Epsom Downs Golf Course Habitat Management Plan

2023-2028

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COUNTRYSIDE TEAM
EPSOM AND EWELL BOROUGH COUNCIL

Contents

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Small Blue on Kidney Vetch

Common Blue on Greater Knapweed

EXECUTIVE SUMMARY

Epsom Downs Golf Course is an extremely important site for wildlife and contributes hugely to the Biodiversity value of Epsom and Ewell and beyond. It contains the nationally and internationally important habitat of chalk grassland and is home to rare plants and animals such as Round-headed Rampion, Chalkhill Eyebright, and the Small Blue Butterfly to name a few. The management of the chalk grassland is vital to ensure this special habitat is not lost, as so much has already across the country through lack of management, scrub encroachment and habitat fragmentation. Such fragments of plants and animal communities that were once common throughout the Downs are now extremely rare and threatened by a range of land use changes. Its rarity gives this habitat a special value. The combination of plants and animals found here are effectively irreplaceable if damaged.

Over the last few years, work has continued to restore and maintain chalk grassland in the area around the 7th and 15th Tees, scrapes have been created to encourage chalk grassland species and the fauna that relies on these plants, along with scrub management and planting of Juniper trees. Work has also been carried out in the area of the World War 2 bunker near the 17th and 18th Tees to remove scrub from the Chalk Grassland habitat.

However, there is so much potential to do more if resources could be found. There are areas of chalk grassland being lost to scrub and if not dealt with, will be lost forever. Managing the chalk grassland needs to move from being something the that is fitted in if possible, to becoming a priority job with time directly allocated for it. Management must be more proactive towards habitat management and the special Biodiversity found within. A key focus of this management plan is to try to find practical ways to ensure the successful management of chalk grassland across the whole site and ensure its conservation.

There are three main objectives which should be achieved within the 5 years of this management plan

- Cut and collect arisings from grassland areas outside of the Fairways.
- Clear and subsequently manage scrub in key Chalk Grassland areas.
- Actively try and set up a dedicated site based volunteer group to compliment the volunteer work already happening on site.

Juniper – *Juniperis communis*

Chalk Eyebright - *Euphrasia pseudokerneri*

INTRODUCTION

The Countryside Team were asked to update the Epsom Downs Golf Course Five Year Management Plan. The past management plans were reviewed and meetings and discussions were had with the Downskeepers and Golf Course site managers, to come up with the prescriptions outlined within this management plan. The site was surveyed during the months of June and July 2020 and April 2021, to assess the habitats' current status and potential. This management plan focuses on the site's habitat management and the enhancement of its biodiversity value, particularly its habitats of principal importance, as outlined in the Natural Environment and Rural Communities Act.

STAGE ONE – DESCRIPTION

1.1 Introduction

The Northern area of Epsom Downs is home to Epsom Downs Golf Course. Although it covers a large part of Epsom Downs, there is still a significant area that is publicly accessible. People have access to wide-open vistas across the golf course with views to the north of the skyline of London and to the south the Countryside. Habitats include chalk grassland, scrub/grassland and woodland. These important habitats that surround the fairways are managed for wildlife and public access and make up an important part of the biodiversity resource for Epsom & Ewell.

1.2 Location

Epsom & Walton Downs are situated on the dip slope of the North Downs just south of Epsom town on the southern boundary of the Borough of Epsom and Ewell in Surrey. The grid reference for the centre of the Golf Course is TQ 222 589. It is included in the OS Explorer 146 covering Dorking, Box Hill and Reigate. There is one Right of Way that goes through the site from the south east corner of the site towards Burgh Heath Road. All public rights of way information can be seen via the Surrey County Council Interactive map. There are several other informal paths that cross the site.

1.3 Land Tenure and Associated Statutory Requirements

The Downs are private land owned by Epsom Downs Racecourse and managed by the Epsom and Walton Downs Conservators through an Act of Parliament. Epsom Golf Club leases the land from the Racecourse.

The Natural Environment and Rural Communities (NERC) Act 2006 currently includes a duty on public authorities to have regard to the conservation of biodiversity. The new Environment Act has amended this duty so that there is an expectation on public authorities to look strategically at their policies and operations from time to time (at least every 5 years) and assess what action they can take 'to further' the conservation and enhancement of biodiversity. They must also have regard to the relevant Local Nature Recovery Strategies, Species Conservation Strategies and Protected Sites Strategies, as part of the consideration. The production and implementation of a management plan will be a key part of adhering to this duty.

1.4 Local Designations

A borough wide review of Sites of Nature Conservation Importance (SNCI) was carried out in 2013. As a result of this review, the whole of the Epsom and Walton Downs was assessed as being SNCI quality. This was confirmed by the local sites partnership and adopted by Epsom and Ewell Borough Council. More detail can be found in the section below.

It is also within the North Downs Natural Area (more information available from Natural England) and is within the greenbelt. The site is also included in the Surrey Biodiversity Opportunity Area

(BOA) ND04: North Downs; Epsom Downs to Nonsuch Park. The aim of the Biodiversity Opportunity Areas (BOAs) is to establish a strategic framework for conserving and enhancing biodiversity at a landscape scale. BOAs identify the most important areas for wildlife conservation in Surrey and each include a variety of habitats, providing for an 'ecosystem approach' to nature conservation across and beyond the county. Therefore, the management work detailed in this report could be seen to provide a landscape link within the overall BOA network. Although not a statutory designation, BOAs are protected under Epsom and Ewell's Local Plan and are material considerations in planning applications.

1.5 Reasons for SNCI Selection

Epsom Downs Golf Course was designated a SNCI in 2013 due to the presence of species rich chalk grassland designated as National Vegetation Community (NVC) category - Bromus erectus grassland CG3.
It was also designated a SNCI due to the presence of the Small Blue butterfly, which is on list A of butterflies of importance in Surrey. The full report can be found in Appendix 1.

1.6 Photographic Coverage

Aerial photographs taken in 2003, 2009, 2011, 2013, 2016 and 2019 are held by EEBC. More recent aerial photographs of the site are available online from Google Maps, Apple Maps and Bing Maps.

1.7 Summary Description

1.7.1 Physical

1.7.1.1 Geology

The geological map relevant for this area is Sheet 286 Reigate printed in 1978. The entire area is Upper Chalk. The 1983 Soil Survey of England and Wales 'Soils of England and Wales Sheet 6 – South East England soil map' describes the resulting soil type as a brown redzina called Andover 1. This is a shallow well drained calcareous silty soil over chalk and found on slopes.

1.7.1.2 Topography

The Golf Course's lowest point is at the north of the site at about 100m and gradually slopes higher as you go south and east, with the highest point being about 150m.

1.7.2 Biological

1.7.2.1 Priority Habitats

The importance of the site is indicated by the fact the site includes Lowland Calcareous Grassland and Lowland Mixed Deciduous Woodland, which are Habitats of Principal Importance in England under the Natural Environment and Rural Communities Act. See Map 3. Full habitat classifications can be found at https://jncc.gov.uk/our-work/uk-bap-priority-habitats/

Lowland Calcareous Grassland

There are extensive areas that remain as Chalk Grassland. Working from north to south they include the old World War II bunker and WW2 woodland/grass margin, 15th Fairway Tee Rough, Burgh Heath Road Margin, 15th Fairway Rough, 14th Fairway Rough South, 6th Fairway Rough 5th Fairway Rough, Downs Road Scrub margin, Downs Road Grassland, 5th Hole Rough, Grandstand Road North Margin a, Grandstand Road South Margin, Old London Road West, and 10th Fairway Rough.

Lowland mixed deciduous woodland

There are 11 areas of woodland within the Golf Course. The main canopy species are Oak and Ash and all generally contain a mix including Field Maple, Sycamore, Hazel, Beech, Birch, Cherry,

Hawthorn, Blackthorn, Dogwood, Buckthorn, Privet, Yew and Holly with field layers of varying species diversity, often including large areas of Bramble and Ivy.

1.7.2.2 Other important habitats

Veteran/mature trees

It should be a priority to map veteran or near veteran trees across the site and ensure they have specific management plans to maintain and increase their longevity.

Grassland

The majority of the Golf Course is made up of grassland, much of which is publicly accessible and also contains hack rides for horses. The Fairways are clearly managed for golf and are not particularly interesting from a biodiversity point of view, but the rough areas, given that the geology is chalk, all have potential to be chalk grassland, if managed in the right way.

Scrub

Scrub is a very important habitat for birds, small mammals, reptiles and invertebrates and is found along the edge of Longdown Lane South, between Downs Road and Burgh Heath Road, and a large area in the centre of the course near Grandstand Road. It is also present in the scrub/grassland mosaic near the 16th Fairway, around the small blue scrapes and Buckles Gap Roundabout. It is made up of hawthorn in the main and some blackthorn and buckthorn.

1.7.2.2 Species groups

These important habitats within Epsom and Walton Downs support a wide variety of plant and animal species, including a wide range of plants including some rare chalk grassland species, fungi, lichens, bryophytes, birds, mammals, a wide range of invertebrates, and reptiles, including 5 priority species as identified in the Natural Environment and Rural Communities (NERC) Act. (The number is very likely to be much higher than this due to a lack of surveying for butterflies and birds.)

1.7.3 Cultural

*1.7.*3.1 History and Archaeology

The following is taken from the Epsom Golf Club website:

'It is known that well before the formation of the Club, Dr Laidlaw Purves of the Royal Wimbledon Golf Club and Mr Richardson of Sutton 'knocked a ball about' upon the Downs. A Mr T.W. Lang lived close by and made the most of the rough and ready natural greens between the racing grandstand and the rifle butts playing with other 'Wimbledonians'. The number of other local notaries joining them rapidly grew.

Further north another course was mapped out by the masters of Epsom College, which adjoins the Club, and began its life as the Royal Medical Benevolent College in 1851.

Towards the end of 1888, encouraged by Mr Mackey, residents started to take up the game paying a small subscription to pay for the rolling and sweeping of the first proper greens. A preliminary meeting was held at Bromley Hurst in Church Road, the home of Mr G.F. Burgess on 25 January 1889, which happens to be Burn's Night, and perhaps nods to the influence of the founding Scottish members. It was resolved that a club be formed with an annual subscription of 10 shillings and 6 pence.

The Lord of the Manor, Mr J.S. Strange granted permission and Mr Alexander Patrick of Wimbledon was employed to lay out a course roughly combining the Master's course and the one which had become known as 'Lang's' course.'

1.7.3.2 Public Access and Recreation

There are several on-site car parks present. There are two at Tattenham Corner and five along Grandstand Road, the largest one having a view point in to London. The nearest railway stations are

Epsom Downs Station and Tattenham Corner Station. There are no Rights of Way across the golf course, however there are hack rides and footpaths, which go around the perimeter of the three golf course areas and one which runs diagonally through the centre from where Old London Road and Tattenham Corner Road meet, to Burgh Heath Road and tee 15. (See map 2).
Obviously, the main recreation activity is playing golf but walking and horse riding is allowed on the designated paths. These paths offer spectacular views across to London and offer an opportunity to see a great diversity of chalk grassland plants.

View across the Golf Course to London

STAGE TWO – EVALUATION AND OBJECTIVES

2.1 Criteria for Evaluation

Size

The Golf Course covers approximately 56 hectares and is set in a relatively rural location on Epsom Downs, with Epsom Racecourse to the south and west, open fields to the west and northwest and residential housing to the east.

Naturalness

The fairway areas of the golf course are clearly improved and highly managed. In parts areas have been reseeded and fertilisers used. Car parks have been built as well as roads and the clubhouse associated with the golf course. Due to the close proximity of residential houses, there are a number of garden escapees, non-native species and invasive plants. Of the 250 plants recorded, only 10 are introduced, non-native and in some cases invasive, the rest are native species in Britain (Preston et al 2002). All of the non-native species were assigned 'rare' in abundance. Turkey Oak is proving to be invasive and whilst the number of larger trees is small, there are areas with lots of seedlings. The rest are at the moment not proving to be greatly invasive, although they should be monitored and ideally managed towards eradication. Particularly Canadian Goldenrod, Butterfly-bush and Michaelmas Daisy.

However, the areas of rough are excellent examples of unimproved chalk grassland and are home to some rare plants such as Round headed Rampion and also home to Kidney vetch, the foodplant of the Small Blue Butterfly which is a priority species.

Diversity and Rarity

366 vascular plants have been recorded, which represents a high number of species. Thanks must be given to Surrey Botanical Society for sharing their records as the species list has now increased by over 100 species.

Less surveying has been carried out of the Fauna found on site but the total is 215 species, mainly made up of invertebrates.

Bryophytes (Mosses and Liverworts)

No survey has been carried out, however as part of surveying for the habitats as part of the management plan, 9 were noted by Pete Howarth within the WW2 bunker area and small blue scrapes scrub/grassland.

Vascular plants

Of the 366 species recorded, 2 are NERC Priority species, Juniper and Chalk Eyebright. The Golf Course is also home to 5 species which are listed in the Surrey Rare Plant Register (updated October 2010). Sainfoin – Nationally Threatened, Round-headed Rampion – Nationally Scarce, Bastard Toadflax - Nationally Scarce, Rue-leaved Saxifrage – Surrey Scarce and Flattened Meadow-grass - Surrey Scarce.

Recorded on the site in the past but not seen for some time is Early Gentian. As well as being a priority species, it is considered a Surrey Rare species.

Additional species of note include, Kidney Vetch – uncommon in Surrey, and the only food plant for the uncommon NERC priority species Small Blue butterfly, Mistletoe – uncommon and unusually found in Hawthorn over the course and Small Toadflax – uncommon.

Invertebrates:

An invertebrate survey was carried out in 2009 and revealed the site to be important for invertebrates. Taken from the report '' the species recorded, clearly show that the non-amenity/sports areas of the Golf Course support locally important assemblages of invertebrates, notably the rich flower resource – largely associated with the roughs and regenerating bare chalk

scrapes – was found to be in favourable condition by Site of Special Scientific Interest (SSSI) standards, despite the site not being designated as such. In general, the mosaic of habitats ranging from bare chalk and flower-rich grassland through to mixed scrub and sheltered woodland edges/glades, provides a useful balance of habitat resources for invertebrates.''
A total of 210 species were recorded of which a total of 10 species have Red Data Book or Nationally Scarce status (4% of all species recorded) whilst a further 30 species are regarded as nationally Local (12% of all species recorded). In total 40 species (16% of the species recorded) are of conservation significance (i.e. RDB, Nationally Scarce, Local).

Molluscs and Oligochaetes (Slugs, Snails and Earthworms)
5 species of snail were recorded during the 2009 survey. There has been no survey carried out which has particularly focused on these groups of animals. Further surveying would likely reveal more species found on site.

Arachnids (Spiders, Harvestmen, Mites and Ticks)
31 species were found during the 2009 survey. A focused survey on this group of animals would no doubt reveal further species.

Lepidoptera

- Butterflies – A total of only 13 species have been officially recorded including the Small Blue and green Hairstreak, which are NERC Priority Species. Focused surveying would reveal further species using the site. The transect walked on Juniper Hill and Walton Downs regularly records around 30 species using the site.
- Moths – 7 species were recorded during the 2009 survey, including one nationally scarce (Nb) moth, *Recurvaria leucatella*. A focused survey would reveal further species using the site.

Coleoptera (Beetles)
60 species were recorded during the 2009 survey including *Anapsis thoracica*, which is Nationally Scarce (Nb), *Nephus quadrimaculatus*, the 4-spot Ivy Ladybird, which is on the Red Data Book list as RDB2, and *Taeniapion urticarium* which is rare in Surrey.

Diptera (True flies)
38 species were recorded during the 2009 survey including *Cheilosia soror*, which is Nationally Scarce and *Oswaldia muscaria*, which is uncommon.

Hemiptera (True bugs)
30 species were recorded in 2009 including a Hopper Bug called *Athysanus argentarius* which is Nationally Scarce (Nb) and a Mirid Bug called *Lygus pratensis*, which is on the Red Data Book list as RDB3.

Hymenoptera (Bees, Wasps and Ants)
A total of 20 species were recorded in 2009 including the solitary bee *Andrena minutuloides,* which is Nationally Scarce (Na) and Osmia bicolor - Two Coloured Mining Bee which is Nationally Scarce (Nb)

Orthoptera (Grasshoppers and Crickets)
4 species were recorded including *Metrioptera roeselii* - Roesel's Bush-cricket, which although is stated to be Nationally Scarce (Nb), it has expanded its range considerably since and is now quite common.

Other invertebrates
4 booklice, an earwig and a millipede were recorded including the booklouse *Psococerastis gibbose*, which is uncommon.

Herptiles
Common lizards have seen along Old London Road which are NERC priprity species and protected under the Wildlife and Countryside Act. No formal survey has been carried out. It is possible grass snakes and slow worm could use the roughs and scrub/grassland areas. With no water bodies on site it is unlikely there will be a great population of amphibians, however, if garden ponds are nearby, frogs, toads and newts may be present. No survey has been carried out.

Birds
No formal survey has been carried out but with 50 species having been recorded around the racecourse area of the Downs, and the habitats found on site, it is likely that the golf course will support a good variety of species.

Mammals
No formal surveying for bats has been carried out, however while surveying for the management plan, Noctule and Common Pipistrelle were recorded. Noctule is a NERC Priority Species and all bats are protected under the Wildlife and Countryside Act. The areas of mature woodland and trees had some potential for roosting bats and therefore any major trees work should have a further bat survey of the area effected. There are no buildings on site to support any roosts.
It is considered that any woodland in the South East of England has the potential to support Dormice. Therefore, this site with its areas of woodland could have Dormice. The areas of greatest potential are the scrub and woodland along the edge of the site leading to Rifle Butts Alley. These areas have a mix of dense scrub, more mature trees and connectivity to the wider landscape.

History of Biological Recording
The surveys that are known of are associated with the writing of past management plans, surveying for Site of Nature Conservation Importance (SNCI) status and the 2009 invertebrate survey carried out by Surrey Wildlife Trust. Members of the Surrey Botanical Society also record across the site and have kindly passed on all their records to date. All known records are compiled in Appendix 2.
Due to the site being so important for the Small Blue butterfly, Butterfly Conservation are involved in monitoring the population along with the population of Kidney Vetch, which is the foodplant of the Small Blue. They also keep an eye on how the scrapes are developing.

Fragility
Without some degree of conservation management, habitats will eventually lose their biodiversity. The woodlands by their very nature do not require such regular management to maintain and enhance their biodiversity. Grassland on the other hand does require regular management or it will soon be invaded by undesirable species such as coarse grasses that will out-compete finer grasses. Then scrub species such as Hawthorn and Blackthorn will begin to arrive and eventually it turns into woodland (Natural Succession). Whilst a mosaic of habitats is desirable and scrub is extremely important, this should not be to the detriment of valuable unimproved calcareous grassland so very rare in this County. The priority for management should be for the areas with most potential, which include all the rough areas surrounding the fairways.

Visitor pressure can also affect the habitats, either through trampling, disturbing wildlife, fires, litter and other anti-social behaviour. It is very important that paths are maintained to encourage people to stay on the tracks and keep them away from sensitive areas.

Invasive species such as Canadian Goldenrod could pose a threat to grassland habitats and Turkey Oak to the woodlands. Where invasive species are found it is important to eradicate them as soon as possible.

Light pollution will affect the site from the nearby roads and street lights. This will affect night flying moths and other invertebrates. In addition, noise and air pollution from the roads will have an influence. Atmospheric pollution may also be contributing to changes in species composition with particular regard to the spread of Tor grass. There has been some research that indicated nitrogen oxide from the burning of fossil fuels is a contributing factor in the increase.

The climate is predicted to change dramatically over the next 50 - 100 years. It is thought that South East England will see warmer weather, with hotter summers and winters less severe. These changes and change in precipitation will mean the loss of cold loving species and a gradual shift in habitat north. Monitoring systems will help to recognise these changes and enable changes in management techniques.

Typicalness

The rough semi-improved calcareous grassland, secondary woodland and associated scrub is typical of the Upper Chalk in this region. However, for a Golf Course, the importance of the rough areas are not. The presence of rare chalk plants and the SSSI quality of the grassland for invertebrates is very special.

Position in an Ecological Unit

In a local context the site is set in a large open area. Nationally it is within the North Downs Natural Character Area, which supports nationally significant calcareous grassland. It also forms part of Surrey's North Downs Biodiversity Opportunity Area, which links Epsom and Walton Downs to the South and Nonsuch Park in the North via Epsom Downs Golf Course, farmland and Priest Hill and Howell Hill Surrey Wildlife Trust Nature Reserves. Links should be sought to connect these important areas to deliver landscape scale protection of biodiversity. The Golf Course is situated on the edge of the Surrey Hills Area of Outstanding Natural Beauty (AONB). Natural England is currently (2021) reviewing the boundary of all AONBs. Any opportunities for all or part of the Epsom and Walton Downs, including the Golf Course to be considered for inclusion should be taken. Locally it forms an important part or the Borough's Green Infrastructure.

Potential Value

Epsom Downs Golf Course is still an important and valuable site for biodiversity. There are extensive areas of good quality chalk grassland with associated plants. However, the value of the site is reduced due to a number of factors. One is the change of species rich chalk grassland to species poor neutral grassland due nutrient enrichment. Another is the loss of areas of grassland to scrub and woodland encroachment. The previous management plan set a number of management recommendation aimed at preventing this loss. However, not all have been carried out. A very important recommendation relates to the method of grass cutting. This is the need for the removal of the arisings produced by the cutting of grasslands, this is vital for the long-term maintenance of the chalk grassland. There are a number of areas of encroachment on to the grassland. One of the most important areas is the clearance of scrub around the former Second World War bunker. This area was one of the most valuable areas of chalk grassland and has gradually been reduced to the point that almost none of the grassland remains.

There are 12 Sites of Special Scientific Interest (SSSI) within the Downs Natural Area of Surrey, 9 of which have a chalk grassland component which go some way to protecting the chalk grassland resource of Surrey. However, important areas exist outside the SSSI's, which have potential for

enhancement, including Epsom Golf Course, Juniper Hill and Walton Downs Grassland. In past management plans, it has been noted that Juniper Hill is worthy of SSSI status but its size and fragmentation would prevent it from becoming one. There is potential to look at the Woodland and Grassland component of Epsom and Walton Downs along with Epsom Downs Golf Course and potentially combined, they could be put forward to be considered for SSSI status.

Intrinsic Appeal

The site is highly valued as an important and well-used recreational facility where people can take part in a range of activities such as playing golf, walking, dog walking, horse riding or just sit and enjoy the magnificent views.

