Retain stands of adjoining felled areas until restocking or natural regeneration has reached a minimum height of 2 m
    - Avoid works May to mid-September inclusive
    - Works November to end of March inclusive is sub-optimal (to mid-September to end-October and April)
- **Mechanised/motor manual thinning and groups of felling of trees.** Acceptable to use large base unit (up to 25 tonnes) with an articulated processing head to create wind-rows of logs and brash
    - Optimal season mid-September to October
    - Achieve no more than two-thirds of an area in any five-year period, leave the remaining third undisturbed
    - Avoid works May to mid-September
    - Works November to end of March inclusive is sub-optimal (to mid-September to end-October and April)
    - Extraction acceptable to use self-loading forwarder, typically a tractor-based multi-wheeled vehicle (up to 30 tonnes) which loads timber onto the carrying bed with a self-propelled grab. Care should be taken to avoid causing permanent damage to ancient woodland soils (including compaction). Extraction between November and March inclusive is sub-optimal but suitable at other times of the year. Where there is shrubby vegetation adjacent to the stacks, extraction to take place promptly after felling between November and March. Where possible extract material using a forwarder to minimise extraction routes
    - Stacking to be located where the vegetation is short. Where shrubby vegetation is present remove stacks promptly following felling between November and March

8.2.2 The following prescriptions demonstrate good practice and should be followed:

- Aim to increase habitat connectivity to promote a network of interconnected habitats
- Enhance the shrub layer through coppicing and promote woodland regeneration

8.2.3 Scarification of the ground will be avoided during the winter period.

8.2.4 Any extraction of material by heavier machinery will need to be left until May-September when Hazel Dormouse are not nesting on the ground and where the ground is less likely to be disturbed.

Work in woodlands will avoid the bird nesting season (typically March to August inclusive). Work will not be carried out when the ground is particularly soft to avoid damaging the soil.

Should a Hazel Dormouse or nest be found during any management works, the works will need to cease immediately, and a licensed ecologist and Natural England representative will need to be contacted.

Tree safety

There is a legal duty of care for BCC to take all reasonable steps to identify any possible sources of foreseeable danger and, as far as is reasonably practical, to remove or manage them on land that is under BCC's management.

To enable these priorities to be met sufficiently regarding tree safety on the Commons, the BCC has adopted a Tree Inspection Policy (Banstead Commons Conservators, 2023a) and Methodology (Banstead Commons Conservators, 2023b) which is adhered to when carrying out tree inspections.

Tree Preservation Orders

It is unknown whether any of the trees on the site are covered by Tree Preservation Orders. The Local Council will be consulted regarding this before work to any trees takes place.

Felling Licence

It should be noted that felling or thinning trees may require a felling licence issued by the Forestry Commission and any tree management should be undertaken in the winter months between November and February (inclusive). In any calendar quarter you are allowed to fell up to 5 cubic metres (m^3) on your property without a felling licence (in fallen timber this would generally look like the amount it would take to fill a small car). You are also allowed to lop off branches without a felling licence and remove trees under around 10cm in diameter at breast height (think bean can width).

For woodland compartments where some thinning is recommended an exception to the $5m^3$ per calendar quarter applies to trees that have a diameter over bark of 10cm or less when measured 1.5m from ground level. For existing areas of coppice the exception applies to trees with individual stems that have a diameter over bark of 15cm or less (Forestry Commission, 2020).

However, it should be noted that the BCC is currently in communications with the Forestry Commission regarding an exemption under 'public open space'.

Protected species licence

If good practice principles are strictly adhered to the requirement for a mitigation licence can be avoided prior to management work. If in doubt, contact an ecologist for advice. See

Appendix 8 which gives a checklist for when a licence may be required when carrying out woodland operations.

Biosecurity

It is important that biosecurity measures are considered to reduce the spread of non-native species and diseases within and between sites. See Appendix 9 for basic biosecurity protocols.