Factors Affecting Management

Under-resourced nature conservation management is the major factor influencing the vegetation changes over the Golf Course and Epsom & Walton Downs, allowing scrub encroachment onto important unimproved calcareous grassland.

Financial resources will also affect any management, as the proposed habitat management will incur costs. The continued work on the scrapes and Small Blue habitat within the WW2 Bunker area and between tee 7 and 15 is essential and therefore continued annual financial support for the Lower Mole Partnership and its volunteers by EEBC is essential. Using outside contractors for larger parts of the management must also be considered. Better use of volunteers could offer a way of managing the site generally. Nearby sites such as Epsom Common and Horton Country Park Local Nature Reserves use regular volunteer input, which is a vital tool in managing their habitats. It is suggested to consult with Lower Mole Countryside Partnership, Epsom and Ewell Countryside Team, Butterfly Conservation and Woodland Trust to see if they can offer help in setting up an Epsom and Walton Downs Volunteer Group. Current members of the Golf Club could be interested in becoming part of a new volunteer team. Using outside contractors for larger parts of the management must also be considered.

2.2 Identification/Confirmation of Important Features

Site Features	National Importance	Regional Importance	Local Importance
1. Habitats			
Lowland mixed deciduous woodland			*
Veteran/mature trees			*
Grasslands		*	
Scrub			*

Site Features	National Importance	Regional Importance	Local Importance
2. Species groups **Plants –** Chalk Eyebright and Juniper are NERC species. Bastard Toadflax, Round Headed Rampion and Chalk Eyebright are nationally scarce. Kidney vetch is the foodplant for the Small Blue Butterfly. **Invertebrate general assemblage** – includes notable species, Red Data Book species, chalk specialists and two NERC butterfly species (Small Blue and	 *		 *
3. Culture and amenity Public recreation Educational opportunities Historical, landscape and cultural features	 *	 *	 *

2.3 Ideal Long-term Management Objectives for Nature Conservation

- Enhance the biodiversity of the site as a whole, including better links between habitats.
- Manage grassland outside the fairways for nature conservation and to encourage diversity associated with the chalk grassland.
- Manage the woodlands for both nature conservation and access (where not harmful to wildlife), enhancing biodiversity where possible by creating a diverse age and structure.
- Retain where possible a variety of decaying wood in the woodlands and encourage wood decay to enhance overall biodiversity.
- Manage the scrub for nature conservation by creating age structure and controlling dominance over other habitats.
- Control undesirable species of plants to maintain and enhance biodiversity of site.
- Continue the collection of records for the site by commissioning a variety of ecological surveys. Share information with local record centre.
- Encourage grounds maintenance contractors to undertake good management practice to assist nature conservation. Increase awareness of the biodiversity value of the site.
- Encourage and support local wildlife groups and conservation volunteers. Identify and prioritise staff time to support a regular group.
- Promote and support the work carried out by volunteers, particularly the Lower Mole Partnership.
- Interpret the site's biodiversity and historical importance to the public.
- Continue to work with all stakeholders
- Investigate possibilities for further designations such as Local Nature Reserve or Site of Special Scientific Interest or inclusion within the Surrey Hills Area of Outstanding Natural Beauty.

Cowslips along Grandstand Road

2.4 Rationale

The tables below contain information on all the habitat management compartments, with a description of the current habitat status, current management regime, and future management prescriptions. The compartment numbers correspond to those found on Map 1, the Habitat and Compartment map. Some of the descriptions have not changed since the last management plan written by Peter Howarth, c2014 which were very thorough and remain accurate, so these have been used again and added to where appropriate. The species listed use scientific and common names, along with the abundance in some circumstances, using the DAFOR system. This is a way of describing the abundance of a plant and uses the following key: Dominant, Abundant, Frequent, Occasional, Rare.

2.4.1 Grassland

General principles:

- The following principles relate to the 'rough' grassland only, not the fairways, which are managed for playing golf. Although it should be noted that although large areas of the close mown grassland of green and fairways show the influence of improvement due to fertilizer and herbicide, some areas still contain interesting plants including Wild Thyme, Crested Hair-grass, and Squinancywort.
- The overall aim is to create a structured, diverse and spatially varied mosaic of habitats. Whilst a mosaic of different grassland types is important with some being allowed to be encroached by scrub, this should not be the general practice as the chalk grassland found on Epsom Downs is an important habitat in Surrey and supports important assemblages of invertebrates and birds. Where scrub has established it is very difficult to restore it back to good quality grassland. The scrub enriches the soil and once it has been cleared again it often leaves bare patches of ground ready to be colonised by coarse grassland species and weed species such as Common Nettle.
- Grazing is often the best management option and potentially could be considered in the area around the scrapes near the 7th Tee, in years to come. Another option is to cut the grasslands mechanically but crucially, the grasslands should be cut and the arisings cleared. The build-up of thatch adds unwanted nutrients to the soil, resulting in the reduction of wildflowers and finer grasses and promotes coarser grasses and scrub. The build-up of thatch also damages the structure of the grassland. Seeds fail to reach the soil and germinate. Opportunities for the creation of patches of bare earth, beneficial for seed germination and burrowing invertebrates, is reduced.
- Removing the arisings can be done by cutting the grass using a flail collector and the arisings taken away off site, or piles created at the margins of the grassland, importantly not underneath the base of veteran trees. This can cause a build-up of nitrogen as the grass rots and could cause issues for older trees.
- Alternatively and particularly in smaller areas, those which may have anthills and are more sensitive to heavy machinery, grassland can be cut and cleared using a brushcutter and raked off by hand. This can be done by a combination of volunteer groups and staff.
- For optimal biodiversity benefit, grasslands that are being cut should be done so during late summer/early autumn. It is important for the continuity of the flora that the cut is at the same time each year.
- Not all the grassland should be cut every year. Invertebrates that lay their eggs on grass, for example the Marbled White and Meadow Brown butterflies, need to complete their life cycle. Once the grass is cut, their eggs are lost. Small mammals also need longer grass for food and for cover and protection from predators. The invertebrates and mammals then provide a food source for birds and so on.
- A good way of managing an area of grassland on rotation is to cut one half each year. The halves should be rotated around the face of a clock. For example, if the left vertical half is cut one year,

the next year the top horizontal half should be cut, then the right vertical and then the lower horizontal and so on.

- By managing the grassland in this way, any invertebrates and mammals will be able to retreat into the uncut half and recolonise the cut area when suitable.
- The pattern of cut should avoid a spiral into the centre of the field as this drives mammals and birds into the middle. Instead cut in an up and down pattern to ensure their escape.
- Tor Grass is a problem in some areas of the grassland. It is a rougher, more vigorous grass and can take over an area, smothering out other plants. The Tor Grass patches should be cut regularly, with arisings removed, to mimic grazing pressure. If the Tor Grass is kept at 7cm, this will make it more palatable to rabbits as well. Planting of Yellow Rattle within Tor Grass dominated areas could also help. Continued management should weaken the grass and enable other plants to compete.
- Avoid mowing under the tree canopy of any parkland trees, as it can be counterproductive. It removes valuable cover, increases surface vegetation transpiration rates, thus depriving trees of moisture and often results in bark damage to trees. It is also important to avoid damaging the base of tree trunks as this may encourage fungal infections.
- Aim to leave 2-5m wide circumference around individual trees and 2-5m wide margin around copses and woodland edges. Scrub will need to be controlled within these margins.
- Invasive non-native plants should be removed. Canadian Goldenrod needs to be controlled while it is still in manageable quantities. Hand pulling is the best way to get rid of it, particularly as it is currently in low numbers. Cutting does weaken the plant but it tends to come back stronger the next year.
- If any areas of the rough within the Golf Course needs to be reseeded and it is not appropriate to wait for vegetation to develop naturally, only native(ideally locally sourced) chalk grassland seed mixes should be used.

Chalk Grassland

WW2 Bunker (1)

Description –

Top of Bunker

This area has been managed in the past as open chalk grassland and scrub mosaic. However, it is now very scrubbed over with frequent Dogwood, Hawthorn, Silver Birch, Bramble and occasional Wild Privet, young Ash with rare Sycamore. Holly is locally frequent on the North West edge and Dog Rose becomes locally abundant further north in this area. The remnant chalk grassland is very overgrown and shaded although Red Fescue and Quaking Grass are occasional along with herbs such as Common Knapweed, Common Rockrose, Agrimony, Dropwort, Wild Basil, Wild Raspberry, Bryony, Common Bird's-foot Trefoil, Bladder Campion, Salad Burnet and rare Rough Hawkbit and Common Spotted Orchid.

Hollow of Bunker

This is the site of an old bunker dating from World War 2. It has in the past been successfully managed by the Lower Mole Countryside Project. However, with the lack of on-going management (and lack of funding/labour), the open chalk grassland has become very overgrown with scrub; only a very small area of remnant chalk grassland remains. Hawthorn has overgrown the path from the fairway into the bunker and it is easily missed. Also encroaching is Silver Birch, young Ash, Wayfaring tree and Wild Privet. Bramble is abundant and there is also the non-native cotoneaster present. However, where it is still open enough for some chalk grassland it does give an idea of how diverse it could be with some appropriate management. Taller vegetation includes occasional Red Fescue, Common Ragwort, Common Knapweed, Dropwort, Wild Mignonette and Greater Knapweed. Shorter vegetation includes rare Common Restharrow, Salad Burnet, Kidney Vetch, Small Scabious, Perforate St John's-wort, Red Clover, Common Bird's-foot Trefoil, Quaking

grass, Fairy Flax, Common Rockrose, Squinancywort, Glaucous Sedge, Yellow-wort, Round Headed Rampion, Burnet Saxifrage, Eyebright, Common Spotted Orchid, Chalk Milkwort and Dwarf Thistle. Canadian Goldenrod is also present in low quantities. The bryophytes included *Homalothecium sericeum*, Comb-moss (*Ctenidium molluscum*), Endive Pellia (*Pellia endiviifolia*), Top Notchwort (*Leiocolea turbinata*), Curly Crisp-moss (*Trichostomum crispulum*) and Variable Forklet-moss (*Dicranella varia*). Canadian Goldenrod is present which needs to be removed.

Comments on past management - In the late 90s/early 00s LMP cleared the scrub from this south east facing chalk slope to encourage the chalk downland flora, which included orchid species. With the support of Butterfly Conservation, LMP also created a butterfly flight path through to the 1st fairway where a chalk bank supported downland flora. Despite stump treatment and follow up cutting of scrub regeneration, there was little annual maintenance and the area had scrubbed up again.

In March 2017 and 2018, LMP volunteers returned and cleared a central glade initially, where a past fire site had been located. All the scrub and trees – hawthorn/privet/rose scrub and sycamore/birch standards with some ash and willow were felled to open up the whole slope. The regenerated scrub on the top of the slope was brushcut and the stumps treated. All the stumps were taken down by chainsaw and many of these were also treated. The butterfly flight path through to the 1st fairway was opened up again.

Future management – Inevitably this area has scrubbed over again as no regular maintenance is happening in this area. The area needs to be cleared of scrub and trees once more, along with a 2-3m wide ride linking it to the 1st Fairway and an annual task implemented to keep it open. The scrub/grass arisings will need to be burnt or piled up around the edges. Once the scrub is under control, the amount of arisings will be much reduced and hopefully the need for fires will be limited. Canadian Goldenrod should be removed by hand pulling. Ask advice from local volunteer groups how to set up a new group which could focus on keeping these areas open and free of scrub.

Once the area is under control and regularly maintained, scrapes could be created to aid in the establishment of Kidney Vetch and support for another meta population of the Small Blue butterfly. The shelter provide in this area would provide a microclimate not present anywhere else on the course.

WW2 Bunker grass margin (2)

Description - Close mown sloping calcareous grassland, rare Round Headed Rampion, occasional Common Rock Rose, occasional Wild Thyme and occasional Quaking Grass, Salad Burnet Rough Hawkbit, rare Fairy Flax, Burnet Saxifrage, Crested Hairgrass, Small Scabious and Squinancywort, locally abundant Sheep's Fescue. This area was previously described as wide rough is on a slight bank east of the bunker area and denoted by a fine population of Round-headed Rampion (30+) as well as occasional Small Scabious, Burnet Saxifrage, Salad Burnet, Common Bird's-foot Trefoil, Red Clover, Common Knapweed, Glaucous Sedge, rare Harebell, Common Rockrose and Dwarf Thistle. The change has occurred due to the realigning of the tee for the eighteenth hole and the area is no longer being managed as a rough.

Comments on past management – This area is cut as and when necessary by the Golf Club to maintain it as part of the rough margin to the 18th Fairway.

Future management – This area of rough should be cut and cleared once a year in late September/October. This will ensure scrub does not encroach into the grassland.

Burgh Heath Road Margin South and North (3 and 4)

Description - The grassland margin along the road and the fifteenth hole is a diverse grassland, particularly in the south, with a good population of the Round-headed Rampion. In the 2014 survey a large population of the national scarce Bastard Toadflax has been found. This occurs in

one small area at Juniper Hill but has never been recorded on the Golf Course before. In addition, there is occasional/rare Ladies Bedstraw, Common Knapweed, Wild Parsnip, Yarrow, Harebell, Burnet Saxifrage, Sainfoin, Dwarf Thistle, Fairy Flax, Wild Thyme, Common Milkwort, Horseshoe Vetch, Eyebright, Quaking grass, Small Scabious, Autumn Gentian, Round Headed Rampion, Rest Harrow, Squinanacywort, Salad Burnet, Upright Brome, Quaking Grass and Kidney Vetch. Common Spotted Orchid has also been recorded here. The western end of this area is the most diverse. As you move west, there are trees/bushes dotted within.

Comments on past management – The area is cut annually in September and may receive an early spring cut as well. The road bank is cut with a side arm every 6 weeks to ensure good visibility for road users.

Future management – From a biodiversity point of view, this area only needs to be cut and cleared once a year in late September/October. If it is to have an early cut in spring, arisings should also be cleared. Care needs to be taken that the trees/bushes do not take over this area. Half should be removed and allowed to grown back, then remove the other half, subsequently managing on rotation. The road bank management should continue.

15th Tee Rough (5)

Description - Semi-improved calcareous grassland. The central area of this grassland has a lower sward height which becomes more rank and scrub encroached at the edges. The species found here include occasional Upright Brome, Red Fescue, Quaking Grass, Lady's Bedstraw, small patch of Horseshoe Vetch, Salad Burnet, rare Greater Knapweed, extensive patches of Restharrow, Kidney Vetch, Common Rockrose, Crested Hair-grass, Ox-eye Daisy, Bladder Campion. There is some encroachment of Hawthorn, Ivy and non-native Cotoneaster and Canadian Goldenrod. The butterflies seen here are include Marbled White, Green Hairstreak and Small Blue.

Comments on past management – The grass is cut either side of the paths.

Future management – Control scrub encroachment and remove Cotoneaster and Canadian Goldenrod. There is a large patch of bramble to the south of the raised tee which needs to be removed. Prevent encroachment from the trees/scrub which run along the edge of Burgh Heath Road. The grass in this area should be cut and cleared annually in late September/October.

15th Fairway Rough (6)

Description - Rough grassland area next to a fairway similar to Burgh Heath Road Margin South described above, although no Bastard Toadflax here but large amount Round Headed Rampion and there are some scattered Pedunculate Oaks and old Hawthorns.

Comments on past management – The Golf Course manages this area as and when necessary to maintain it as a rough margin to the 15th and 14th Fairways. Due to the nature of Chalk Grassland, little management is needed for this aim.

Future management – Care needs to be taken that scrub does not encroach. This rough margin should be cut and cleared annually, in late September/October.

14th Tee Rough (7)

Description – This area is considered chalk grassland and is similar to that found within 15th Fairway Rough.

Comments on past management - The Golf Course manages this area as and when necessary to maintain it as a rough margin to the 14th Fairway. Due to the nature of Chalk Grassland, little management is needed for this aim.

Future management - This rough margin should be cut and cleared annually, in late September/October. Remove all scrub and restore to chalk grassland.

5th and 6th Fairway Rough (8 and 9)

Description - Similar to species described in the 15th but less diverse. False-oat grass is abundant with Red Fescue. Both Greater and Common Knapweeds are present with occasional Dropwort, Dandelion, Common Bird's-foot Trefoil, Kidney Vetch, Small Scabious and rare Common Restharrow.

Comments on past management – Again, the Golf Course manages this area as and when necessary to maintain it as a rough margin to the Fairways. Due to the nature of Chalk Grassland, little management is needed for this aim.

Future management - Care needs to be taken that scrub does not encroach. These rough margins should be cut and cleared annually, in late September/October. These areas are used for car parking for the Derby. Investigate the possibility of limiting or stopping their use for this purpose.

Downs Road Grassland (10)

Description – A bund has been created along the edge of the track to prevent unauthorised access to vehicles on to the golf club. This has exposed bare chalk and has effectively created a linear scrape which will develop naturally. The rest of the grassland area has an interesting mix of chalk grassland species including Kidney Vetch and the rare Knapweed Broomrape.

Comments on past management – This area is managed by the Golf course as and when necessary to maintain it as a rough margin to the Fairways. Due to the nature of Chalk Grassland, little management is needed for this aim.

Future management – The grassland should be cut and cleared annually, in late September/October. Care should be taken to prevent any scrub encroachment.

Downs Road Grassland Margin (11)

Description – This margin is species rich with chalk grassland plants and is very good for Kidney Vetch. Other herbs present include Wild Marjoram and Wild Basil. The small area of grassland nearest the road has a number of pyramidal orchids. Bee orchids have also been seen to grow along this margin.

Comments on past management – The grass immediately adjacent to the track is mown regularly to maintain access.

Future management – The scrub encroachment needs to be halted and pushed back by at least 10m. The grassland itself should be cut and cleared annually, in late September/October.

5th Hole Rough (12)

Description – The grassland becomes more diverse and interesting further away from the car park edge to the west, where occasional Upright Brome and Soft Brome join Red Fescue Dropwort is frequent along with occasional Wild Parsnip, Greater Knapweed and locally abundant Ladies Bedstraw and Red Clover. On the bund by Grandstand Road edge, it is slightly longer with similar species mentioned above as well as Common Ragwort, Creeping Thistle, Wild Carrot, Mouse-ear Hawkweed, Wild Mignonette, Lucerne, Greater Knapweed, and Small Scabious. Common Restharrow and Kidney Vetch were also present.

Comments on past management – Generally this area is managed as a rough margin to the 5th Fairway but due to the pandemic and in an attempt to control visitors not to wander across the fairways, a large wide path has been mown from the view point car park towards Downs Road.

Future management – Due to the importance of the flora here, this path should either stop being mowed or narrowed considerably to just 1-2m. The remaining grassland should be cut and cleared annually in late September/October.

Grandstand Road South Margin (13)

Description – This Grassland rough area is very variable with some areas of mesotrophic grassland with dominated by Red Fescue as well as occasional Common Bent, Timothy and Perennial Rye grass with Common Knapweed, Ladies Bedstraw and rare Harebell, Burnet Saxifrage, Wild Mignonette, Small Scabious, Greater Knapweed and Dwarf Thistle. In some areas there is greater calcareous influence with areas of more frequent Upright Brome and Kidney vetch and smaller areas with Crested Hair-grass and Pyramidal Orchid occurring. During April/May there is a very good population of Cowslips all along this margin.

Comments on past management – This area is managed by EEBC. The road bank is cut with a side arm every 6 weeks along with the edges to the car parks to ensure good visibility for road users and when exiting the car parks along Grandstand Road. The top of the bank between the road and the footpath/hack ride is cut once in late September/October.

Future management – The above should continue but crucially, the grassland on the top of the bank should be cut and cleared and any scrub controlled.

11th Hole and Fairway Rough (14 and 15)

Description – This Grassland rough area is very variable with some areas of mesotrophic grassland dominated by Red Fescue as well as occasional Common Bent, Timothy and Perennial Rye grass with Common Knapweed, Ladies Bedstraw and rare Harebell, Burnet Saxifrage, Wild Mignonette, Small Scabious, Greater Knapweed and Dwarf Thistle. In some areas there is greater calcareous influence with areas of more frequent Upright Brome and Kidney vetch and smaller areas with Crested Hair-grass and Pyramidal Orchid occurring.

Comments on past management – The Golf Course manage this as and when necessary to maintain it as a rough margin to the fairway.

Future management – This should be cut and cleared in late September/October. Care should be taken to prevent any scrub encroachment.

10th Fairway Rough (16)

Description – There is frequent False Oat-grass, Rough Meadow grass and rare Meadow Foxtail with occasional Common Ragwort, Common Knapweed, Ribwort Plantain, Perforate St John's-wort, Wild Carrot, Quaking grass, Ladies Bedstraw, Salad Burnet, Field Wood-rush, Small Scabious and Kidney Vetch.

Comments on past management – The Golf Course manage this as and when necessary to maintain it as a rough margin to the fairway.

Future management – This should be cut and cleared in late September/October. Care should be taken to prevent any scrub encroachment.

Old London Road West (17)

Description – Although not technically Chalk Grassland it is such a flower rich margin and full of Kidney Vetch, it is included in the chalk grassland section as it should be managed as such. There is a mixture of grasses present along with Common Restharrow, Common Knapweed, Common Bird's-foot Trefoil, Dropwort and Small Scabious.

Comments on past management –This area is managed by EEBC and is cut every 3 weeks until the end of April. It is then left uncut until the end of September. The road bank is cut with a side arm every 6 weeks to ensure good visibility for road users.

Future management – The current management should continue with the addition of clearing away the arisings.

The 'Rough' Grassland Surrounding the Fairways

Description - The remaining areas of Rough surrounding the Fairways are not technically Chalk Grassland but they still contain a good mix of chalk grassland plants creating an important habitat which provides a good diverse grass and flower resource. These areas are the responsibility of the Golf Course and they all have the potential to reach the criteria needed to be designated as Chalk Grassland.

Comments on past management – The Golf Course manage them as and when necessary to maintain them as a rough margin to the fairways.

Future management - As with all the Chalk Grassland above, the roughs need to be managed by cutting and clearing in late September/October with any scrub encroachment controlled. In the last management plan, it makes reference to an agronomist report, which highlights the problem of thatch build up which had led to a decrease in diversity and creating a potential fire risk. It states a key aim for there to be an annual cut/scarify of the rough which would prevent it becoming too dense and enhance the wildflower diversity. Due to chalk soil naturally being quite nutrient poor, scrub encroachment is not quite the threat it could be. It would be possible to cut and clear half a Fairway's rough in alternate years. For example, if standing at the tee and looking towards the hole, all the rough on the right-hand side up to and behind the hole could be cut in even years and the left side in odd years. This will allow longer grass to remain around the golf course providing another important habitat but also controlling any scrub problems.

However, as this form of management is long overdue, it may be necessary to cut and clear all the rough for the first few years and once scrub/thatch is under control, then start managing on rotation.

The compartment numbers for these areas working from North to South, are as follows:

Compartment Number	Compartment Name	Comments/Key species to note
18	18th Fairway Rough	
19	17th Fairway Rough	
20	16th Fairway Rough	Scrub is already an issue here and needs to be controlled.
21	1st Fairway Rough	
22	2nd Fairway Rough	This rough is particularly species rich. The shorter grassland to the north of the 2nd fairway is represented by occasional Salad Burnet, Yellow Rockrose, Small Scabious, Red Clover and rare Round-headed Rampion, Fairy Flax, Burnet Saxifrage, Dwarf Thistle, Squinancywort and Kidney Vetch.
23	4th Fairway Rough	
24	Longdown Lane South Margin	Primroses seen in April. Young trees are developing in this area and need to be removed.
25	3rd Fairway Rough	
26	14th Fairway Rough	
27	7th Fairway Rough	
28	12th Fairway Rough	
29	10/11th Fairway Rough	
30	10th Hole Rough	
31	9th Fairway Rough	This grassland has obvious calcareous influences and has a low sward height. There is a good mix of flowers and finer grasses such as

		Common Bent, Common Knapweed, Yarrow and Smaller Cat's Tail. There is good potential with this area.
32	Tattenham Corner Road Golf Course Margin	Cowslips are found at the Grandstand end.

Remaining grassland managed by Epsom & Ewell Borough Council (EEBC)

Longdown Lane South Hack Ride (33)

Description – There is a good population of Kidney Vetch along this path. It seems to like a little bit of disturbance. NB there is a patch of Canadian Goldenrod opposite Bunbury Way which needs to be removed while still a relatively small patch.

Comments on past management – The path edges are cut if needed but usually kept open by footfall.

Future management – If cutting the margins is needed it should happen before June and then only after the Kidney Vetch has finished flowering in September.

Rifle Butts Alley Grassland (34)

Description – This is an area of grassland with a tall sward and calcareous influence, which declines towards the road. False Oat-grass, Red Fescue, Cocksfoot, Yorkshire Fog, Sterile Brome and Smaller Cat's-tail, Common Clover, Hogweed, Creeping Thistle, Ribwort Plantain and Horseradish, Salad Burnet, Restharrow, Agrimony, Quaking Grass, Majoram, Wild Carrot, Common Knapweed, Flattened Meadow Grass and Upright Brome. Michaelmas Daisy and Early Goldenrod have been recorded here.

Comments on past management – The grassland here is cut once a year in late September/October.

Future management – This grassland is dissected by the main path. Depending on scrub regrowth, it would be possible to cut one side of the path one year and the other side the next and alternate each year. Crucially, the arisings must be cleared. If this is not possible, continue to cut annually. The timing of the cut should continue to be late September/October. Remove Michaelmas Daisy and Early Goldenrod.

Grandstand Road North Margin (35)

Description – The grassland here is coarser tending to more neutral either as a result of slightly different soils or long term improvement from nutrient enrichment. In amongst the tall Upright Brome, Yorkshire-fog, Timothy, Tor grass and False-oat grass are Creeping Thistle, Common Ragwort, Common Knapweed, White Clover, Upright Hedge Parsley, Wild Carrot, Common Bird's-foot Trefoil, Wild Parsnip and Greater Knapweed. It has more calcareous influence the further you go towards margin d and Buckles Gap Roundabout. Red Fescue and Soft Brome are frequent with occasional Timothy, Yorkshire-fog, and rare Upright Brome. The herbaceous cover is variable with frequent Red Clover and Salad Burnet and occasional Common Knapweed, Red Bartsia, Ladies Bedstraw, Yarrow, Ribwort Plantain, Salad Burnet, Wild Mignonette, Small Scabious, Kidney Vetch, Perforate St John's-wort, Wild Carrot, and Common Ragwort. Yellow Toadflax is locally frequent. In April/May there is a fantastic display of Cowslips all along these margins.

Comments on past management – The road bank is cut with a side arm every 6 weeks along with the edges to the car parks to ensure good visibility for road users and when exiting the car parks along Grandstand Road. The top of the bank between the road and the footpath/hack ride is cut once in late September/October.

Future management – Current management should continue but crucially the grassland between the road and the path/hack ride should be cut and cleared. The timing of cutting should continue to take place in late September/October.

Grandstand Road North Car Park Grassland (36)

Description – This is an area of close grass which is regularly cut.

Comments on past management – This grassland used to be kept long but to manage visitors it is not cut regularly as an area people can use to picnic.

Future management – Continue to cut regularly, every 4-6 weeks. Ensure a margin is left between this grassland and the 14th Fairway to maintain the rough. The rough in this area is floristically very interesting so must be maintained. Maintain the bund around the car park to restrict unauthorised vehicular access.

Grandstand Road Grassland (37)

Description – The tall grassland comprises abundant False-oat grass, occasional Rough Meadow-grass, Cock's-foot, Yorkshire-fog, Timothy, Upright Brome with common herbs such as Cleavers, Hogweed, Herb Bennett, Creeping Thistle, Herb Robert, Common Knapweed, Rosebay Willowherb, Wild Carrot, Common Nettle, and rare Salad Burnet, Wild Basil, Lucerne, Black Medick, Perforate St John's-wort, Bladder Campion, Goat's Beard, Small Scabious and Wild Mignonette. Ground-elder and Wild Parsnip are locally abundant. Kidney Vetch and Wild Marjoram are present in locally abundant patches. Along the track there is shorter vegetation such as Silverweed, Common Restharrow, Yarrow, Common Bird's-foot and Common Vetch. Due to this area being more undisturbed, when assessing the habitat as part of writing the management plan, it was full of invertebrate life, such as Grasshoppers, Crickets and Butterflies.

Comments on past management – This area is cut once a year in late Sept/October.

Future management – The grassland here is very important as a refuge for invertebrates to complete their lifecycle and for small mammals and reptiles. The grassland here should be managed with this in mind. It is important the grassland here remains and does not get overtaken by the surrounding scrub. The grassland should be cut and cleared on rotation with 50% cut each year in late September/October.

Viewpoint Grassland (38)

Description – The grassland around the car park area here predominantly contains common grassland species and is less diverse than other rough areas. This will be because of the nutrient enrichment from visitors and dogs. However there are some chalk grassland species that are present in small quantities. Perennial Rye-grass is co-dominant with Red Fescue, frequent Cock's-foot and occasional Timothy. Herbs include frequent Yarrow, White Clover, occasional Wild Mignonette, Common Bird's-foot Trefoil, Common Knapweed and locally frequently Small Scabious.

Comments on past management – This area is cut regularly every 4-6 weeks.

Future management – Current management should continue, which will assist in keeping visitors from straying on to the golf course. The Rough margin to the 5th Fairway must be maintained.

Downs Road Margin (39)

Description – This area is tucked behind the 6th tee and the grassland here is left longer. It is not as diverse as other areas, but does have a good potential for invertebrates, particularly because there is a small amount of Hawthorn scrub here as well. The grasses here include abundant Yorkshire-fog, frequent False-oat grass, Soft Brome, Cock's-foot and occasional Rough Meadow-grass. There is a distinct lack range of herbs here except for occasional Common Knapweed, Ladies Bedstraw, Broad-leaved Dock and Perforate St Johns's-wort

Comments on past management – This margin is cut annually in Late September/October. The road bank is cut with a side arm every 6 weeks to ensure good visibility for road users.
Future management – Current management should continue but ideally the grass arisings should be cleared. Scrub encroachment need to be kept under control.

Tattenham Corner Road Margin (40)
Description – This area of grassland is kept short and mown regularly. Cowslips are present at the Grandstand end.
Comments on past management – The grass is cut ideally every 3 weeks, dependant on weather conditions and events, ensuring the rough margins are left around the Fairways.
Future management – Current management should continue.

Police car park for Derby (41)
Description – This area of grassland contains a good mix of finer grasses and shows some calcareous influences much like the 9th Fairway rough. However, it is less diverse due to the management needed for car parking during Derby week.
Comments on past management – This area of grassland is cut every 3 weeks until the end of April and again before the Derby. It is then left uncut until late September/October.
Future management – Current management should continue but ideally cut and cleared.

Old London Road Margin (42)
Description – This area of grassland contains a good mix of finer grasses and shows some calcareous influences , particularly as you make your way north. The frequency of Kidney Vetch and other chalk grassland flowers continues to increase.
Comments on past management – This area of grassland is cut every 3 weeks until the end of April and then left uncut until late September/October.
Future management – Current management should continue but ideally cut and cleared, particularly towards the northern end as this is far more diverse.

Old London Road East Grassland North (43) **Old London Road East Grassland South (44)** **Tea Hut Grassland (45)**
Description – These areas of grassland are used for public amenity.
Comments on past management – The grassland is cut every 3 weeks dependant on weather conditions. The road bank is cut with a side arm every 6 weeks to ensure good visibility for road users.
Future management – Current management should continue.

Considerations needed to set up cutting and clearing regime

- Machinery – Currently the Golf Course and Epsom & Ewell Borough Council (EEBC) do not own a cut and clear machine. EEBC are currently investigating the possibility of purchasing one which will solve this issue. If this does not happen however, it advised that research goes in to whether grants are available to purchase essential equipment. The Racecourse do own a cut and clear machine, who could be asked if they would consider lending it out when they do not need it for race days.
  Smaller areas of grassland could be cut by volunteers using brushcutters and raked away by hand.
- Space for arisings – Areas close to scrub and woodland can use these margins to pile the grass arisings. The grass breaks down quite quickly and provides good habitat for invertebrates,

mammals and reptiles. There may be areas however where this is not possible or there is just too much grass to hide. In these instances, ideally the grass would be collected and taken off site. If this is not possible, then the grassland should still be cut to ensure scrub does not encroach. It may be that the grassland compartments will have to take it in turn to be cut and cleared.

2.4.2 Mixed Deciduous Woodland

General principles

- The overall aim is to create a more diverse woodland structure both in terms of its vertical structure and in terms of age. A woodland should have a canopy (taller trees), understorey (smaller trees/shrubs, which can grow in shadier conditions), field layer (flowers, grasses) and ground layer (mostly mosses). It should also contain plants of different ages, as animals need woodland in all its successional stages. Management should seek to maintain a continuous supply of young growth and protect and enhance mature features such as veteran trees and decaying wood. This can be achieved by opening up the woodland in targeted locations by coppicing or thinning, creating glades, creating rides, managing ride edges and the perimeter edge of the woodland, or by halo releasing mature specimens.
- Suitable trees should be selected to become the next veterans.
- Ivy growing on trees is a very important part of the woodland ecosystem. The foliage, flowers and berries provide food, the stems and evergreen foliage are used for hibernating insects as well as bats and other wildlife and this outweighs any damage it may do to the tree.
- Avoid damage to wood banks & other historical features.
- Woodland operations should adhere to the UK Forestry Standard and only $5m^3$ can be felled in any one calendar quarter unless a felling license is agreed with the Forestry Commission.

Decaying Wood

- Decaying wood is an extremely important habitat type within a woodland ecosystem, and yet is often the most overlooked. It allows much-needed nutrients back into the soil through decomposition. Lying wood decomposes from the outside in and dead standing wood decays from the inside out and both provide considerable opportunities for saproxylic (deadwood) invertebrate specialists and other wildlife. A combination of lying and standing decaying wood should be retained. Public safety needs to be considered of course so standing dead wood should be kept away from footpaths.
- During thinning operations, dangerous trees posing health and safety risks will have to be cut down. However, if safe to do so, tree surgeons should be asked to monolith some trees in the thinning programme by cutting off the branches and leaving the trunk upright. Ideally, they should be broken or cut jaggedly to mimic a natural break. Artificial bat hibernaculums could be cut into the trunk as well. If this is not possible then the trunk should be cut down and left on the ground in situ. The bigger the better as the trunks are buffered from drying out and the greater the number of organisms it will support. If this proves impracticable then the branches and trunk should be cut and stacked into habitat piles to rot down.
- Tree protection zones should be considered to keep the public away from an area where a tree might fall to allow it to die naturally.
- Tight as well as loose habitat piles provide different conditions. Leave the logs as large as possible to deter vandals moving them or setting fire to them or wire them together with steel wire. If possible, some of the log habitat piles should be put just under the ground and the turf replaced, which will provide habitat for invertebrates such as stag beetles. Covering log piles with woodchip resulting from woodland work can also create this habitat.
- Ring barking (deep and wide) can be considered as part of thinning works, to provide additional decaying wood. Any actions should first be fully assessed for health and safety implications. Tree

surgeons could also be asked to make holes in live standing trees to initiate rot and drill holes in forks and crowns to increase water retention.
- Root plate and stumps from fallen trees should be retained for solitary bees and wasps and other invertebrates, unless it constitutes a safety hazard.

Woodland edge creation/management
- Woodland edge is an extremely important part of a woodland ecosystem. A gradation of habitat between short to longer grass, to scrub, to woodland is very important, particularly for birds and invertebrates.
- This can be achieved on Epsom Downs Golf Course by pushing back the edge of a woodland by 10-20 metres (either from the outer perimeter of the woodland or along paths and tracks within the woodland) and managing the regrowth on rotation. Do not allow it to grow back to the height it was and encourage/plant species such as Hawthorn, Blackthorn, Dogwood, Guelder Rose, Field Maple, Privet etc.
- Woodland edge should be managed by scalloping to create a wavy, longer edge, in roughly 10-20 m sections, up to 10m deep. Alternate sections should be cut. Once these sections have grown back (5-10yrs), the adjacent, non-cut sections can then be cut. This ensures a good age structure.
- Having a variety of age classes will result in supporting the greatest variety of wildlife.
- Habitat piles should be created as mentioned above or should be disposed of by burning or chipping. Due to the urban nature of the site, any fires used to dispose of vegetation should be taped off clearly to warn members of the public.

Minimum Intervention
- Allowing a woodland to develop naturally and be subject to natural processes is also important to allow within a site. Having a variety of management adds to the variety of habitats a site can support and in turn, the variety of wildlife. For example, some of the rare woodland bats prefer a woodland that is dense with less glades/rides etc.
- Minimum intervention concentrates on tree safety works and removal of non-natives.

Non-native/Invasive species
- Non-native species should be removed and treated to prevent them growing back. Sycamore should be kept as part of the woodland composition, particularly due to the threat Ash Die Back poses to the composition of our woodland (see Threats below).

Timing of work
- Woodland work is best carried out during November to February, when the trees are dormant and to avoid the bird-nesting season (March to August) and unsuitable times for bats and other important wildlife. If ground conditions are an issue and would result in damage to paths, woodland work can start in September but no earlier to avoid disturbance to birds.

Threats
- Ash die back/ Chalara fraxinea is a fungal disease, which kills Ash trees. There is Ash within the woodland on the Downs, so they will be impacted. It is recognised that it is not financially viable to deliver a robust plan to manage the effects of Ash Dieback but a risk-based approach to managing trees affected will be taken. There are areas that are of high and medium priority are either along roadsides, next to adjacent housing or along main footpaths.

Where trees are lost to Ash Dieback, replanting in these locations, where appropriate, will be prioritised as part of the tree planting plans

- Oak Processionary Moth also poses an issue for the management of the woodland within the site. If large infestations occur, it can pose a threat to the tree itself through defoliation. However, currently the main concern is for human health, due to the toxic nature of the hairs of the caterpillars, resulting in rashes if they come in to contact with skin, or breathing problems if inhaled. The current policy is to survey the oak trees during the nest building season (June and July) and remove those which are head height (2m) or below, or are in a dangerous location e.g. above a bench. The cost implications of nest removal and or preventative spraying will need to be planned for.
- Other tree diseases have not been discovered as yet but care should be taken to look out for them e.g. sudden oak death.

Descriptions

1st Fairway Woodland (46)

This is a line of mature trees such as Ash, Pedunculate Oak, Sycamore, Horse chestnut and some shrubs, along the western boundary. This area has a dense canopy with an ivy dominated ground flora. In the more open areas some Ground Elder, Cow Parsley, Common Nettle, Ground Ivy, Burdock and Green Alkanet.

WW2 Bunker Woodland (47)

This is a broadly triangular shaped piece of woodland covering the majority of the central area in this northern section of the golf course. It comprises a very dense canopy, which is even aged and often there is little growing on the woodland floor apart from occasional Ivy and some Ash saplings. The tall canopy contains frequent Sycamore, Pedunculate Oak and Ash with occasional Wild Cherry, Silver Birch and rare Norway Maple, Horse Chestnut and Yew. Where there are gaps and old open paths that have become decidedly overgrown there is an added scrub mosaic diversity with abundant Hawthorn, frequent Elder, Clematis, Holly, Hazel, occasional Wild Privet and Dog-rose. In amongst this are patches of grassland with frequent False-oat grass, Timothy, Common Nettle, Bramble, Herb Bennet, Creeping Thistle, Agrimony, Common Knapweed, Wild Raspberry, Bryony, Upright Hedge Parsley and Ground-elder. Occasionally there are glimpses of small areas of a more diverse chalk grassland with Salad Burnet, Dropwort, Wild Basil and Quaking grass.

There is a tee on the eastern edge of the main body of woodland, and there is a dense area of scrub around the tee edge. The scrub includes abundant Hawthorn, Silver Birch and Dogwood merging into Ash woodland with rare Wayfaring tree and Clematis. On the edge of the tee here is rough chalk vegetation comprising grasses such as abundant Red Fescue, Yorkshire-fog and frequent Soft Brome with rare Quaking grass. Herbs include Common Knapweed. Agrimony, Red Clover, Common Restharrow, Common Bird's-foot, Yarrow, Kidney Vetch, Field Scabious, Black Medick, Dropwort, Dwarf Thistle, Creeping Cinquefoil and Glaucous Sedge.

Burgh Heath Road Woodland West (48)

This small western corner of woodland is divided from the main part of the woodland in this section by a wide fairway. It comprises tall dense and even-aged trees such as frequent Ash, Pedunculate Oak, Turkey Oak, Common Lime, Wild Cherry, Silver Birch and a scrub layer of Hawthorn and Dogwood. Ivy is frequent as a climber. The scrub edge is also accompanied by frequent Bramble and occasional Gorse. As well as a mix of tall vegetation along the rough including abundant Red Fescue, Rose-bay Willowherb, Creeping Thistle, Common Knapweed, occasional Bladder Campion, Upright Hedge Parsley, Dropwort, Salad Burnet, Common Toadflax,

Common Bird's-foot Trefoil, Ground-ivy and locally abundant Ground-elder and locally frequent Wild Parsnip. Tansy and Hedge Woundwort are rare.

Burgh Heath Road Woodland East (49)

A small area of woodland on the corner of Burgh Heath Road and Longdown Lane South with frequent Sycamore, occasional Pedunculate Oak. Hawthorn and Dogwood shrubs are frequent. Ivy is common. Under this and around the edges are abundant Red Fescue, occasional Timothy with Common Knapweed, Salad Burnet, Field Scabious and Red Clover. The eastern edge has a rough grassland margin before the fairway, which shows calcareous influences.

4th Fairway Treeline and Longdown Lane Copses (50 and 51)

This is a thin line of trees, mainly silver Birch and some Pendunculate Oak.
The copses are small group of trees, mainly Pedunculate Oak and Sycamore with some Ash, Hawthorn and Yew. One has a very old Hawthorn which unusually, has the uncommon Mistletoe on it and should therefore be preferentially kept on the course.

3rd Fairway Woodland (52)

The secondary woodland to the east of Longdown Lane South is dense with abundant Sycamore and Pedunculate Oak, of which some are very large specimens. Also present are some Lime and Ash. Shrub layer consists of locally dominant Blackthorn with some Holly, Hazel and Elder. There is a lot of Bramble scrub on the edges to the rough and fairway and the ground layer is predominantly covered in Ivy. Non-native Cotoneaster is present along with Cherry Laurel.
NB there is an Oak within the 3rd Fairway which is right in the line of play. It is suggested to fell this tree and replace with three oaks running around the edge of the woodland.

15th Fairway Woodland (53)

The margin with the Small Blue Scrapes Scrub/Grassland is dominated by Blackthorn and Hawthorn Scrub. It merges in to more mature woodland with Beech, Oak and also Turkey Oak. The shrub layer consists of Holly, Blackthorn and Hawthorn and the ground layer is dominated by Ivy.

5th Fairway Woodland (54)

This is a small woodland, very similar in make up to that of 15th Fairway Woodland. Main canopy tree is Pedunculate Oak with an understory of Hawthorn and Ivy is covering the ground.

Rifle Butts Alley Woodland (55)

Along the North West boundary this an area where the scrub/trees are older and has developed in to woodland. It is dominated in places by Hazel, Hawthorn and Dogwood along with frequent Wild Privet, Holly and locally dominant Blackthorn. Trees include occasional Sycamore, Ash and rare Common Lime, Beech, Apple and Turkey Oak.

11th Fairway Woodland (56)

The main body of this secondary broad-leaved woodland comprises abundant Pedunculate Oak with Sycamore and some Turkey Oak in the dense canopy. There is also a sub-canopy of younger Sycamore and Wild Cherry along with a shrub layer of abundant Hawthorn, frequent Elder, Yew, Blackthorn, rare Dog-rose and locally frequent Holly in the central section of the woodland. Hazel is locally abundant towards the northern corner, along with locally abundant Blackthorn and Snowberry on the northern edge. There is a dense section of Blackthorn scrub on the southern edge of the woodland and Hawthorn scrub along the eastern edge. Bramble dominates the central woodland area with abundant Ivy, frequent Hawthorn saplings and Herb Robert. Bluebell

is rare. On the edges and paths Hogweed is frequent with occasional Ground-ivy, Dandelion, White Dead-nettle, Rough Meadow grass, Ribwort Plantain, Common Nettle and Herb Robert. The field layer contains a scattering of common woodland species such as Bluebell, Common Nettle, Bramble, Cow Parsley, Sycamore saplings, Herb Bennet, Cleavers and Wood Dock, particularly on the more open areas and edges. Dog's Mercury is locally frequent towards the northern tip and eastern side of the woodland. Spanish Bluebell and the hybrid is present along the northern tip, along with Michaelmas Daisy and Snowberry, which are invasive species. Three-nerved Sandwort is present in small quantities on the southern end of the tee. The woodland along the southern edge seems to have been more disturbed and is a more open, with less shrub structure. The field layer contains abundant Bramble, frequent Ground-ivy, Cow Parsley, Ivy, Cleavers, White Dead-nettle, Hawthorn saplings. Herb Robert, Creeping Thistle, Lords and Ladies are occasional and Common Mouse-ear is rare. A Viola sp is locally frequent.