Table 19: Focus Point B - Legal and other obligations - management measures

Action	Timing
Follow precautions in section 13.3 of management plan to prevent committing an offence under protected species legislation.	Ongoing
Liaise with relevant organisations such as Reigate & Banstead District Council, Natural England and Forestry Commission	As required.
Tree Safety Inspection	Once a year.
Ensure an up-to-date Risk Assessment Method Statement (RAMS) is in place for any work being undertaken	As required, to be updated once every 6 months at minimum.
Patrol for site encroachments	Regularly when on site
Consult local council regarding tree preservation orders before any tree work takes place	As required

8.3 Focus point C - Survey, monitor and review

Objective

This management plan will be monitored to ensure that the management remains effective and that the objectives and targets are achieved. Adequate survey data for the species and habitats should be used to inform management activities. The plan will be reviewed in its entirety in 2033.

Management measures and rationale

It is important that adequate survey and monitoring takes place so that sufficient information is available to make the best management decisions. It will also enable the Key Performance Indicators to be reviewed and progress against targets assessed. This will highlight whether a change to management action is required. A summary of the survey and monitoring work to be carried out is given in Table 20 below.

The habitats on site will be monitored to ensure that targets are being met. As part of this an updated condition assessment of the woodland, grassland and ponds will take place after 5 and 10 years. A check for non-native invasive plant species will be undertaken annually. The number, condition and use of bat boxes will be monitored annually.

Progress towards achieving the actions within this management plan will be reviewed annually with a more detailed review of progress towards achieving targets in 2028. The action plan will be amended as necessary to ensure that it remains realistic.

Outside funding opportunities should be explored when required, either formally through a Natural Capital Plan or informally. This could include agri-environment schemes, BNG offsite credits, cardon credit, fundraising or other means.

This management plan is designed to cover the next 10 years. In 2033 the entire management plan will be reviewed and ideally a new plan developed for the next 10 years. It should be noted that BNG targets span 30 years, these will need to be taken over to the new plan as required.

Table 20: Focus Point C - Survey, monitor and review - management measures

Map reference	Action	Timing
All habitats.	Updated condition assessment and habitat survey within the optimal survey period. Signs of Ash dieback in woodland areas should also be checked.	Years 2028 & 2033 (March to September inclusive).
All habitats.	Monitor annually for the presence of Schedule 9 non-native invasive plant species. If found create an action plan for their control.	Annual (Apr-Sept)
Woodland compartments 6.1, 6.8, 6.13 and 6.17 (see Figures 1 and 2).	Check number and condition of bat boxes. Investigate partnership with Surrey Bat Group to check usage of bat boxes.	Annual
Triangle icons on Figure 2.	Check grass cutting piles each October for signs of use (broken Grass Snake egg shells) and replenish with fresh cuttings.	Annually (late summer).
All habitats	Continue reptile surveillance in collaboration with SARG.	Monthly
6.1 and 6.4.	Hazel Dormouse survey of woodland compartments 6.1 and 6.4. Also consider other woodland and dense scrub compartments (if resources allow).	April to November years 2026,2029, 2032,
All habitats.	Consider additional species surveys for amphibians, birds, bats, other mammals and invertebrates including the Bog Bush-cricket.	Ongoing
All habitats.	Staff and visitor wildlife recording scheme.	Ongoing
All habitats	Review progress towards achieving actions.	Annually
All habitats.	Review progress towards achieving objectives and targets.	Years 2028 and 2033.
All habitats.	Review management plan and update plan for the next 10 years.	2033.

9 Biodiversity net gain assessment

Table 21 details the biodiversity gains that could be generated as a result of implementing this management plan (further details of how this was calculated can be found in Appendix 2: Methodology and in the BNG Spreadsheet provided as a separate document).

Table 21: Biodiversity gains

Headline results		Banstead Heath[3]
Onsite baseline	Habitat units	4827.68
	Hedgerow units	5.06
Onsite post-intervention	Habitat units	5120.08
	Hedgerow units	6.83
Total unit change	Habitat units	**292.40**
	Hedgerow units	**1.77**
Total % change	Habitat units	**6.06%**
	Hedgerow units	**35.01%**

3

> 10 % gain	0 – 9% gain	< 0% gain

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