8th Fairway Woodland (57)

This is very similar to 11th Fairway Woodland. Pendunculate Oak is the main canopy tree, very little understory. The ground layer is mainly Bramble and Ivy. There is Cherry Laurel present. Canadian Goldenrod has been recorded just south of the 8th Hole.

Tattenham Corner Road Woodland (58)

Along the southern edge where there is a very open canopy the field layer tends towards a more conventional grassland sward with Yorkshire-fog as well as occasional Daisy, Germander Speedwell, Greater Plantain, White Clover, Cow Parsley, Dandelion, Common Nettle, Creeping Buttercup, Common Mouse-ear, Bluebell and White Dead-nettle. There is a scattering of Hawthorn trees leading from the main body of the woodland and running east towards the roundabout. On the northern edge of this area, by Grandstand Road, is a scattered line of trees such as Pedunculate Oak, Hawthorn, Silver Birch and Rowan. There are small patches of Bonfire-moss, close to the toilet blocks and road.
NB golf course want to push back away from 9th hole as it is shading it out. Make sure any grass reseeding uses native chalk grassland seed mix.

Old London Road East Woodland (59)

This area is really a group of trees along the footpath, mainly made up of Pedunculate Oak, with the odd Silver Birch, Hawthorn and Hazel. There is Bramble around the base of the trees and some Cherry Laurel present. There is a large Scot's Pine on the southern tip.

All woodlands – Have a large amount of Ivy clad trees which is very valuable for invertebrates, birds and bats.

Comments on past management

The woodlands have not been actively managed. The main paths running through 11th Fairway and 15th Fairway Woodlands are cut using a side arm when necessary.

Future Management

All woodland areas should be managed according to the general principles above. Due to lack of resources, the woodland management will inevitably be a lower priority than managing the grassland and scrub/grassland mosaic. However, the Biodiversity value of the site could be greatly enhanced if the woodlands were actively managed and all efforts should be made to carry out key management techniques. See prescription table for more detail.

2.4.3 Veteran and Mature Trees

A survey should be carried out to map all veteran trees on site and create a management plan for them. The distinctive features that the mature and over mature trees create should be recognised and sensitive management should be adhered to, to ensure their longevity. A gradual programme of clearing a space or 'halo' around them of competing species should be put in place to ensure a healthy crown. Aim to achieve a clearance of at least the circumference of the existing crown area per tree. This to be done during routine thinning programme as suggested above in the management suggestions for each woodland. Crown or end-weight reduction may also be necessary to ensure longevity.

2.4.4 Scrub

General principles:

- Scrub is an extremely important habitat, one that many animals depend on for their survival.
- It is a habitat in its own right but also can be a component of other habitats such as grassland and woodland.
- It is also successional and is the stage between grassland and woodland. It is valuable to a variety of wildlife in all its successional stages. For example, the Brown Hairstreak Butterfly lays its eggs on relatively young blackthorn. As scrub develops, it provides a nectar and food source for mammals, and birds. Once it is more mature and dense, it is attractive to birds to nest in.
- It is important to retain a scrub mosaic with different species and age classes to be of most benefit.
- It is often in the scrub ecotone between grassland and woodland where most diversity lies.
- Scrub can also be useful to deter human access to sensitive areas.
- Enhancement of the existing scrub mosaics can be achieved by managing existing stands on rotation to ensure age structure. It is vital that scrub is managed and not allowed to take over.
- Due to the relatively small areas of grassland which can be managed for wildlife, if more scrub is to be created it should be done so by pushing back the woodland edge, by felling a 10m strip for example, then managing the regrowth. Interplanting with more suitable species if necessary. It is very important that scrub does not encroach any further into the grasslands.
- Cut scrub can either be disposed of at the site it is cut from by creating brash habitat piles or either burnt or chipped. NB, due to the urban nature of the site, any fires used to manage vegetation should be taped off clearly to warn members of the public.
- Scrub should only be managed outside of bird nesting season.

Scrub/Grassland

16th Fairway Scrub/Grassland (60)
Description - A long wide area of rough running north/south down the eastern side of this area. The calcareous influence of the underlying soil is still evident, as it is over most of this northern section of the golf course. However, since the original management plan, this area has been subject to considerable scrub encroachment including Bramble and Hawthorn and tree species such as Cherry, Sycamore and Ash. Red Fescue grass is the most common grass with rare Quaking grass. Herbs include rare but widely distributed Common Knapweed, Common Bird's-foot Trefoil, Ladies Bedstraw and Wild Carrot with rare Harebell, Small Scabious and Dwarf Thistle.
Comments on past management – This area has not been managed and is succeeding to scrub.
Future management – The scrub needs to be cut back and surrounding grassland needs to be cut and cleared. This would be a good task for a team of volunteers/staff working with brushcutters rather than using a tractor mounted flail.

The large patch of bramble on the southern corner should be pushed back by half. The cleared area of bramble should then be cut and cleared annually to keep it from coming back. Up a third of the woodier scrub should be cleared and then allowed to grow back to provide a good age class of scrub. Once this has grown back, the older scrub can then be tackled. The scrub should continue to be managed on rotation.
The grassland that remains should be cut and cleared on rotation, half one year, the other half the next.

3rd Fairway Rough South (61)

Description - On the southern edge of the 3rd Fairway there is a rough area of grassland with a diverse range of herbs such as frequent Ladies Bedstraw, Perforate St John's-wort, Common Knapweed, Yarrow, Agrimony, Creeping Thistle, White Clover, Red Clover, Mouse-ear Hawkweed, Oxeye Daisy, occasional Wild Carrot, Wild Parsnip, Dwarf Thistle, Wild Mignonette, Ribwort Plantain, Red Bartsia and rare Harebell. The area is becoming encroached upon by bramble, Buckthorn, Buddleia and Hawthorn.

Comments on past management – This area has not been managed and is succeeding to scrub.

Future management – The scrub needs to be cut back and surrounding grassland needs to be cut and cleared. As above, this would be a good task for a team of volunteers/staff working with brushcutters rather than using a tractor mounted flail.
50% or the scrub should be removed with the remaining scrub managed in thirds, on rotation. Once the first area has grown back, the next third can be cleared and so on, to provide a good age class of scrub. The initial 50% clearance could be carried out by a contractor.
The grassland that remains should be cut and cleared on rotation, 50% each year.

Small Blue Scrapes Scrub/Grassland (62)

Description - This is a mixed area of scrub and diverse chalk grassland. The scrub is mostly Hawthorn, Privet and Bramble. The grassland is composed of occasional Upright Brome, rare Cocksfoot, Red Fescue, Chalk False Brome, Smaller Cats-tail, Meadow Oat-grass, Quaking Grass and Crested Hair-grass. Herbs include Kidney Vetch, Rest Harrow, Ox-eye Daisy, Horseshoe Vetch, Marjoram, Wild Thyme, Common Rock-rose, Lady's Bedstraw, Salad Burnet, Fairy Flax, Glaucous Sedge and Dropwort. A couple of Pyramidal Orchids were see here in 2014 as well. A number of scrapes have been successfully created to enhance habitat for the germination of Kidney Vetch. These scrapes had a high percentage of Kidney Vetch and Common Rock Rose. On the bare ground the following mosses were found, *Ctenidium molluscum, Hypnum lacunosum, Homalothecium lutescens* and *Pseudosceropodium purum*.

Comments on past management –
A lot of good work has been carried by the volunteers of the Lower Mole Partnership, mostly concentrating on work to enhance the site for the Small Blue butterfly
2006 – 3 scrapes were created to enhance the extent of Kidney Vetch and support the population of Small Blue. These were left to vegetate naturally. For scrape locations see map 3.
2008 – 2 further scrapes were created, also left to vegetate naturally.
2009 – 2 further scrapes were created and these were seeded with Kidney Vetch seeds.
2011 - Volunteers cut young scrub (mainly hawthorn) in grassland area by 7th tee, leaving some buckthorn and scattered hawthorn habitat for overwintering invertebrates. Brushcutter was used on young bramble and tor grass. Some denser clumps of scrub with Sycamore and Turkey Oak were felled. A scrub screen was retained next to the tees. Brash was burnt on controlled bonfires sited on area dominated by tor grass and off the rich grassland area. The Downskeepers uprooted scrub along the boundary path by the stables as well.
2012 - Scrub clearance was carried out in the area in the around the scrapes adjacent to the 7th tee opening up an area of grassland totalling 0.1 ha. 10 Juniper trees were also planted in this area and the construction of 2m x2m enclosures were erected around them to protect against

grazing and other damage. The Junipers had been given to the project by a member of the public who had grown them on from seed collected on Epsom Downs.
2014 - The area around the 7th tee was worked on again. The Junipers enclosures were weeded, scrub cleared and tor grass removed.
2015 – In the area around the 7th tee, four new scrapes were created and Kidney Vetch seed broadcast into them. This work was funded as part of a SITA grant application which included management work on a number of sites on Epsom and Walton Downs
April 2017 - To prevent young regrowth maturing and scrub pockets linking up, two half days were spent cutting back the young scrub regen. No dense areas likely to be used for nesting were targeted, nor any mature scrub. The Juniper enclosures were weeded, with surrounding scrub cut back to prevent them being smothered.
2020 – Feb: Butterfly Conservation Small Blue legacy volunteer task was held on 21 Feb, supported by LMP staff member. Regrowth had been exceptional as little maintenance had been carried out since 2017. Volunteers weeded the Kidney Vetch scrapes previously excavated by LMP and popped small scrub around the scrapes. LMP staff member carried out some brush-cutting.
2020 – March: full team for three days clearing all encroaching scrub from around the scrapes and Juniper trees. All arising's were burnt on small, controlled bonfires. Volunteers used brush-cutters to clear very dense dogwood, birch and hawthorn stems. All stumps were cut low and treated.

Future management –
It is vital to maintain this area. The grassland needs to be cut and cleared annually, on rotation, along with the scrub being kept under control and managed on rotation. This area is quite large so realistically, perhaps a 5th of the total scrub could be cleared each time.
Half of the grassland can be cut and cleared one year, the other half the next. Areas where Tor grass is a problem may need to be cut and cleared more regularly. Some scrub in this area is beneficial but it must not dominate the area or swamp the scrapes or Juniper trees. By regularly cutting and clearing the grassland, the scrub will be kept under better control.
As there is a good age range of scrapes already created, once one scrape becomes overgrown, it is possible to re-scrape the vegetation back to bare chalk. This would only need doing every 10 years or so. Any fires should be positioned over Tor Grass or on previous fire sites if possible. In the future, it would be possible to graze this area, which would ultimately be the best management tool.

6th Fairway Scrub/Grassland (63)

Description - This area of scrub is mainly made up of scattered Hawthorn with the odd Hazel, young Oak and Ash. There is bramble amongst the grassland as well.

Comments on past management –
2011 - A 3 ton tracked excavator was hired to dig further scrapes along the 6th Fairway. 3 scrapes were dug, with the spoil landscaped behind the scrapes to suppress the scrub. Kidney vetch seed collected from the site in 2010 was broadcast in the scrapes.
2012 - Four scrapes were created alongside the 6th fairway. In addition, Kidney Vetch seeds collected from the Golf Course in 2011 were broadcast into the scrapes.
Unfortunately, the scrapes along the 6th Fairway were not successful. They had not managed to get right down to bare chalk, so the chalk grassland plants did not succeed in colonising the area before the scrub invaded.

Future management – The scrub/grassland mosaic needs to be maintained to ensure the scrub does not take over. Half the area should be cut and cleared each year. The scrub adjacent to the track should be pushed back by 2 m, as the chalk flora here is very interesting. The track margin should be cut and cleared annually. The scrub itself can also be managed on rotation in thirds.

Grandstand Road Scrub/Grassland (64)

Description - On the edges the tall grassland comprises abundant False-oat grass, occasional Rough Meadow-grass, Cock's-foot, Yorkshire-fog, Timothy, Upright Brome with common herbs such as Cleavers, Hogweed, Herb Bennett, Creeping Thistle, Herb Robert, Common and Greater Knapweed, Rosebay Willowherb, Wild Carrot, Common Nettle, and rare Salad Burnet, Wild Basil, Lucerne, Black Medick, Perforate St John's-wort, Bladder Campion, Goat's Beard, Small Scabious and Wild Mignonette. Ground-elder and Wild Parsnip are locally abundant. Kidney Vetch and Wild Marjoram are present in locally abundant patches. Along the track there is shorter vegetation such as Silverweed, Common Restharrow, Yarrow, Common Bird's-foot and Common Vetch. This area is scrubbing up more than other areas and contains Hawthorn and Apple trees.

Comments on past management – The grass around the scrub is cut annually in late September/October

Future management – This area must not scrub up any further and the mosaic should remain. The grassland needs to be cut and cleared annually with up to a third of the scrub removed and then allowed to grown back to create age structure. The scrub subsequently managed on rotation.

Old London Road Scrub/Grassland (65)

Description - Hawthorn and Dogwood are abundant with occasional Ash, Pedunculate Oak, Beech, Aspen, Grey Poplar, Rowan and Silver Birch trees. Bramble is also an important component and Wild Cherry is rare. The edges contain rough tall grassland. There is generally a high percentage of grasses such as occasional Tall Fescue, Perennial Rye-grass, Cock's-foot, Timothy, Tor grass, Red Fescue, Rough Meadow-grass. Herbs that are present are frequent to occasional such as Common Knapweed, Common Bird's-foot Trefoil, Wild Carrot, Kidney Vetch, Red Bartsia, Red Clover, Dove's-foot Crane's-bill, Burnet Saxifrage, Agrimony, Dwarf Thistle, Ladies Bedstraw, Common Ragwort, Small Scabious, Salad Burnet, Wild Basil and Glaucous Sedge. There is locally dominant stand of Wild Radish on the northern edge of this area.

Comments on past management – The grass and low level scrub is cut every so often, when felt necessary

Future management – The scrub/grassland mosaic needs to be maintained to ensure the scrub does not take over. 50% of the scrub should be removed with the remaining scrub managed in thirds, on rotation. Once the first area has grown back, the next third can be cleared and so on, to provide a good age class of scrub. The initial 50% clearance could be carried out by a contractor.

Scrub

Longdown Lane Road Margin (66)

Description - Along the edge of Longdown Lane South there is a thin section of woodland/scrub mosaic comprising of abundant Sycamore, Hawthorn, Dogwood, occasional Wild Cherry and rare Apple. Ivy is locally frequent, as is Bramble. On the edges is a tall vegetation habitat with frequent Cow Parsley, Cleavers, Common Nettle and occasional Germander Speedwell, Ground-ivy, Lords & Ladies and Ground-elder.

Comments on past management – The track and roadside edges are cut as and when necessary to maintain access.

Future management – Access should continue to be maintained with edges cut back when necessary. This scrub line should be maintained as a barrier to the road.

Longdown Lane Hack Ride Scrub (67) and 17th Fairway Scrub (68)

Description - These two small areas of scrub are mainly made up of Hawthorn and Bramble. It is similar to that found to the adjacent scrub developing within the 16th Fairway Scrub/Grassland.

Comments on past management – No recent management has taken place.

Future management – These small scrub islands should be maintained at their current extent and not allowed to encroach in to the rough. By managing the rough grassland as suggested with half cut and cleared each year, this should result in the scrub edge being maintained.
Scallop edges to create a wavy edge to create age structure.

Burgh Heath Road Scrub Line (69)

Description - Predominantly Hawthorn scrub running along the edge of Burgh Heath Road. Also found here in 2014 was a male Juniper. Unfortunately, this could not be found in 2020. In 2014 it was still in reasonable condition but was still suffering from competition from the surrounding vegetation.

Comments on past management – The track and roadside edges are cut as and when necessary to maintain access.

Future management – Access should continue to be maintained with edges cut back when necessary. This scrub line should be kept maintain a barrier to the road. At the western end, the scrub is encroaching into the grassland and needs to be pushed back. There is Horseshoe Vetch found here and other interesting chalk flora and the scrub line needs to be maintained and not allowed to encroach into the 15th Tee Rough.

Rifle Butts Alley Hedge (70)

Description - This hedge is made up of Sycamore, Ash, Hawthorn, Hazel and there is fringe of Dogwood developing along the front. The hedge is covered in Ivy. There is the odd Oak standard along the hedge line.

Comments on past management – No recent management.

Future management – Currently the dogwood is marching out from the hedge line into the grass margin between the hedge and the track. This margin should be cut and cleared annually to ensure the hedge does not extend out. The hedge itself should be cut in winter, outside of the breeding bird season and when the trees are dormant. Ideally, only one third of the length of the hedge should be managed in a single year. The hedge should be cut on rotation over three years.

Rifle Butts Alley Scrub (71)

Description - Scrub with grassy areas alongside the paths and in clearings. It is divided by the paths, creating 4 sections. The northern and largest section still has grassy clearings within it. The scrub is composed of frequent Hawthorn, frequent Privet, rare Buckthorn, rare Holly, rare Dog Rose, and rare Ash. Grass found included False Oat-grass, Cocksfoot, Perennial Rye-grass, Smaller Cat's-tail, the Surrey scarce Flattened Meadow-grass along with the herbs Bird's-foot trefoil, Perforate St John's-wort, Salad Burnet, Marjoram, White Clover, Red Clover and Bladder Campion.

Comments on past management – No recent management.

Future management – Where there are grassy areas within the scrub, for example in the northern section, these should be kept open by cutting and clearing. The edges of all four of these scrub islands should be pushed back away from the track edge and grassy margin maintained by cutting and clearing. This should be done annually and in late September/October.

Downs Road Scrub (72)

Description - This is a scrub/grassland mosaic with frequent Hawthorn, occasional Dog rose, Gorse, Wild Privet and Blackthorn are locally frequent and Hazel, Elder and Apple are rare. There are Ash trees dotted all along the length, many of which ae suffering from Ash Die-Back. Under this, Bramble is frequent as is Clematis as a climber. Herb include Wild Marjoram, Wild Basil. Canadian Goldenrod and Tor Grass has been recorded in the margins here.

Comments on past management – No recent management. A task to be carried out by the Lower mole Partnership Volunteers was planned for winter 2020/21 but this was postponed due to the pandemic.

Future management – This scrub line needs to be pushed back towards the adjacent farmland and away from the track, to increase the grass margin. It is encroaching in to the grassland which is rich in interesting chalk grassland plants. Once the scrub is pushed back, the grassland margin along the track should be cut and cleared annually. The scrub edge should be maintained further back and not allowed to encroach back in to the grassland, which if the grass margin is cut and cleared annually, should happen naturally.
The Ash present will be managedon a risk-based approach based on public safety considerations. The scrub line can be scalloped in to, on rotation, every few years to create age structure.

14th Fairway Scrub (73)

Description - Linear length of scrub between two fairways with abundant Hawthorn, and more rarely Yew, Holly, North Maple, Wild Cherry, Wayfaring and Blackthorn on the edge. On the southern edge at a grid reference of TQ2230 5895 are two Juniper bushes, both of these are in a poor condition being heavily shaded by trees and encroached by scrub. Towards the south of this area by Grandstand Road small Elder trees are occasional with abundant Sycamore, Dog Rose, Dogwood and rare Wild Privet. On the edges are locally abundant patches of Tor grass, dotted with Ivy, Bramble and Creeping Cinquefoil. It is on this southern edge, where the scrub has in the past been cut back to produce a shallow bay of sheltered scrub and tall grass.

Comments on past management – No recent management

Future management – The edges should not encroach any further in to the surrounding rough and chalk grassland. Age structure should be created by clearing sections (up to a fifth) on rotation and allowing them to grow back. Once these areas have grown back, the next sections can be cleared and so on. It will be easiest to cut scallops in around the edges of the scrub island or make use of any naturally more open areas/desire lines through the scrub.
The small block of scrub within the 14th Tee Rough should be completely removed and restored to chalk grassland.

Grandstand Road Scrub (74)

Description - This is the main core of scrub in the middle section of the golf course, with maturing abundant Hawthorn scrub, locally dominant in placed as is Dogwood, occasional Elder, with rare Dog Rose and Wild Privet. Gorse is rare on the edges. Bramble and Ivy are locally abundant. On the edges there is abundant Tor grass, with occasional Creeping Cinquefoil, Wild Parsnip, Perforate St John's-wort, Wood False-brome, Creeping Thistle and Hedge Woundwort. Away from edges and into the central core are frequent Pedunculate Oak and Ash, with occasional Sycamore. Kidney Vetch grows along the centre path edges and Cowslips are present in more open areas.

Comments on past management – The centre path through the scrub is cut by a side arm when necessary to maintain access.

Future management – This is the main area of scrub within the whole of the Golf Course and is very valuable. It is divided down the centre by a main path linking a car park and Burgh Heath Rd. The western side is far more dense than the scrub grassland mosaic seen on the eastern side. 50% of the western side should be removed and restored to chalk grassland. This would need to be carried out by contractor.
The remaining scrub can be managed by staff/volunteers in thirds on rotation, to create age structure. Areas should be cleared and allowed to regrow. Once this occurs, the next sections can be cleared. Make the most of naturally more open areas and push back from there, or scallop around the edges of the scrub blocks.

NB There has been mention of common lizards and slow worms being seen in this area so clearance must be done sensitively after reptile surveying has been carried out to assess the population. The centre path should continue to be cut back regularly by a side-arm.

13th and 5th Scrub Islands (75 and 76)
Description - This is a small island of scrub which is mainly Hawthorn with the odd young Oak and Dogwood, fringed by Bramble.
Comments on past management – No recent management.
Future management – It is important the scrub does not encroach on the chalk grassland or on the 13th Fairway. The regular cutting of the fairway and annual cutting and clearing of the chalk grassland should prevent scrub developing further. It would be advantageous to scallop the edges of these islands to create age structure.

2.4.5. Surveying and Monitoring

Surveying effort should be increased with the help of volunteers and specialist ecologists. All records aside from those associated with the writing of the management plans and the monitoring of scrapes by Butterfly Conservation are historic. Up to date or in some cases baseline surveys need to be carried out.

2.4.8.2 Vascular Plants

Plants are one of the better groups that have been surveyed over the years, mainly as part of writing the management plans. Surrey Botanical Society have also passed on all their records, which has greatly increased the plant list. Many thanks go to Ann Sankey for providing them.
The most useful surveys to focus on now would be the vegetation successions within the scrapes and carrying out a condition assessment of the grassland, particularly in those where the management regime is to change. The change in vegetation should be seen over the years if cutting and clearing is maintained as a management tool. Each area should be surveyed using quadrats evenly spaced across the fields, roughly 6-8 areas depending on the size of the grassland. The quadrats should be randomly placed so as not to encourage bias of recording the nicer areas to get a true reflection of condition. Number of different species per quadrat should be counted. Ideally the species should be noted, but the number of different species is indicative of quality, so it is possible to use volunteers who are not botanical experts to do this as well and cover more ground. Volunteers could be trained to look for key quality indicator plants to as well as negative indicators. These species are shown in table 1 on the following page.

The grassland should also be monitored as a whole to complete their condition assessment. The categories are as follows:

- **Extent.** This attribute is one that is measured as the condition monitoring continues. The first time an area is monitored sets a base line. Aerial photographs are a good way to assess this and ensure the grasslands are not encroached upon by scrub/trees.
- **Sward composition**
  – Grass/herb ratio. In general, semi-natural swards that are in good condition have a much greater broad-leaved herb component than agricultural grassland. It is thought that for neutral and calcareous grassland the broadleaved herb component should fall within the range 40-90%. It should be borne in mind that some of the broadleaved plants such as creeping thistle that may be present are not a good indicator of positive condition.
- **Sward composition (using information from quadrat sampling)**

– Frequency of positive indicators. There is a list of species that are regarded as positive indicators. The site is traversed and these species are recorded. It is recommended that 2 to 6 of these species should be frequent, found 41-60% of the time.
– Frequency of negative indicators. These should not make up more than 10% of an area individually and combined not more than 20% of the area.
– Frequency of shrub/trees. To be favourable, there should be no more than 5% cover of woody species

- **Sward Structure**
  - Height. Average height should be noted and for chalk grassland should be somewhere between 2 and 25 cm.
  - Litter. Build up of thatch should not cover more than 25% of the sward.
  - Bare ground. This should not cover more than 10% within the sward.
  - Disturbance. Evidence of overgrazing or rabbit warrens should be noted and not affect more than 0.05%.

CG2 positive Indicator species	
Anthyllis vulneraria – Kidney Vetch	Lotus corniculatus – Common Bird's-foot Trefoil
Asperula cynanchica – Squinancywort	Pilosella officinarum – Common Mouse-ear
Campanula glomerata – Clustered Bellflower	Polygala spp – Milkwort spp
Carex spp – Sedge species	Potentilla erecta – Tormentil
Centaurea nigra – Common Knapweed	Primula veris – Primrose
Cirsium acaule – Dwarf Thistle	Sanguisorba minor – Salad Burnet
Filipendula vulgaris – Dropwort	Scabiosa columbaria – Small Scabious
Helianthemum spp – Rock-rose spp	Serratula tinctoria – Saw-wort
Hippocrepis comosa – Horseshoe Vetch	Stachys officinalis – Hedge Woundwort
Leontodon hispidus – Rough Hawkbit	Succisa pratensis – Devil's-bit Scabious
Leontodon saxatilis – Lesser Hawkbit	Thymus spp – Thyme spp

CG3/4positive Indicator species	
Anthyllis vulneraria – Kidney Vetch	Lotus corniculatus – Common Bird's-foot Trefoil
Asperula cynanchica – Squinancywort	Pilosella officinarum – Common Mouse-ear
Campanula glomerata – Clustered Bellflower	Polygala spp – Milkwort spp
Carex flacca – Glaucous Sedge	Primula veris – Primrose
Cirsium acaule – Dwarf Thistle	Sanguisorba minor – Salad Burnet
Filipendula vulgaris – Dropwort	Scabiosa columbaria – Small Scabious
Galium verum – Lady's Bedstraw	Serratula tinctoria – Saw-wort
Helianthemum nummularium – Common Rock-rose	Stachys officinalis – Hedge Woundwort
Hippocrepis comosa – Horseshoe Vetch	Succisa pratensis – Devil's-bit Scabious
Leontodon hispidus – Rough Hawkbit	Thymus spp – Thyme spp
Leontodon saxatilis – Lesser Hawkbit	Lotus corniculatus – Common Bird's-foot Trefoil

Negative indicator species	
Anthriscu sylvestris – Cow parsley	Senecio jacobaea – Common Ragwort
Bellis perennis – Daisy	Sonchus spp – Sow Thistles
Cirsium arvense – Creeping Thistle	Urtica dioica – Common Nettle
Cirsium vulgare – Spear Thistle	Lolium perenne – Perrienal Rye-grass

Carduus spp – Thistles spp	Holcus lanatus - Yorkshire Fog
Chamerion angustifolium – Rosebay Willowherb	Cynosurus cristatus – Crested Dogs-tail
Galium aparine – Cleavers	Trisetum flavescens – Yellow Oat-grass
Plantago major – Greater Plantain	Arrhenatherum elatius – False Oat-grass
Rumes crispus – Curled Dock	Dactylis glomerata – Cocks-foot
Rumex obtusifolius – Broad-leaved Dock	

Within the woodlands, priority should be given to the woodland areas that are to be managed, ideally before and after to see the difference the management regime is having. Key categories to focus on to assess the condition of the woodlands are:

- Extent – Area of woodland
- Structure and natural processes
    - Canopy Cover – canopy trees should cover 30-75% (unless put into coppice management and then should be 25-50%)
    - Understory composition – a good mix of shrub species present.
    - Ground flora composition – are there woodland flowers or merely ivy and brambles.
    - Age structure – there should be at last three different age classes.
    - Percentage of decaying wood.
    - Open spaces for example glades and rides, should cover at least 10%.
- Regeneration Potential – Are there young trees growing up to become the next canopy trees.
- Composition – 95% should be native plants.
- Indicators of local distinctiveness, for example bluebell cover in The Warren Ancient Woodland.

Using the comprehensive survey information from Surrey Botanical Society, key species should be mapped e.g. rarities and those needed control (Tor Grass and Canadian Goldenrod) to assist in managing these species.

Fixed photographic points should be established over both Epsom & Walton Downs and to be repeated on a yearly basis. Also, photo monitoring of before and after management can be used for a visual comparison of achievements, also useful for historical and educational purposes and talks.

2.4.8.3 Invertebrates

An invertebrate survey similar to the one carried out in 2009 should be repeated. Comments made by the surveyor regarding the 2009 survey were that poor weather conditions made sampling more difficult and reduced the activity of highly mobile 'fair-weather' invertebrates, such as Butterflies, Bees, Wasps and Hoverflies. These groups are well reviewed with regards to their national status and undoubtedly more species characteristic of calcareous habitats await discovery at the site. Focus should remain on the Chalk Grassland areas, but the woodlands should also be covered this time.

Specific surveys of particular groups of insects is also recommended.

- Butterflies – These insects will be highly under recorded. Perhaps a new transect could be set up in coordination with Butterfly Conservation. Considering the nearby transect walked across Juniper Hill regularly sees 30 butterflies each year, the Golf Course will be home to many more than the 11 species recorded so far.
- Moths - A night-time moth trapping session should be carried out. Surrey's Butterfly Conservation's moth recorder could be contacted to provide advice and assistance.
- Coleoptera (Beetles), Diptera (Flies), Hymenoptera (Bees, Wasps and Ants), Hemiptera (True Bugs), Molluscs and Oligochaetes (Slugs, Snails and Earthworms) Arachnids (Spiders, Harvestmen, Mites and Ticks) and the other invertebrates (Dermaptera/Earwigs,

Isopods/Woodlice, Mecoptera/Scorpion Flies, Neuroptera/Lacewings) will require an ecologist to be employed to carry out a survey.

- Orthoptera (Grasshoppers and Crickets) are reasonably easy to survey as there are limited potential species. Try and encourage local experts or volunteers together with staff to survey these animals.

2.4.8.4 Herptiles

Common lizard is the only reptile record on site but there is potential for other species to be present. Slow worms have possibly been seen but no formal records. It is recommended that the scrub/grassland mosaic is surveyed using felt mats or onduline or metal corrugated tins. Ideally a survey should be carried out before any clearance work within Grandstand Road Scrub and Scrub/Grassland.

2.4.8.5 Birds

A full BTO bird survey to enable mapping of the breeding territories and provide further information on how management is affecting the bird populations is recommended. Importantly the standard methodology used would provide scientifically valid comparisons to be made in the future. A full BTO breeding bird survey has not been carried out at before. Winter visitor surveys would also be very useful to carry out to enable a thorough assessment of the importance the site has for bird life. Due to birds being particularly popular with local enthusiasts, it may be possible to encourage volunteers to help with bird surveying. Local groups may also be able to help with sourcing Bird Boxes and further surveying assistance e.g. Woodland Trust who manage neighbouring Langley Vale Memorial Woodland.

2.4.8.6 Mammals

A full bat survey should be carried out at the appropriate time of year, to assess what species are using the site and the importance of the Downs for these animals. It is recommended that prior to any tree work, a bat survey is conducted to grade for their potential for bat roosts. Installing bat boxes in the woodlands may also help with any roost deficiencies.
Small mammal surveys have not been carried out before, so a system of small mammal trapping using longworth traps or footprint tunnels is recommended to help bring together a more detailed picture of the types of mammals using the site. Focus should be made in the grassland areas rotationally managed to help prove whether this form of management is beneficial. It should also be indicative as to whether the woodland management is beneficial as well by focusing on those areas to be managed.

2.4.8.7 Invasive Species

Invasive species should be mapped and management controls put in place. Canadian Goldenrod noted in the WW2 Bunker, opposite Bunbury Way and in 15th tee rough needs to be eradicated. Tor Grass should be actively managed to prevent dominance in some of the grasslands by strimming regularly to a height of 7cm, with arisings removed. Turkey Oak should be controlled and selectively thinned within the woodlands.

2.4.8.8 Fungi, Lichen and Bryophytes

A baseline survey of these three groups should be carried out by a specialist ecologist and would be best carried out in the autumn months. The Surrey Recorders could be contacted to gather further records for the site.

2.4.12 Biodiversity and Landscape

Any benefits resulting from Epsom and Walton Downs' inclusion in Surrey's North Downs Biodiversity Opportunity Area should be maximised. If developments happen locally and mitigation

is needed, opportunities to enhance the site should be considered using the management plan as a guide on how best to use the funding. Any adverse impacts a development may have (e.g. increased visitor pressure, lighting issues) should be considered when deciding planning applications to begin with. Opportunities to create a better link to the wider countryside will benefit the wildlife within.

Natural England is currently (2021) reviewing the boundary of all Areas of Outstanding Natural Beauty (AONB). Walton downs is designated as an Area of Great Landscape Value and with the whole site designated as SNCI, along with the fact that Juniper Hill is considered of SSSI quality, it a good case to be included within the Surrey Hills AONB. Any opportunities for all or part of Epsom and Walton Downs to be considered for inclusion should be taken.

The importance of Epsom and Walton Downs' value as a mosaic of habitats to support a vast range of wildlife, some of which is very rare, should be highlighted. It should be valued for its Biodiversity just as much as it's valued for its horse racing and public amenity. One way of achieving this would be to investigate the possibility of designating the site as a Site of Special Scientific Interest (SSSI) or Local Nature Reserve (LNR).

2.4.13 Site Interpretation

Interpreting the site to the public is really important. A recent grant application to upgrade the notice boards at main entrances was successful, so there is potential for these to not only give visitors useful access information, but also information on the wildlife and perhaps history of the site.
One of the best ways to interpret a site is to provide guided walks. Topics could include the history of the site, golfing history, wildlife themes such as wildflowers, birds or butterflies for example.
It is important to have a good web presence to ensure key messages or events are communicated as widely as possible. This can be done via the EEBC website, Facebook and Instagram pages. Perhaps create links to Butterfly Conservation or Surrey Botanical Society.
Signs aimed at modifying visitors' behaviour should be positive and ask visitors for their help, rather than start 'Do Not…'. If signs are used to alert people of the breeding bird season for example, it is important to make sure these signs are taken down at the end. They should then be repositioned each season to avoid 'sign blindness'
Encouraging visitors to help report any issues they come across is a very useful management tool. The Downskeepers and Golf Course staff have good relationship with their regular visitors and this should continue.

2.4.11 Volunteering Opportunities

Better use of volunteers could offer opportunities for good habitat management. The Woodland Trust, who manage the adjacent Langley Vale Memorial Woodland, have a good band of volunteers and it is very likely that some of these individuals may be keen to volunteer on the Golf Course as well. Nearby sites such as Epsom Common and Horton Country Park Local Nature Reserves use regular volunteer input from the Countryside Team Volunteers, Lower Mole Partnership Volunteers and in the case of Epsom Common, the EcoVols as well, which is seen as a vital tool in managing their habitats. The members of the Golf Course would be an obvious port of call to ask if any of them would be interested in joining a habitat management group.
Current volunteer input on the Golf Course includes tasks carried out by the Lower Mole Partnership volunteers and tasks and surveying by Butterfly Conservation in and around the scrapes. It is suggested to consult with all these groups to see if they can increase their input but also offer help in setting up/advertising an Epsom and Walton Downs Volunteer Group. It would also be advisable to investigate the possibility of increasing staff resource to support the reintroduction of a volunteer group to assist with the habitat management of the Downs.

2.5 Identification of Operational Objectives and Outline Prescriptions

Habitat/Species	Prescriptions
Grassland	- Cut all rough areas of grassland on rotation and remove arisings. - Control Tor Grass by cutting and clearing regularly to a height of 7cm. - Remove Canadian Goldenrod. - Manage scrub to prevent dominance and create age structure. - Manage existing scrapes where this will help to spread Kidney Vetch and remove scrub and Tor Grass. (Avoid flight period of the Small Blue, May-July) - Mow paths to control access. - Manage the Juniper Trees and maintain them in an open location. - Manage scrub edges on the perimeter and along rides by scalloping on rotation.
Mixed deciduous woodland	- Manage Ash Die-Back on a risk-based approach based on public safety considerations. - Create woodland edge and manage on rotation along existing footpaths, up to 10m either side. - Thin out woodland to create age structure. Methods can include coppicing, halo release of retained standards/veterans, 30% thin, coppicing or glade creation. - Prevent woodland encroaching into grassland areas.
Scrub	- Create age structure by scalloping - Do not allow encroachment on to adjacent grassland or paths.
Surveying and Monitoring	- Baseline survey of Bryophytes, Fungi and Lichens. - Monitor success of grassland management by carrying out a condition assessment. - Monitor vegetation succession within the scrapes. - Carry out a condition assessment of the woodlands. - Establish fixed photographic points. - Continue to support Butterfly Conservation Volunteers managing and monitoring scrapes created for the Small Blue and Kidney Vetch. - Organise a night-time moth trapping session. - Organise a programme of invertebrate surveys to be carried out by a specialist ecologist. - Encourage volunteers and local experts to carry out invertebrate and bird surveys. - Survey the scrub/grassland mosaic for reptiles. - Employ an ecologist to carry out a full BTO breeding bird survey. - Employ and ecologist to carry out a full bat survey. - Investigate the possibility of small mammal trapping. - Map and control invasive species.
Biodiversity and Landscape	- Maximize opportunities resulting from being part of Surrey's North Downs Biodiversity Opportunity Area. - Value the Downs just as much for its Biodiversity as its public amenity value. - Keep up to date with any opportunities to become part of the Surrey Hills Area of Outstanding Natural Beauty. - Look at the Woodland and Grassland component of Epsom and Walton Downs along with Epsom Downs Golf Course and potentially combined, they could be put forward to be considered for SSSI status. - Investigate possibility of designating the site as a LNR.

Site interpretation	- Upgrade notice boards in line with recent grant application. - Provide guided walks. - Maintain a good web presence via EEBC website Facebook and Instagram pages. - Investigate the possibility of increasing staff resource to support the reintroduction of a volunteer group to assist with the habitat management of the Downs. - Interpret the site's biodiversity value. - Use positive signage.
Volunteering Opportunities	- Liaise with local volunteer groups to ask advice and advertise an Epsom and Walton Downs Volunteer Group. - Talk to regular visitors to gauge interest. - Investigate the possibility of increasing staff resource to support the introduction of a volunteer group to assist with the habitat management of the Downs.

STAGE THREE – PRESCRIPTION

It is recommended that for each year, an individual Annual Work Plan should be drafted including an outline of costs and personnel to be used.

Recommendations not covered by this report, but which must also be considered for each Annual Work Plan includes a health and safety review. All management tasks need to be the subject of a health and safety risk assessment.

Financial, labour and equipment contraints

Proposals have not been budgeted in terms of labour and financial inputs, largely because these are unknown. However, formulation of the proposals has taken into account what are likely to be limited resources and most tasks should readily be achievable by conservation volunteer teams. It is hoped that prescriptions requiring greater inputs of resources can be undertaken as part of the programme of contractual work that already exists and outside contractors, without the need for unduly increasing costs. Priorities have been attributed to the suggested management tasks.

A rough idea of cost would be:

Contractors	£175/person/day
Volunteers	£7/person/day
Ecological Consultants	£275/person/day
Arboricultural Contractors	£275/person/day

Notes:

-The outline costs are estimation for guide/planning purposes and may vary significantly from the actual costs.

-Volunteers: In addition, use of volunteer machinery (e.g. chainsaw/brush cutters) is £50/day and the hire of heavier equipment (e.g. mini excavator/dumper) is approx. £100/day.

-Where the term volunteer/contractors is used, the deciding factor will be availability of volunteers, who would normally be the first choice. It should be noted that a significant amount of the crucial volunteer input to site management would be at no direct cost to the Council.

Sustainable Management

The work detailed in this document tries to find a balance between meeting the needs of our current generation while conserving natural resources and protecting the environment for the benefit of future generations. These new opportunities for sustainable management include protecting the wildlife through a variety of methods such as further enhancing the grassland as well as the woodland, scrub and hedgerows. Increasing the public knowledge about the ecology of the Downs will also help them to understand why it is necessary to carry out essential management work.

Volunteering Opportunities

The management recommendations table below contains much that is suitable for volunteers to carry out. This gives the opportunity for new members of the public and existing volunteers to carry out a variety of tasks on the Downs. This then enables the Downskeepers to commit to a variety of work they would not be able to complete on their own and gives opportunities to create links with local visitors to the Downs who can help with 'policing' if any trouble occurs and assist with wildlife recording. The table will note which tasks are appropriate for volunteers and which will need outside contractors.

Prescription Table

For compartments see map 1

Code to workforce – EEBC Grounds Maintenance staff (GM), Downskeepers (DK), Golf Course (GC), Volunteers (Vols), Contractor (C)

CHALK GRASSLAND (Compartment numbers highlighted in green are rough margins to fairways)							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
1, 7, 11	Clear scrub and trees from the grassland.	x					GC/ Vols/ C DK
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17	Cut and clear grassland annually in late September/October	x	x	x	x	x	GC/GM
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17	Control scrub encroachment	x	x	x	x	x	GC/GM
1, 5,	Remove Canadian Goldenrod	x	x				
12	Limit access	x					GC/GM
13	Cut road and car park banks with side arm to ensure good visibility every 6 weeks	x	x	x	x	x	GM

ROUGH GRASSLAND SURROUNDING THE FAIRWAYS							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
18-31	Cut and clear the rough on the right hand side of the fairways in late September	x		x		x	GC
18-31	Cut and clear the rough on the left hand side of the fairways in late September		x		x		GC
24	Remove tree saplings	x	x				GC/Vols
20	Control encroaching scrub	x	x	x	x	x	GC/Vols

REMAINING GRASSLAND AREAS, MANAGED BY EPSOM & EWELL BOROUGH COUNCIL							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
35, 39,	Cut and clear whole area annually in late September/October	x	x	x	x	x	GM
34, 37,	Cut and clear 50% of the area annually in late September/October	x	x	x	x	x	GM
36, 38, 40,	Cut area regularly to maintain as amenity grassland and control visitor access	x	x	x	x	x	GM
41, 42, 43, 44, 45	Cut regularly until late April and then left until cutting and clearing in late September/October	x	x	x	x	x	GM
33	Remove Canadian Goldenrod	x	x	x	x	x	DK/Vols
34	Remove Early Goldenrod and Michaelmas Daisy.						
33	Mow paths/hack rides	x	x	x	x	x	GM

WOODLAND							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
47, 53, 56	Create woodland edge along footpaths and desire lines	x		x		x	GC/DK/ Vols
47, 49, 53, 56, 57, 58	Create woodland edge around perimeter of woodland. NB: In cpt 47, start woodland edge creation to the north of 17th tee as there is a good floral diversity here. In cpt 49, focus on creating woodland edge on the eastern	x		x		x	GC/DK/ Vols

	edge near the 16th tee. In cpt 52, push back along southern edge, creating wavy bays. When pushing back woodland (58) from the 9th Hole, reseed using native chalk grassland seed mix.						
All	Remove non-native species	x	x	x	x	x	GC/GM/ DK
47, 53, 56, 57	Thin out woodland up to 30% to create age structure.						Contractor
55	Coppice Hazel and open up this small area of woodland.	x					DK/Vols
47, 56, 57	Create glades focusing on enlarging already more open areas						Contractor Vols
52	If tree is removed from 3rd Fairway, replace with at least 3 oak trees , planted around the edge of the fairway. Ideally, leave the trunk and standing deadwood and pile any other remains within the edges of 3rd Fairway woodland.						GC
56	Allow vegetation (herb layer and understory) to develop between the 12th and 8th Fairway.						
46, 48, 50, 51, 54, 59	Minimum intervention						DK/GM/ GC
All	Leave as much standing/lying decaying wood as is safe to do so.						DK/GM/ GC

VETERAN TREES							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
All woodlands	Survey and map any veteran trees.		x				DK
If trees found	Assess and write individual management plans for the trees.				x		Ecologist
All woodlands	Identify trees to become veteran.			x			DK

SCRUB/GRASSLAND							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
61, 65	Clear an initial 50% of the scrub	x					Contractor
60, 61, 63, 64	Clear up to a third of the scrub and subsequently manage on rotation. (In Cpt 60, clear bramble patch by half).	x	x	x	x	x	DK/GM Vols
62, 65	Clear up to a fifth of the scrub and subsequently manage on rotation.	x	x	x	x	x	DK.GM Vols
64	Cut and clear all grassland amongst the scrub annually in late September/October.	x	x	x	x	x	GM/Vols
60, 61, 62, 63, 65	Cut and clear 50% of the grassland amongst the scrub annually in late September/October.	x	x	x	x	x	GM/Vols
62	Manage the Juniper Trees and maintain them in an open location.	x	x	x	x	x	DK/Vols
62	Control Tor Grass	x	x	x	x	x	GM/DK/ Vols
62	Manage scrapes by weeding saplings etc if possible. Once they have vegetated too much, re-scrape.	x	x	x	x	x	DK/Vols
63	Push scrub back from trackside by 2m	x	x	x	x	x	GM/DK/ Vols

SCRUB							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
66, 69	Trim edges to maintain access and prevent encroachment on to paths/chalk grassland.	x	x	x	x	x	GM/DK Vols
67, 68, 71, 72, 73, 75	Scallop edges on rotation, to create a wavy edge, maintaining age structure and preventing encroachment.	x	x	x	x	x	DK/Vols
71, 74	Cut and clear grassy glades within scrub island	x	x	x	x	x	GM/Vols
74	Remove 50% of scrub and restore to chalk grassland. Manage remaining scrub in thirds, on rotation.		x	x	x	x	DK/Vols Contractor
71	Push back from track edge by 1m. Subsequently cut and clear track margin annually in late September/October.	x	x	x	x	x	DK/Vols GM
69, 73	Manage the Juniper Trees and maintain them in an open location.	x		x		x	DK/Vols
73	Remove small scrub area within 14th Tee Rough completely and restore to chalk grassland.						
72, 73, 74	Control Tor Grass	x	x	x	x	x	DK/GM Vols
72	Remove Canadian Goldenrod	x	x	x	x	x	DK/ Vols
70	Trim one third of the hedge each year and clear encroachment into adjacent grass margin.	x	x	x	x	x	GM

SURVEYING AND MONITORING							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
All	Baseline survey of Bryophytes, Fungi and Lichens.		x				Ecologist
All where management takes place	Monitor success of grassland management by carrying out a condition assessment.	x	x	x	x	x	DK/Vols/ Ecologist
62	Monitor vegetation succession within the scrapes.		x		x		DK/Vols/ Ecologist
All woodland cpts	Carry out a condition assessment of the woodlands.			x			DK/Vols/ Ecologist
All	Establish fixed photographic points.	x					DK/Vols
TBC	Set up new butterfly transect in conjunction with Butterfly Conservation.	x	x	x	x	x	DK/Vols
62	Organise a night-time moth trapping session.	x					Ecologist/ Vols
All	Organise a programme of invertebrate surveys to be carried out by a specialist ecologist.	x		x		x	Ecologist
All	Encourage volunteers and local experts to carry out invertebrate and bird surveys.	x	x	x	x	x	Ecologist/ Vols
62, 37, 64, 74	Survey the scrub/grassland mosaic for reptiles.	x					DK/Vols
All	Employ an ecologist to carry out a full BTO breeding bird survey.	x					Ecologist/Vols

All	Employ and ecologist to carry out a full bat survey.		x				Ecologist/Vols
62, 37, 64, 74	Investigate the possibility of small mammal trapping.				x		DK/Vols
All	Map and control invasive species.	x	x	x	x	x	DK/ Vols

BIODIVERSITY AND LANDSCAPE							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
All	Maximize opportunities resulting from being part of Surrey's North Downs Biodiversity Opportunity Area.	x	x	x	x	x	DK/Planning Dept
All	Value the Downs just as much for its Biodiversity as its public amenity value.	x	x	x	x	X	DK/ Comms team
All	Keep up to date with any opportunities to become part of the Surrey Hills Area of Outstanding Natural Beauty.	x	x	x	x	x	DK/Managers
All	Look at the Woodland and Grassland component of Epsom and Walton Downs along with Epsom Downs Golf Course and potentially combined, they could be put forward to be considered for SSSI status.			x			DK/Managers
All	Investigate possibility of			x			DK/Managers

	designating the site as a LNR.						

SITE INTERPRETATION							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
At entrances	Upgrade notice boards in line with recent grant application.	x	x				DK
All	Provide guided walks.			x	x	x	DK/Vols
All	Maintain a good web presence via EEBC website Facebook and Instagram pages.	x	x	x	x	x	DK/ Comms team
All	Highlight to visitors the importance of the Biodiversity of the site.	x	x	x	x	x	DK
All	Investigate the possibility of increasing staff resource to support the reintroduction of a volunteer group to assist with the habitat management of the Downs.	x	x	x	x	x	DK/Managers/ Finance Dept

Volunteering Opportunities							
Compartment	**Management Prescriptions**	**Year**					**Workforce**
		23/24	**24/25**	**25/26**	**26/27**	**27/28**	
All	Liaise with local volunteer groups to ask advice and advertise an Epsom and Walton Downs Volunteer Group.	x					DK
All	Talk to Golf Club members/regular visitors to gauge interest.	x	x	x	x	x	DK/ GC

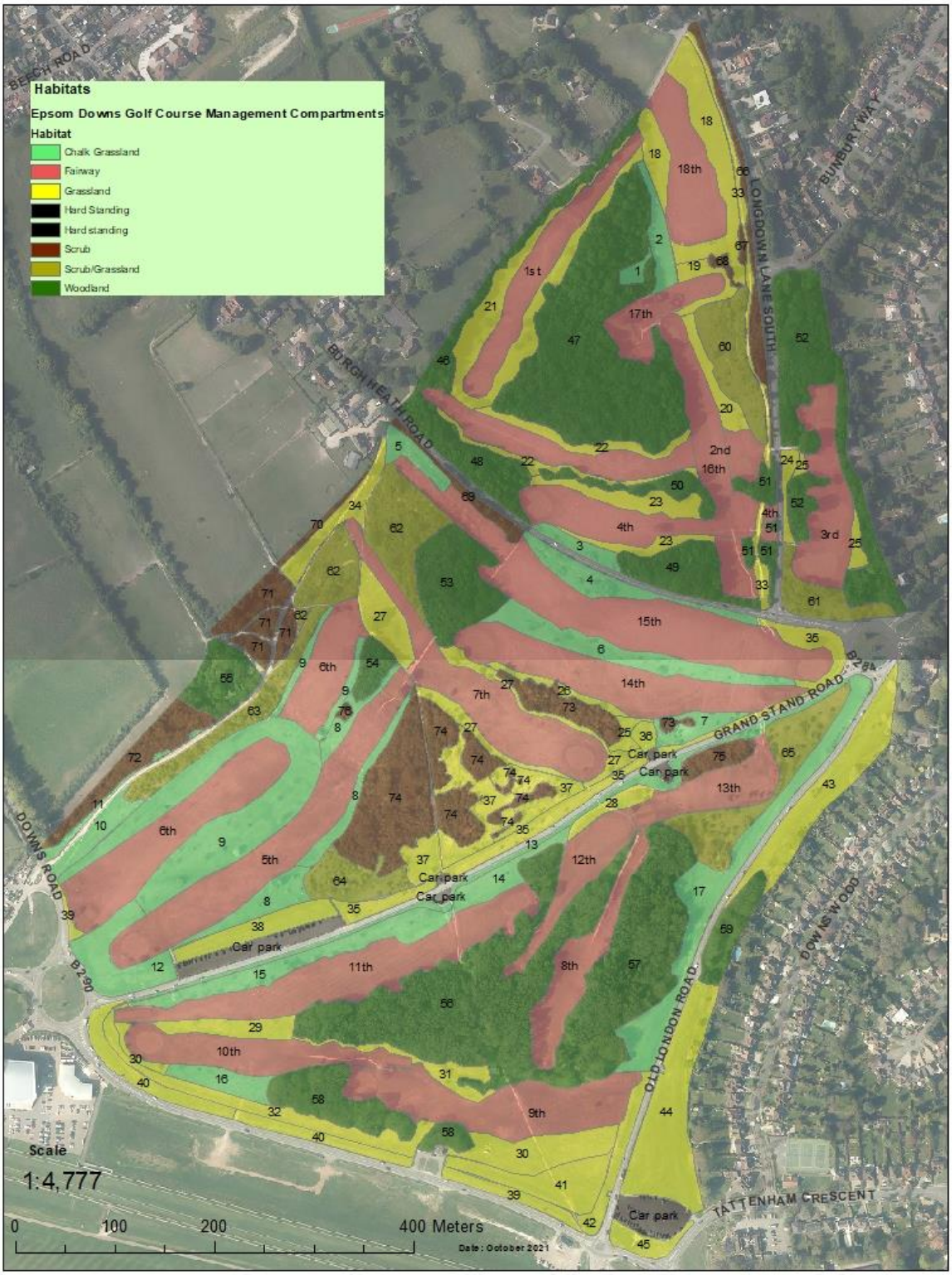
All	Investigate the possibility of increasing staff resource to support the reintroduction of a volunteer group to assist with the habitat management of the Downs.	x	x	x	x	x	DK/Managers/ Finance Dept

MAPS

- Map 1 – Habitat and compartment numbers
- Table with Compartment numbers and names
- Map 2 – Access
- Map 3 – Scrape locations
- Map 4 – Kidney Vetch locations

Map 1

Epsom Downs Golf Course



Created by: Sarah Clift **Habitats with management compartment numbers**

Compartment Number	Compartment Name	Compartment Number	Compartment Name
1	WW2 Bunker	45	Tea Hut Grassland
2	WW2 Bunker grass margin	46	1st Fairway Woodland
3	Burgh Heath Road Margin South	47	WW2 Bunker Woodland
4	Burgh Heath Road Margin North	48	Burgh Heath Road Woodland West
5	15th Tee Rough	49	Burgh Heath Road Woodland East
6	15th Fairway Rough	50	4th Fairway Treeline
7	14th Tee Rough	51	Longdown Lane Copses
8	5th Fairway Rough	52	3rd Fairway Woodland
9	6th Fairway Rough	53	15th Fairway Woodland
10	Downs Road Grassland	54	5th Fairway Woodland
11	Downs Road Grassland Margin	55	Rifle Butts Alley Woodland
12	5th Hole Rough	56	11th Fairway Woodland
13	Grandstand Rd South Margin	57	8th Fairway Woodland
14	11th Hole Rough	58	Tattenham Corner Road Woodland
15	11th Fairway Rough	59	Old London Road East Woodland
16	10th Fairway Rough	60	16th Fairway Scrub/Grassland
17	Old London Rd West	61	3rd Fairway Rough South
18	18th Fairway Rough	62	Small Blue Scrapes Scrub/Grassland
19	17th Fairway Rough	63	6th Fairway Scrub/Grassland
20	16th Fairway Rough	64	Grandstand Road Scrub/Grassland
21	1st Fairway Rough	65	Old London Road Scrub/Grassland
22	2nd Fairway Rough	66	Longdown Lane Road Margin
23	4th Fairway Rough	67	Longdown Lane Hack Ride Scrub
24	Longdown Lane South Margin	68	17th Fairway Scrub
25	3rd Fairway Rough	69	Burgh Heath Road Scrub Line
26	14th Fairway Rough	70	Rifle butts Alley Hedge
27	7th Fairway Rough	71	Rifle Butts Alley Scrub
28	12th Fairway Rough	72	Downs Road Scrub
29	10/11th Fairway Rough	73	14th Fairway Scrub
30	10th Hole Rough	74	Grandstand Road Scrub
31	9th Fairway Rough	75	13th Scrub Island
32	Tattenham Corner Rd Golf Course Margin	76	5th Scrub Island
33	Longdown Lane South Hack Ride		
34	Rifle Butts Alley Grassland		
35	Grandstand Road North Margin		
36	Grandstand Road North Car Park Grassland		
37	Grandstand Road Grassland		
38	Viewpoint Grassland		
39	Downs Road Margin		
40	Tattenham Corner Road Margin		
41	Police car park for Derby		
42	Old London Road Margin		
43	Old London Road East Grassland North		
44	Old London Road East Grassland South		

Map 2

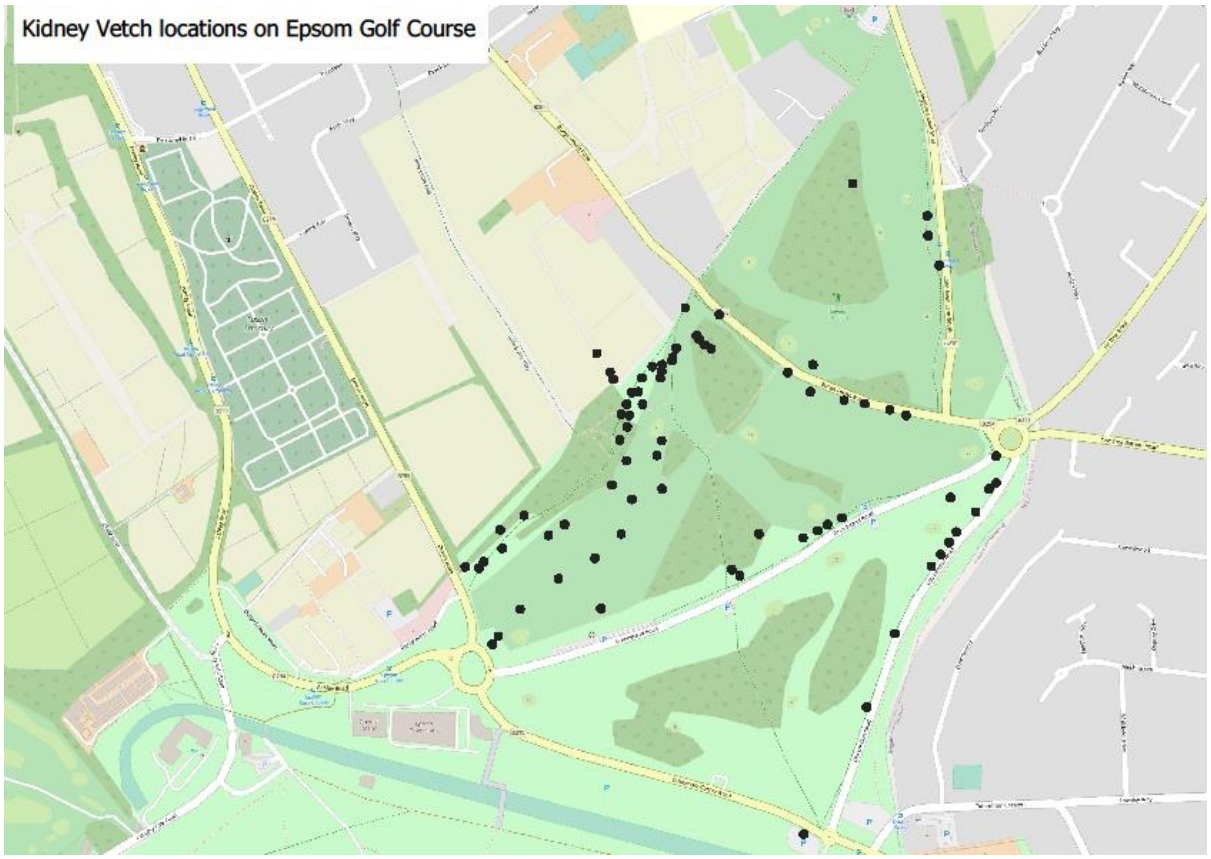
Epsom Downs Golf Course

Created by: Sarah Clift

Access including footpaths and hack rides

Map 3 – Location of Scrapes created to encourage Kidney Vetch.

Map 4



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Epsom Downs Golf Course Management Plan 2015-20 – Peter Howarth, Epsom and Ewell Borough Council
Epsom and Ewell Biodiversity Action Plan 2020-30 – Sarah Clift, Epsom and Ewell Borough Council
SNP
The State of Surrey's Nature - Surrey Wildlife Trust
SNCI Report 2013 – Pete Howarth
Monitoring the condition of lowland grassland SSSIs: Pt 1 English Nature's rapid assessment method (ENRR315)

APPENDICES

1. Site of Nature Conservation Interest report

SNCI Report

Site name: Epsom Downs Golf Course
Current status: SNCI
Grid ref: TQ222589
Area: 56ha
Date of previous survey: 05/08/1998
Date of current survey: 10/07/2013
Surveyor: P Howarth

Site description
Epsom Golf Course is located on the dip slope of the North Downs just south of Epsom town on the southern boundary of the Borough of Epsom and Ewell in Surrey. The central grid reference is TQ 222589, and covers approximately 56 hectares. The site is set in a relatively rural location with Epsom Racecourse to the south and west, open fields to the west and north west and residential housing to the east. There is one Right of Way that goes through the site from the south east corner of the site towards Burgh Heath Road. All of the public rights of way information can be seen via the Surrey County Council Interactive map (see References for address). There are several other local paths that cross the site. The geological map relevant for this area is Sheet 286 Reigate printed in 1978. The entire area is Upper Chalk. The 1983 Soil Survey of England and Wales '*Soils of England and Wales Sheet 6 – South East England soil map*' describes the resulting soil type as a brown redzina called Andover 1. This is a shallow well drained calcareous silty soil over chalk and found on slopes.

Previous reasons for selection
Selected for areas of unimproved calcareous grassland. Rare and valuable in both county and national terms. Approximately 46 hectares of unimproved and semi-improved calcareous grassland and 12 hectares of species rich semi-natural woodland.

Reason for selection:
Presence of species rich chalk grassland Bromus erectus grassland CG3.
Butterflies, Small Blue the site support a population of this butterfly which is on the list A of butterflies of importance in Surrey.

Habitat description:
Abundance is based on the DAFOR scale and refers to the specific section of the site.The overall abundance across the site is provided in the Species List
DAFOR ratings for certain species, notably annual, can change throughout the year.
The DAFOR scale uses the following key:- **D**ominant; **A**bundant; **F**requent; **O**ccasional; **R**are:
Nomenclature follows Stace (2010) for vascular plants.

Target note 1:- Grassland area car park common species are found here such as Perennial Rye Grass, Rough Stalked Meadow Grass, Red Fescue, Cocksfoot and Timothy. Along with herbs such as Yarrow, White Clover, Common Birds Foot Trefoil and Perennial Sow Thistle. This area shows signs of disturbance due to nutrient enrichment.

Target note 2:- Short un mown grassland with Sainfoin, Quaking Grass, Small Scaboius, Crested Hair Grass.

Target note 3:- Some of the grassland areas are dominated by False Oat Grass. They do contain some calcareous species including Upright Brome.

Target note 4:- Low grassy sward Yorkshire Fog, Kidney Vetch areas, alongside old London Road.

Target note 5:-Long grass calcareous grassland composed of Birds Foot Trefoil, Black Knapweed, Chalk False Brome, Cocksfoot, Common Mouse-ear, Common Ragwort, Creeping Thistle, Lady's Bedstraw, Daisy, Dandelion, Dropwort, Fairy flax, False Oat Grass, Glaucous Sedge, Greater Knapweed, Kidney Vetch, Lesser Trefoil, Perforate St. John's Wort, Perennial Rye Grass, Quaking Grass, Restharrow, Rough Hawkbit, Salad Burnet, Sheep's Fescue, Wild Carrot, Wild Parsnip, Wild Mignotte, Sainfoin, Small Scaboius and Upright Brome.

Target note 6:- Close mown sloping calcareous grassland, rare Round Headed Rampion, occasional Common Rock Rose, occasional Wild Thyme and occasional Quaking Grass, Salad Burnet Rough Hawkbit, rare Fairy Flax, Burnet Saxifrage, Crested Hairgrass, Small Scaboius and Squincywort, locally abundant Sheep's Fescue.

Target note 7:- Scrapes, areas have had the surface vegetation removed to reveal bare chalk to encourage the growth of Kidney Vetch to support the Small Blue butterfly. The current state is a mix of bare ground and herbs such as Common Toadflax, Kidney Vetch, Marjoram, Rough Hawkbit, abundant Salad Burnet, Smaller Cat's tail, Wild mignotte and Common Field Scaboius.

Target note 8:- Scrub. This is scattered over the site and is composed of Ash, Black Horehound, Bramble, Buddleia, Cocksfoot, Common Couch, Cow Parsley, Crab apple, Creeping Thistle, Dogwood, Elder, False Oat Grass, Ground Elder, Hawthorn, Hedgerow Cranesbill, Hogweed, Ivy, Large Bindweed, Marjoram, Nettle, Privet, Rough Chervil, Sterile brome, Wild Cherry, Blackthorn.

Target note 9:- Northern woodland. This is a semi natural broadleaved woodland with a closed canopy comprised of frequent Ash, Sycamore, Pedunculate Oak with some Wild Cherry and Silver birch. The shrub layer is composed of Hawthorn, Elder, Hazel, Wild Privet and Dog rose and Clematis. The herb layer Cocksfoot, Dog Rose, Herb Robert, Lesser Burdock, Nettle, Prickly Sow Thistle, Rough Chervil, Upright Hedge Parsley and Sanicle. Along some of the path chalk flowers were found including occasional Agrimony, Common Rock Rose, rare Dropwort and Salad Burnet.

Target note 10:- Southern woodland. This is a semi natural broadleaved woodland. It has a dense canopy composed of Pedunculate Oak and Sycamore. The scrub layer is made up of Hawthorn, Elder, Hazel and Blackthorn.

Target note 11:- TQ22208 58793. Mesothrophic grassland. The grassland here was short and includes a low bank around the car park area. The plant species included frequent Annual Meadow Grass, occasional Black Knapweed, rare bramble, occasional Burnett Saxifrage, frequent Cocksfoot, rare Common Ragwort, frequent Dandelion, rare False Oat Grass, rare Hedgerow Cranesbill, abundant Perrenial Rye Grass, occasional Red Bartsia, Ribwort Plantain and rare Yorkshire Fog.

Target note 12:- TQ2221958818 Calcareous grassland. This grassland had a tall sward and rare Hawthorn scrub encroachment. It is locally dominated by False Oat Grass, Upright Brome and Chalk False Brome. Along with occasional Black Knapweed, Cocksfoot, Lady's Bedstraw, rare Kidney Vetch, Salad Burnet, Wild Parsnip.

Target note 13:- TQ2221758845 Dense scrub with dominant Hawthorn, occasional Ash, rare Bramble, Buckthorn, Crab Apple, Dog Rose, Pedunculate Oak, Privet and Spindle. The herb layer was locally dominated by Ivy with occasional Ground Elder. Scattered through the scrub were open glades with rare Agrimony, occasional Black Knapweed, abundant Chalk False Brome, occasional Cocksfoot, False Oat Grass, Upright Brome and rare Smaller Cat's Tail. Also in this area were occasional larger trees including Ash and Sycamore.

Target Note 14:- TQ2240259402, calcareous grassland. This area is steeply sloping herb rich area, with scrub encroachment, patches of bare soil and a rich bryophyte layer. It contained occasional Black Knapweed and Eyebright, rare Burnet Saxifrage, Chalk False Brome, Greater Knapweed, Harebell, Autumn Gentian, Wild Carrot, abundant Salad Burnet. The bryophytes included Comb-moss (Ctenidium molluscum), Endive Pellia (Pellia endiviifolia), Top Notchwort (Leiocolea turbinata), Curly Crisp-moss (Trichostomum crispulum) and Variable Forklet-moss (Dicranella varia).

Target Note 15:- Grassland area between close mown fairway and scrub alongside path, composed of mostly rough grassland with Perrenial Rye grass, Cocksfoot, Ribwort Plantain, Red Bartsia and Black knapweed with occasional chalk flowers including local abundant Restharrow.

Target Note 16:- A thin strip of woodland composed of a canopy of Ash and Scyamore producing dense shade. An understory of occasional Hawthorn and locally dominant Dogwood and Privet. The ground layer is dominated by Ivy with occasional Holly seedlings. There are occasional more open areas with Black Knapweed, Nettle, False Oat Grass and Cocksfoot present.

NVC types present
CG2 Festuca ovina-Avenula pratensis grassland
CG3 Bromus erectus grassland
MG1a Arrhenatheretum elatioris grassland, Festuca rubra sub-community
MG1e Arrhenatheretum elatioris grassland, Centaurea nigra sub-community
W8 Fraxinus excelsior-Acer cmapestre-mercurialis perennis woodland
W10 Quercus robur-Pteridium aquilinum-Rubus fruticosus woodland
W21 Crataegus monogyna-Hedera helix scrub
W22 Prunus spinosa-Rubus fruticosus scrub
W24 Rubus fruticosus-Holcus lanatus underscrub

Current management:
Areas of grassland are cut on various timings depending on the use of the area, greens, fairways and roughs, the current regime seems quite successful at maintaining a good range of plants, the creation of scrapes to encouraging the growth of Kidney Vetch to attract the Small Blue butterfly has taken place in recent years.

Management advice:
A priority for the management is the control of scrub, this is both to prevent the development of scrub in the grassland and the encroachment of existing scrub areas in to the grassland. There are areas of the good quality chalk grassland which are in danger of being lost, if major scrub clearance is not carried out.
As mentioned above the current grass management is quite successful, however it could be improved by clearing more of the arisings from the cut area.

Photographs:

Calcareous grassland on Epsom Downs Golf course

Species lists:

Plant list

Common name	Scientific name	Abundance
Agrimony	Agrimonia eupatoria	r
Annual meadow grass	Poa annua	r
Ash	Fraxinus excelsior	r
Autumn Gentian	Gentianella amarella	r
Beech	Faggus sylvatica	r
Black bryony	Tamus communis	r
Black horehound	Ballota nigra	r
Black medick	Medicago lupulina	r
Bladder campion	Silene vulgaris	r
Bluebell	Hyacinthoides non-scripta	r
Broad leaved dock	Rumex obtusifolius	r
Buckthorn	Rhamnus cathartica	r
Bugle	Ajuga reptans	r
Burnet saxifrage	Pimpinella saxifraga	r
Butterfly-bush	Buddleja davidii	r
Canadian Goldenrod	Solidago canadensis	r
Cock's-foot	Dactylis glomerata	o
Common Bent	Agrostis capillaris	o
Common Bird's-foot-trefoil	Lotus corniculatus	r
Common Chickweed	Stellaria media	r
Common Couch	Elytrigia repens	r
Common Eyebright	Euphrasia nemorosa	r
Common Knapweed	Centaurea nigra	r
Common Mallow	Malva sylvestris	r
Common Milkwort	Polygala vulgaris	r
Common Nettle	Urtica dioica	r
Common Ragwort	Senecio jacobaea	r
Common Restharrow	Ononis repens	r
Common Rockrose	Helianthemum nummularium	r
Common Toadflax	Linaria vulgaris	r
Common Vetch	Vicia sativa	r
Cow Parsley	Anthriscus sylvestris	r
Crab Apple	Malus sylvestris	r
Creeping Bent	Agrostis stolonifera	r
Creeping Thistle	Cirsium arvense	r
Crested Dog's-tail	Cynosurus cristatus	r
Crested Hairgrass	Koeleria macrantha	r
Daisy	Bellis perennis	r
Dandelion	Taraxacum spp	r
Dog-rose	Rosa canina	r
Dog's Mercury	Mercurialis perennis	r
Dogwood	Cornus sanguinea	r

Downy Oat-grass	Avenula pubescens	r
Dropwort	Filipendula vulgaris	r
Elder	Sambucus nigra	r
Enchanter's-nightshade	Circaea lutetiana	r
English Elm	Ulmus procera	r
English oak	Quercus robur	o
Evergreen oak	Quercus ilex	r
Fairy Flax	Linum catharticum	r
False Brome	Brachypodium sylvaticum	r
False Oat-grass	Arrhenatherum elatius	o
Field Bindweed	Convolvulus arvensis	r
Field Maple	Acer campestre	r
Field Scabious	Knautia arvensis	r
Garlic Mustard	Alliaria petiolata	r
Germander Speedwell	Veronica chamaedrys	r
Giant Fescue	Schedonorus giganteus	r
Glaucous Sedge	Carex flacca	r
Goatsbeard	Tragopogon pratensis	r
Gorse	Ulex europaeus	r
Greater Burdock	Arctium lappa	r
Greater Knapweed	Centaurea scabiosa	r
Greater Plantain	Plantago major	r
Greater Stitchwort	Stellaria holostea	r
Ground Elder	Aegopodium podagraria	r
Ground Ivy	Glechoma hederacea	r
Hairbell	Campanula rotundifolia	r
Hawthorn	Crataegus monogyna	r
Hazel	Corylus avellana	r
Hedge Bedstraw	Galium mollugo	r
Hedge Woundwort	Stachys sylvatica	r
Hedgerow Cranesbill	Geranium pyrenaicum	r
Herb Robert	Geranium robertianum	r
Hogweed	Heracleum sphondylium	r
Holly	Ilex aquifolium	r
Honeysuckle	Lonicera periclymemum	r
Hop Trefoil	Trifolium campestre	r
Horse Chestnut	Aesculus hippocastanum	r
Ivy	Hedera helix	r
Ivy-leaved Toadflax	Cymbalaria muralis	r
Juniper	Jupiperus communis	r
Kidney Vetch	Anthyllis vulneraria	r
Knotgrass	Polygonum aviculare	r
Large-leaved Lime	Tilia platyphyllos	r
Lords-and-Ladies	Arum maculatum	r

Meadow Foxtail	Alopecurus pratensis	r
Meadow Oat-grass	Avenula pratense	r
Meadow vetchling	Lathyrus pratensis	r
Mugwort	Artemisia vulgaris	r
Nipplewort	Lapsana communis	r
Perennial Rye-grass	Lolium perenne	o
Perennial Sowthistle	Sonchus arvensis	r
Perforate St John's-wort	Hypericum perforatum	r
Pineappleweed	Matricaria discoidea	r
Quaking grass	Brizia media	r
Red Bartsia	Odontites vernus	r
Red Campion	Silene dioica	r
Red clover	Trifolium pratense	r
Red fescue	Festuca rubra	f
Ribwort plantain	Plantago lanceolata	r
Rosebay Willowherb	Chamerion angustifolium	r
Rough chervil	Chaerophyllum temulum	r
Rough hawkbit	Leontodon hispidus	r
Sainfoin	Onobrychis viciifolia	r
Salad burnet	Sanguisorba minor	r
Scyamore	Acer pseudoplatanus	r
Self heal	Prunella vulgaris	r
Sheeps Fescue	Festuca ovina	r
Shepherd's-purse	Capsella bursa-pastoris	r
Silver Birch	Betula pendula	r
Small scabious	Scabiosa columbaria	r
Smaller Cat's-tail	Phleum bertolonii	r
Smooth Sowthistle	Sonchus oleraceus	r
Smooth stalked meadow grass	Poa pratensis	r
Snowberry	Symphoricarpos albus	r
Soft brome	Bromus hordeaceus	r
Spear thistle	Cirsium vulgare	r
Spindle	Euonymus europaeus	r
Squinancywort	Asperula cynanchica	r
Sweet Chestnut	Castanea sativa	r
Sweet vernal grass	Anthoxanthum odoratum	r
Sweet-briar	Rosa rubiginosa	r
Teasel	Dipsacus fullonum	r
Timothy	Phleum pratense	r
Tor-grass	Brachypodium pinnatum	o
Traveller's-joy	Clematis vitalba	r
Turkey Oak	Quercus cerris	r
Upight hedge parsley	Torilis japonica	r
Upright Brome	Bromopsis erecta	f

Wall Barley	Hordeum murinum	r
Wayfaring-tree	Viburnum lantana	r
White campion	Silene latifolia	r
White Dead-nettle	Lamium album	r
Wild Basil	Clipopodium vulgare	r
Wild Carrot	Daucus carota	r
Wild Cherry	Prunus avium	r
Wild Marjoram	Origanum vulgare	r
Wild Parsnip	Pastinaca sativa	r
Wild Privet	Ligustrum vulgare	r
Wild Thyme	Thymus polytrichus	r
Wood Avens	Geum urbanum	r
Wood Dock	Rumex sanguineus	r
Yarrow	Achillea millefolium	r
Yellow Oatgrass	Trisetum flavescens	r
Yew	Taxus baccata	r
Yorkshire-fog	Holcus lanatus	o
Rough stalked meadowgrass	Poa trivialis	r

2. Species Records

Species highlighted in red indicate priority species as defined in the Natural Environment and Rural Communities Act (NERC).

Bryophytes (Mosses and Liverworts)

Scientific Name	**Common Name**	**Date last recorded**
Ctenidium molluscum	Comb-moss	2014
Dicranella varia	Variable Forklet-moss	2014
Homalothecium lutescens		2014
Homalothecium sericeum		2020
Hypnum lacunosum		2014
Leiocolea turbinata	Top Notchwort	2014
Pellia endiviifolia	Endive Pellia	2014
Pseudosceropodium purum		2014
Trichostomum crispulum	Curly Crisp-moss	2014

Vascular Plants

Scientific Name	Common Name	Date last seen
Acer campestre	Field Maple	2020
Acer platanoides	Norway Maple	2021
Acer pseudoplatanus	Scyamore	2021
Achillea millefolium	Yarrow	2021
Aegopodium podagraria	Ground-elder	2021
Aesculus hippocastanum	Horse-chestnut	2021
Agrimonia eupatoria	Agrimony	2021
Agrostis capillaris	Common Bent	2021
Agrostis stolonifera	Creeping Bent	2021
Ajuga reptans	Bugle	2014
Alliaria petiolata	Garlic Mustard	2021
Alopecurus pratensis	Meadow Foxtail	2014
Anacamptis pyramidalis	Pyramidal Orchid	2021
Anagallis arvensis	Scarlet Pimpernel	2021
Anisantha sterilis	Barren Brome	2021
Anthoxanthum odoratum	Sweet vernal grass	2014
Anthriscus sylvestris	Cow Parsley	2021
Anthyllis vulneraria	Kidney Vetch	2021
Aquilegia vulgaris	Columbine	2015
Arabidopsis thaliana	Thale Cress	2015
Arctium lappa	Greater Burdock	2014
Arctium minus	Lesser Burdock	2015
Armoracia rusticana	Horse-radish	2021
Arrhenatherum elatius	False Oat-grass	2021
Artemisia vulgaris	Mugwort	2021

Arum maculatum	Lords-and-ladies	2015
Asperula cynanchica	Squinancywort	2021
Aster lanceolatus	Narrow-leaved Michaelmas-daisy	2001
Aster novi-belgii	Confused Michaelmas-daisy	2001
Aster sp.	A michaelmas-daisy	2014
Aster x salignus	Michaelmas Daisy (A. lanceolatus x novi-belgii)	2021
Atriplex prostrata	Spear-leaved Orache	2014
Avenula pratense	Meadow Oat-grass	2014
Avenula pubescens	Downy Oat-grass	2014
Ballota nigra	Black Horehound	2021
Bellis perennis	Daisy	2021
Betula pendula	Silver Birch	2021
Betula pubescens	Downy Birch	2015
Blackstonia perfoliata	Yellow-wort	2014
Brachypodium pinnatum	Tor-grass	2021
Brachypodium sylvaticum	False-brome	2021
Brassica juncea	Chinese Mustard	2015
Briza media	Quaking-grass	2021
Bromopsis erecta	Upright Brome	2021
Bromus hordeaceus	Soft-brome	2021
Bryonia dioica	White Bryony	2021
Buddleja davidii	Butterfly-bush	2021
Calystegia sepium	Hedge Bindweed	2021
Campanula glomerata	Clustered Bellflower	1989
Campanula rotundifolia	Harebell	2021
Campanula trachelium	Nettle-leaved Bellflower	2021
Capsella bursa-pastoris	Shepherd's-purse	2021
Cardamine hirsuta	Hairy Bitter-cress	2015
Carex flacca	Glaucous Sedge	2021
Carex hirta	Hairy Sedge	2021
Carex pendula	Pendulous Sedge	2014
Carlina vulgaris	Carline Thistle	2021
Carpinus betulus	Hornbeam	2021
Castanea sativa	Sweet Chestnut	2021
Centaurea debeauxii	Chalk Knapweed	2014
Centaurea nigra	Common Knapweed	2020
Centaurea scabiosa	Greater Knapweed	2021
Cerastium fontanum	Common Mouse-ear	2021
Chaenorhinum minus	Small Toadflax	2014
Chaerophyllum temulum	Rough chervil	2021
Chamerion angustifolium	Rosebay Willowherb	2021
Chenopodium album agg.	Fat Hen	2021
Chenopodium polyspermum	Many-seeded Goosefoot	2021
Cichorium intybus	Chicory	2021

Circaea lutetiana	Enchanter's-nightshade	2014
Cirsium acaule	Dwarf Thistle	2021
Cirsium arvense	Creeping Thistle	2021
Cirsium vulgare	Spear thistle	2021
Clematis vitalba	Traveller’s Joy	2021
Clinopodium vulgare	Wild Basil	2021
Cochlearia danica	Danish Scurvygrass	2015
Convolvulus arvensis	Field Bindweed	2021
Conyza canadensis	Canadian Fleabane	2021
Conyza floribunda	Bilbao's Fleabane	2021
Conyza sumatrensis	Guernsey Fleabane	2021
Cornus sanguinea	Dogwood	2021
Corylus avellana	Hazel	2021
Cotoneaster franchetii	Franchet's Cotoneaster	2021
Cotoneaster frigidus	Tree Cotoneaster	1997
Cotoneaster horizontalis	Wallspray	2021
Cotoneaster lacteus	Late Cotoneaster	2021
Cotoneaster marginatus	Fringed Cotoneaster	2021
Cotoneaster salicifolius	Willow-leaved Cotoneaster	1981
Cotoneaster sp.	A cotoneaster	2014
Cotoneaster sternianus	Stern's Cotoneaster	1999
Cotoneaster x watereri	Waterer's Cotoneaster	2015
Crataegus monogyna	Hawthorn	2021
Crepis capillaris	Smooth Hawk's-beard	2021
Cymbalaria muralis	Ivy-leaved Toadflax	2014
Cynosurus cristatus	Crested Dog's-tail	2014
Cytisus scoparius	Broom	2021
Dactylis glomerata	Cock’s-foot	2021
Dactylorhiza fuchsii	Common Spotted-orchid	2014
Daucus carota	Wild Carrot	2021
Digitalis purpurea	Foxglove	2014
Diplotaxis muralis	Annual Wall-rocket	2021
Dipsacus fullonum	Teasel	2014
Dryopteris filix-mas	Male-fern	2021
Elytrigia repens	Common Couch	2021
Epilobium hirsutum	Great Willowherb	2014
Epilobium montanum	Broad-leaved Willowherb	2014
Epilobium parviflorum	Hoary Willowherb	2014
Epipactis helleborine	Broad-leaved Helleborine	2010
Erigeron acris	Blue Fleabane	2015
Erodium moschatum	Musk Stork's-bill	2015
Erophila verna	Common Whitlowgrass	2015
Euonymus europaeus	Spindle	2015
Eupatorium cannabinum	Hemp-agrimony	2021

Euphorbia cyparissias	Cypress Spurge	2021
Euphorbia helioscopia	Sun Spurge	2015
Euphorbia peplus	Petty Spurge	2014
Euphorbia x pseudovirgata	Twiggy Spurge	2014
Euphrasia nemorosa	Common Eyebright	2014
Euphrasia officinalis agg.	Eyebright	2014
Euphrasia psuedokerneri	Chalk eyebright	2014
Fagus sylvatica	Beech	2021
Fallopia baldschuanica	Russian Vine	2014
Fallopia convolvulus	Black Bindweed	2014
Festuca ovina	Sheeps Fescue	2013
Festuca ovina agg.	Sheep's Fescue [agg.]	2014
Festuca rubra	Red fescue	2013
Festuca rubra agg.	Red Fescue	2014
Filipendula vulgaris	Dropwort	2021
Fraxinus excelsior	Ash	2021
Fumaria officinalis subsp. officinalis	Common Fumitory	2021
Galega officinalis	Goat's-rue	2014
Galium aparine	Cleavers	2014
Galium album (or Galium mollugo)	Hedge Bedstraw	2021
Galium verum	Lady's Bedstraw	2021
Gentianella amarella	Autumn Gentian	2020
Geranium molle	Dove's-foot Crane's-bill	2014
Geranium phaeum	Dusky Crane's-bill	1991
Geranium pratense	Meadow Crane's-bill	1980
Geranium pusillum	Small-flowered Crane's-bill	2014
Geranium pyrenaicum	Hedgerow Cranesbill	2021
Geranium robertianum	Herb-robert	2014
Geranium x magnificum	Purple Crane's-bill	1977
Geum urbanum	Herb Bennet	2021
Glechoma hederacea	Ground Ivy	2021
Gymnadenia conopsea	Chalk Fragrant-orchid	2010
Hedera helix	Ivy	2020
Helianthemum nummularium	Common Rock-rose	2021
Helleborus foetidus	Stinking Hellebore	2010
Helminthotheca echioides	Bristly Oxtongue	2021
Heracleum sphondylium	Hogweed	2014
Hieracium sabaudum	Autumn Hawkweed	2015
Hippocrepis comosa	Horseshoe Vetch	2006
Hirschfeldia incana	Hoary Mustard	2021
Holcus lanatus	Yorkshire-fog	2021
Hordeum murinum	Wall Barley	2021
Hyacinthoides hispanica	Spanish Bluebell	2014
Hyacinthoides x massartiana	Hybrid Bluebell (H. non-scripta x hispanica)	2015

Hyacinthoides non-scripta	Bluebell	2014
Hypericum androsaemum	Tutsan	2021
Hypericum calycinum	Rose-of-Sharon	2015
Hypericum hirsutum	Hairy St. John’s-wort	2021
Hypericum perforatum	Perforate St John's-wort	2021
Hypericum x inodorum	Tall Tutsan (H. androsaemum x hircinum)	1977
Hypochaeris radicata	Cat's-ear	2021
Ilex aquifolium	Holly	2021
Juniperus communis	Juniper	2021
Knautia arvensis	Field Scabious	2020
Koeleria macrantha	Crested Hairgrass	2014
Lamium album	White Dead-nettle	2014
Lapsana communis	Nipplewort	2014
Lathyrus nissolia	Grass Vetchling	2014
Lathyrus pratensis	Meadow vetchling	2014
Lactuca serriola	Prickly Lettuce	2015
Lamium album	White Dead-nettle	2021
Lamium maculatum	Spotted Dead-nettle	2012
Lamium purpureum	Red Dead-nettle	2015
Lapsana communis	Nipplewort	2021
Lathyrus pratensis	Meadow Vetchling	2021
Leontodon hispidus	Rough Hawkbit	2021
Leontodon saxatilis	Lesser Hawkbit	2014
Lepidium campestre	Field Pepperwort	2014
Lepidium didymum	Lesser Swine-cress	2014
Lepidium draba	Hoary Cress	2021
Leucanthemum vulgare	Oxeye Daisy	2014
Leucanthemum x superbum	Shasta Daisy	2021
Ligustrum ovalifolium	Garden Privet	2021
Ligustrum vulgare	Wild Privet	2014
Linaria purpurea	Purple Toadflax	2021
Linaria vulgaris	Common Toadflax	2021
Linum catharticum	Fairy Flax	2021
Lolium perenne	Perennial Rye-grass	2021
Lonicera caprifolium	Perfoliate Honeysuckle	2020
Lonicera periclymemum	Honeysuckle	2015
Lonicera x italica	L. caprifolium x etrusca	2021
Lotus corniculatus	Common Bird’s-foot-trefoil	2021
Lotus pedunculatus	Greater Bird's-foot-trefoil	2021
Luzula campestris	Field Wood-rush	2014
Mahonia aquifolium	Oregon-grape	2021
Malus domestica	Apple	2014
Malus pumila	Apple	2021
Malus sylvestris	Crab Apple	2014

Malva neglecta	Dwarf Mallow	2021
Malva sylvestris	Common Mallow	2021
Matricaria chamomilla	Scented Mayweed	1997
Matricaria discoidea	Pineapple Weed	2021
Medicago lupulina	Black Medick	2021
Medicago sativa ssp. Sativa	Lucerne	2014
Melilotus albus	White Melilot	2021
Mercurialis perennis	Dog's Mercury	2021
Moehringia trinervia	Three-nerved Sandwort	2014
Muscari armeniacum	Garden Grape-hyacinth	2015
Muscari comosum	Tassel Hyacinth	1995
Mycelis muralis	Wall Lettuce	2021
Odontites vernus	Red Bartsia	2021
Onobrychis viciifolia	Sainfoin	2014
Ononis repens	Common Restharrow	2021
Ophrys apifera	Bee Orchid	2010
Origanum vulgare	Wild Marjoram	2021
Orobanche elatior	Knapweed Broomrape	2020
Orobanche minor	Common Broomrape	1997
Papaver dubium	Long-headed Poppy	2021
Pastinaca sativa ssp. Sativa	Wild Parsnip	2021
Persicaria maculosa	Redshank	2021
Phleum bertolonii	Smaller Cat's-tail	2021
Phleum pratense	Timothy	2021
Phyteuma orbiculare	Round-headed Rampion	2014
Picris echioides	Bristly Oxtongue	2014
Picris hieracioides	Hawkweed Oxtongue	2021
Pilosella officinarum	Mouse-ear-hawkweed	2014
Pimpinella saxifraga	Burnet-saxifrage	2021
Pinus sylvestris	Scots Pine	2014
Plantago coronopus	Buck's-horn Plantain	2021
Plantago lanceolata	Ribwort Plantain	2021
Plantago major	Greater Plantain	2021
Plantago media	Hoary Plantain	2021
Poa annua	Annual Meadow-grass	2021
Poa compressa	Flattened Meadow-grass	2014
Poa pratensis	Smooth stalked meadow grass	2014
Poa trivialis	Rough stalked meadowgrass	2014
Polygala calcarea	Chalk Milkwort	2014
Polygala vulgaris	Common Milkwort	2014
Polygonum aviculare	Knotgrass	2021
Populus alba x tremula	Grey Poplar	2014
Populus tremula	Aspen	2014
Potentilla anserina	Silverweed	2021

Potentilla reptans	Creeping Cinquefoil	2021
Primula veris	Cowslip	2010
Prunella vulgaris	Self heal	2014
Prunus avium	Wild Cherry	2021
Prunus cerasifera var. pissardii		2015
Prunus domestica ssp.	Domestic Plum	2021
Prunus domestica subsp. insititia	Damson / Bullace	2014
Prunus laurocerasus	Cherry Laurel	2021
Prunus spinosa	Blackthorn	2021
Pulicaria dysenterica	Common Fleabane	2021
Pyracantha sp.	Firethorn sp.	2014
Pyrus communis	Pear	2014
Quercus cerris	Turkey Oak	2021
Quercus ilex	Evergreen Oak	2021
Quercus petraea	Sessile Oak	2021
Quercus robur	Pedunculate Oak	2021
Ranunculus acris	Meadow Buttercup	2014
Ranunculus bulbosus	Bulbous Buttercup	2015
Ranunculus ficaria	Lesser Celandine	2014
Ranunculus repens	Creeping Buttercup	2014
Reseda lutea	Wild Mignonette	2021
Reseda luteola	Weld	2015
Rhamnus cathartica	Buckthorn	2021
Rosa canina	Dog-rose	2014
Rosa canina agg.	Dog Rose	2014
Rosa canina group Dumales	Dog-rose	2021
Rosa canina group Lutetianae	Dog-rose	2015
Rosa obtusifolia	Round-leaved Dog-rose	2021
Rosa rubiginosa	Sweet-briar	2014
Rosa stylosa	Short-styled Field-rose	1981
Rosa stylosa x canina	Rosa x andegavensis (f x m)	1981
Rosa tomentosa	Harsh Downy-rose	1996
Rosa x andegavensis	Rosa x andegavensis (fxm or mxf)	2021
Rubus armeniacus		2021
Rubus caesius	Dewberry	2014
Rubus fruticosus agg.	Bramble	2020
Rubus idaeus	Raspberry	2021
Rubus neomalacus		1999
Rubus ulmifolius	Elm-leaved Bramble	2021
Rumex acetosa	Common Sorrel	2021
Rumex crispus	Curled Dock	2021
Rumex cristatus	Greek Dock	1999
Rumex obtusifolius	Broad-leaved Dock	2021
Rumex sanguineus	Wood Dock	2014

Sagina apetala ssp. Apetala	Annual Pearlwort	2014
Sagina nodosa	Knotted Pearlwort	1981
Salix caprea	Goat Willow	2014
Salvia pratensis	Meadow Clary	1987
Sambucus nigra	Elder	2021
Sanguisorba minor	Salad Burnet	2021
Saponaria officinalis	Soapwort	2014
Saxifraga tridactylites	Rue-leaved Saxifrage	2014
Scabiosa columbaria	Small Scabious	2021
Schedonorus arundinaceus	Tall Fescue	2014
Schedonorus giganteus	Giant Fescue	2014
Schedonorus pratensis	Meadow Fescue	2014
Schedonorus pratensis x Lolium perenne	Schedonorus pratensis x Lolium perenne	2014
Scorzoneroides autumnalis	Autumn Hawkbit	2021
Senecio erucifolius	Hoary Ragwort	2021
Senecio jacobaea	Common Ragwort	2021
Senecio vulgaris	Groundsel	2021
Sherardia arvensis	Field Madder	2014
Silene dioica	Red Campion	2014
Silene latifolia	White campion	2014
Silene vulgaris ssp. Vulgaris	Bladder Campion	2021
Sisymbrium officinale	Hedge Mustard	2021
Solanum dulcamara	Bittersweet	2014
Solidago canadensis	Canadian Goldenrod	2021
Solidago gigantean	Early Goldenrod	2021
Sonchus arvensis	Perennial Sowthistle	2021
Sonchus asper	Prickly Sow-thistle	2021
Sonchus oleraceus	Smooth Sowthistle	2021
Sorbus aria	Common Whitebeam	2015
Sorbus aria agg.	Whitebeam	2021
Sorbus aucuparia	Rowan	2014
Sorbus latifolia	Broad-leaved Whitebeam	1991
Sorbus x thuringiaca	S. aria x aucuparia	1965
Spergula arvensis	Corn Spurrey	2014
Spiranthes spiralis	Autumn Lady's-tresses	2015
Stachys sylvatica	Hedge Woundwort	2021
Stellaria holostea	Greater Stitchwort	2014
Stellaria media	Common Chickweed	2021
Symphoricarpos albus	Snowberry	2014
Symphoricarpos x chenaultii	Pink Snowberry	1997
Symphytum orientale	White Comfrey	2014
Tamus communis	Black bryony	2021
Tanacetum vulgare	Tansy	2014
Taraxacum officinale agg.	Dandelion	2021

Taxus baccata	Yew	2021
Thalictrum minus	Lesser Meadow-rue	2014
Thesium humifusum	Bastard-toadflax	2014
Thymus polytrichus	Wild Thyme	2020
Tilia cordata x platyphyllos	Lime	2014
Tilia x europaea	Lime	2015
Tilia platyphyllos	Large-leaved Lime	2021
Torilis japonica	Upright Hedge-parsley	2014
Tragopogon pratensis	Goat's-beard	2014
Trifolium campestre	Hop Trefoil	2021
Trifolium dubium	Lesser Trefoil	2014
Trifolium fragiferum	Strawberry Clover	2014
Trifolium pratense	Red Clover	2014
Trifolium repens	White Clover	2021
Trisetum flavescens	Yellow Oatgrass	2014
Tussilago farfara	Colt's-foot	2021
Ulex europaeus	Gorse	2021
Ulmus procera	English Elm	2014
Urtica dioica	Common Nettle	2021
Veronica arvensis	Wall Speedwell	2014
Veronica chamaedrys	Germander Speedwell	2014
Veronica filiformis	Slender Speedwell	2015
Veronica hederifolia	Ivy-leaved Speedwell	2015
Veronica polita	Grey Field-speedwell	2014
Viburnum lantana	Wayfaring-tree	2021
Vicia cracca	Tufted Vetch	2021
Vicia sativa	Common Vetch	2014
Vicia sepium	Bush Vetch	2014
Vinca major	Greater Periwinkle	2015
Viola hirta	Hairy Violet	2021
Viola reichenbachiana	Early Dog-violet	2015
Viola sp.	A violet	2014
Viscum album	Mistletoe	2014

Molluscs (Slugs, Snails and Oligochaetes)

Scientific Name	**Common Name**	**Date last recorded**
Cochlicopa cf. lubricella	Least Slippery Snail	2009
Discus (Gonyodiscus) rotundatus	Rounded Snail	2009
Monacha (Monacha) cantiana	Kentish Snail	2009
Cornu aspersum	Common Garden Snail	2009
Aegopinella nitidula	Smooth Glass Snail	2009

Arachnids (Spiders, Harvestmen, Mites and Ticks)

Scientific Name	Common Name	Date last recorded
Amaurobius fenestralis	Amaurobius fenestralis	2009
Anelosimus vittatus	Anelosimus vittatus	2009
Anyphaena accentuata	Buzzing Spider	2009
Araneus diadematus	Garden Orb-Web Spider	2009
Araniella cucurbitina	Araniella cucurbitina	2009
Clubiona brevipes	Clubiona brevipes	2009
Clubiona comta	Clubiona comta	2009
Dictyna arundinacea	Dictyna arundinacea	2009
Dysdera erythrina	Woodlouse Spider	2009
Enoplognatha latimana	Enoplognatha latimana	2009
Heliophanus flavipes	Heliophanus flavipes	2009
Labulla thoracica	Labulla thoracica	2009
Leiobunum rotundum	Leiobunum rotundum	2009
Linyphia triangularis	Linyphia triangularis	2009
Mangora acalypha	Mangora acalypha	2009
Metellina mengei	Metellina mengei	2009
Microlinyphia pusilla	Microlinyphia pusilla	2009
Misumena vatia	Misumena vatia	2009
Mitopus morio	Mitopus morio	2009
Neriene peltata	Neriene peltata	2009
Nuctenea umbratica	Walnut Orb-Weaver Spider	2009
Paidiscura pallens	Paidiscura pallens	2009
Philodromus albidus	Philodromus albidus	2009
Philodromus cespitum	Philodromus cespitum	2009
Pisaura mirabilis	Nursery-Web Spider	2009
Tetragnatha montana	Tetragnatha montana	2009
Theridion mystaceum	Theridion mystaceum	2009
Theridion sisyphium	Theridion sisyphium	2009
Theridion varians	Theridion varians	2009
Xysticus cristatus	Xysticus cristatus	2009
Zygiella atrica	Zygiella atrica	2009

Lepidoptera (Butterflies)

Scientific Name	Common Name	Date last recorded
Anthocharis cardamines	Orange-tip	2009
Callophrys rubi	Green Hairstreak	2014
Cupido minimus	Small Blue	2020
Gonepteryx rhamni	Brimstone	2009
Inachis io	Peacock	2009
Lycaena phlaeas	Small Copper	2009

Maniola jurtina	Meadow Brown	2009
Melanargia galathea	Marbled White	2014
Pararge aegeria	Speckled Wood	2009
Pieris brassicae	Large White	2009
Pieris rapae	Small White	2009
Polygonia c-album	Comma	2009
Vanessa atalanta	Red Admiral	2009

Lepidoptera (Moths)

Scientific Name	Common Name	Date last recorded
Colotois pennaria	Feathered Thorn	2009
Mesoligia furuncula	Cloaked Minor	2009
Noctua janthe	Lesser Broad-bordered Yellow Underwing	2009
Phalera bucephala	Buff-tip	2009
Phragmatobia fuliginosa	Ruby Tiger	2009
Recurvaria leucatella	A micro moth	2009
Zygaena filipendulae	Six-spot Burnet	2009

Coleoptera (Beetles)

Scientific Name	Common Name	Date last recorded
Acalles misellus	Acalles misellus	2009
Agriotes sputator	Agriotes sputator	2009
Anaspis (Anaspis) humeralis	Anaspis (Anaspis) humeralis	2009
Anaspis (Anaspis) maculata	Anaspis (Anaspis) maculata	2009
Anapsis thoracica	A beetle	2009
Anobium punctatum	Common Furniture Beetle	2009
Aphthona nonstriata	Iris Flea Beetle	2009
Archarius pyrrhoceras	Archarius pyrrhoceras	2009
Athous (Athous) haemorrhoidalis	Athous (Athous) haemorrhoidalis	2009
Barypeithes (Exomias) pellucidus	Hairy Spider Weevil	2009
Bembidion (Metallina) lampros	Bembidion (Metallina) lampros	2009
Brachypterus glaber	Brachypterus glaber	2009
Brachypterus urticae	Nettle Pollen Beetle	2009
Byturus ochraceus	Byturus ochraceus	2009
Cantharis decipiens	Cantharis decipiens	2009
Cantharis rustica	Cantharis rustica	2009
Cassida rubiginosa	Thistle Tortoise Beetle	2009
Coccinella septempunctata	7-spot Ladybird	2009
Cryptocephalus hypochaeridis	Cryptocephalus hypochaeridis	2009
Dromius quadrimaculatus	Dromius quadrimaculatus	2009
Drusilla canaliculata	Drusilla canaliculata	2009
Euophryum confine	Wood-Boring Weevil	2009

Eutrichapion (Eutrichapion) ervi	Eutrichapion (Eutrichapion) ervi	2009
Exapion (Ulapion) ulicis	Gorse Weevil	2009
Exochomus quadripustulatus	Pine Ladybird	2009
Gonodera luperus	Gonodera luperus	2009
Halyzia sedecimguttata	Orange Ladybird	2009
Harmonia axyridis	Harlequin Ladybird	2009
Holotrichapion (Holotrichapion) ononis	Holotrichapion (Holotrichapion) ononis	2009
Lochmaea crataegi	Hawthorn Leaf Beetle	2009
Longitarsus luridus	Longitarsus luridus	2009
Mecinus pascuorum	Mecinus pascuorum	2009
Mecinus pyraster	Mecinus pyraster	2009
Meligethes aeneus	Common Pollen Beetle	2009
Nedyus quadrimaculatus	Small Nettle Weevil	2009
Neocoenorrhinus aequatus	Apple Fruit Rhynchites	2009
Nephus quadrimaculatus	4 spot Ivy Ladybird	2009
Ochina ptinoides	Ivy Boring Beetle	2009
Oedemera (Oedemera) lurida	Oedemera (Oedemera) lurida	2009
Phyllobius (Parnemoicus) roboretanus	Small Green Nettle Weevil	2009
Phyllobius (Phyllobius) pyri	Common Leaf Weevil	2009
Phyllopertha horticola	Garden Chafer	2009
Phyllotreta nigripes	Turnip Flea Beetle	2009
Phyllotreta nodicornis	Phyllotreta nodicornis	2009
Polydrusus (Neoeustolus) cervinus	Polydrusus (Neoeustolus) cervinus	2009
Protapion assimile	Clover Seed Weevil	2009
Protapion trifolii	Clover Seed Weevil	2009
Psyllobora vigintiduopunctata	22-spot Ladybird	2009
Rhagonycha fulva	Common Red Soldier Beetle	2009
Rhagonycha lignosa	Rhagonycha lignosa	2009
Rhagonycha limbata	Rhagonycha limbata	2009
Rhyzobius chrysomeloides	Rhyzobius chrysomeloides	2009
Sermylassa halensis	Sermylassa halensis	2009
Silpha laevigata	Silpha laevigata	2009
Sitona (Sitona) lineatus	Pea-leaf Weevil	2009
Sitona (Sitona) sulcifrons	Clover Weevil	2009
Stenus (Metatesnus) flavipes	Stenus (Metatesnus) flavipes	2009
Taeniapion urticarium	Taeniapion urticarium	2009
Trichosirocalus troglodytes	Trichosirocalus troglodytes	2009
Xantholinus (Xantholinus) linearis	Xantholinus (Xantholinus) linearis	2009

Diptera (True Flies)

Scientific Name	**Common Name**	**Date last recorded**
Bibio anglicus	Bibio anglicus	2009
Bibio johannis	Bibio johannis	2009

Bibio marci	St Marks Fly	2009
Cheilosia soror	Cheilosia soror	2009
Chloromyia formosa	Broad Centurion	2009
Dioctria linearis	Small Yellow-legged Robberfly	2009
Dolichopus ungulatus	Dolichopus ungulatus	2009
Empis tessellata	Empis tessellata	2009
Epistrophe eligans	Epistrophe eligans	2009
Episyrphus balteatus	Marmalade Hoverfly	2009
Eriothrix rufomaculata	Eriothrix rufomaculata	2009
Eupeodes corollae	Eupeodes corollae	2009
Fannia lustrator	Fannia lustrator	2009
Hartigiola annulipes	Hartigiola annulipes	2009
Hercostomus chetifer	Hercostomus chetifer	2009
Leptarthrus brevirostris	Slender-footed Robberfly	2009
Limonia phragmitidis	Limonia phragmitidis	2009
Melanostoma mellinum	Melanostoma mellinum	2009
Melanostoma scalare	Melanostoma scalare	2009
Myathropa florea	Myathropa florea	2009
Nephrotoma appendiculata	Nephrotoma appendiculata	2009
Nowickia ferox	Nowickia ferox	2009
Opomyza germinationis	Opomyza germinationis	2009
Oswaldia muscaria	Oswaldia muscaria	2009
Pachygaster atra	Dark-winged Black	2009
Phytomyza fulgens	Phytomyza fulgens	2009
Phytomyza ilicis	Holly Leaf Gall Fly	2009
Platycheirus albimanus	Platycheirus albimanus	2009
Prosena siberita	Prosena siberita	2009
Scaeva pyrastri	Scaeva pyrastri	2009
Schizomyia galiorum	Schizomyia galiorum	2009
Sciapus longulus	Sciapus longulus	2009
Sicus ferrugineus	Sicus ferrugineus	2009
Sphaerophoria scripta	Sphaerophoria scripta	2009
Syrphus ribesii	Syrphus ribesii	2009
Tachina fera	Tachina fera	2009
Urophora jaceana	Urophora jaceana	2009
Urophora quadrifasciata	Urophora quadrifasciata	2009

Hemiptera (True Bugs)

Scientific Name	**Common Name**	**Date last recorded**
Acanthosoma haemorrhoidale	Hawthorn Shieldbug	2009
Acompocoris alpinus	Acompocoris alpinus	2009
Adelphocoris lineolatus	Lucerne Bug	2009

Anthocoris confusus	Anthocoris confusus	2009
Anthocoris nemoralis	Anthocoris nemoralis	2009
Athysanus argentarius	A Hopper bug	2009
Calocoris (Grypocoris) stysi	Calocoris (Grypocoris) stysi	2009
Calocoris (Rhabdomiris) striatellus	Calocoris (Rhabdomiris) striatellus	2009
Capsus ater	Capsus ater	2009
Coreus marginatus	Dock Bug	2009
Cyllecoris histrionius	Cyllecoris histrionius	2009
Cymus melanocephalus	Cymus melanocephalus	2009
Dolycoris baccarum	Sloe Shieldbug	2009
Harpocera thoracica	Harpocera thoracica	2009
Heterotoma planicornis	Heterotoma planicornis	2009
Liocoris tripustulatus	Liocoris tripustulatus	2009
Lygus pratensis	Lygus pratensis	2009
Miris striatus	Fine Streaked Bugkin	2009
Oncotylus (Oncotylus) viridiflavus	Oncotylus (Oncotylus) viridiflavus	2009
Pentatoma rufipes	Forest Bug	2009
Phytocoris (Ktenocoris) ulmi	Phytocoris (Ktenocoris) ulmi	2009
Phytocoris (Ktenocoris) varipes	Phytocoris (Ktenocoris) varipes	2009
Pilophorus perplexus	Pilophorus perplexus	2009
Plagiognathus (Plagiognathus) arbustorum	Plagiognathus (Plagiognathus) arbustorum	2009
Plagiognathus (Plagiognathus) chrysanthemi	Plagiognathus (Plagiognathus) chrysanthemi	2009
Psallus (Hylopsallus) perrisi	Psallus (Hylopsallus) perrisi	2009
Psallus (Psallus) varians	Psallus (Psallus) varians	2009
Stenodema (Brachystira) calcarata	Stenodema (Brachystira) calcarata	2009
Stenodema (Stenodema) laevigata	Stenodema (Stenodema) laevigata	2009
Tritomegas bicolor	Pied Shieldbug	2009

Hymenoptera (Bees, Wasps and Ants)

Scientific Name	**Common Name**	**Date last recorded**
Amblyteles armatorius	Amblyteles armatorius	2009
Andrena (Euandrena) bicolor	Gwynne's Mining Bee	2009
Andrena (Hoplandrena) scotica	Andrena (Hoplandrena) scotica	2009
Andrena (Micrandrena) minutula	Andrena (Micrandrena) minutula	2009
Andrena (Micrandrena) minutuloides	A solitary Bee	2009
Apis mellifera	Honey Bee	2009
Athalia rosae	Athalia rosae	2009
Bombus (Bombus) terrestris	Buff-Tailed Bumble Bee	2009
Bombus (Melanobombus) lapidarius	Large Red Tailed Bumble Bee	2009
Bombus (Pyrobombus) pratorum	Early Bumble Bee	2009
Bombus (Thoracombus) pascuorum	Common Carder Bee	2009
Empria liturata	Empria liturata	2009

Halictus (Seladonia) tumulorum	Halictus (Seladonia) tumulorum	2009
Lasioglossum (Evylaeus) calceatum	Slender Mining Bee	2009
Megachile (Megachile) ligniseca	Wood-Carving Leaf-Cutter Bee	2009
Myrmica ruginodis	Myrmica ruginodis	2009
Myrmica scabrinodis	Myrmica scabrinodis	2009
Nomada leucophthalma	Nomada leucophthalma	2009
Osmia (Neosmia) bicolor	Two-coloured Mason Bee	2009
Tiphia femorata	Tiphia femorata	2009

Orthoptera (Grasshoppers and Crickets)

Scientific Name	Common Name	Date last recorded
Chorthippus brunneus	Field Grasshopper	2009
Meconema thalassinum	Oak Bush-cricket	2009
Metrioptera roeselii	Roesel's Bush-cricket	2009
Omocestus viridulus	Common Green Grasshopper	2009

Other invertebrates

Group	Scientific Name	Common Name	Date last recorded
insect - booklouse (Psocoptera)	Mesopsocus immunis	Mesopsocus immunis	2009
insect - booklouse (Psocoptera)	Psococerastis gibbosa	Psococerastis gibbosa	2009
insect - booklouse (Psocoptera)	Loensia fasciata	Loensia fasciata	2009
insect - booklouse (Psocoptera)	Graphopsocus cruciatus	Graphopsocus cruciatus	2009
insect - earwig (Dermaptera)	Forficula auricularia	Common Earwig	2009
millipede	Tachypodoiulus niger	White-legged Snake Millipede	2009

Herptiles (Reptiles and Amphibians)

Scientific Name	Common Name	Date last recorded
Zootoca vivipara	Common Lizard	2020

Mammals

Scientific name	Common name	Date last recorded
Nyctalus noctula	Noctule	2013
Pipistrellus pipistrellus	Common Pipistrelle	2013

3. Kidney Vetch Locations

Taxon	Common Name	Site	Grid Ref	Large patch	Comments
Anthyllis vulneraria	Kidney Vetch	Entrance to track into woodland	TQQ2220 958833	ü	in vehicle ruts
Anthyllis vulneraria	Kidney Vetch	Entrance to track into woodland	TQ22220 58813		
Anthyllis vulneraria	Kidney Vetch	Glade	TQ22261 58867	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Grandstand Road	TQ22232 58804		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Grandstand Road	TQ22328 58861		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Grandstand Road	TQ22350 58872		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Grandstand Road	TQ22365 58881		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Grandstand Road	TQ22387 58891		
Anthyllis vulneraria	Kidney Vetch	Glade near Old London Road	TQ22551 58922	ü	
Anthyllis vulneraria	Kidney Vetch	Car Park - Tattenham Corner	TQ22329 58413		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22424 58605		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22467 58716	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22522 58818	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22536 58836	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22549 58854	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22560 58870	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22589 58900	ü	
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22609 58935		
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22620 58944		by traffic sign
Anthyllis vulneraria	Kidney Vetch	Verge alongside Old London Road	TQ22620 58985		close to Buckle's Gap roundabout
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22484 59046	ü	in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22459 59055		in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22421 59064	ü	in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22390 59069	ü	in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22339 59082	ü	in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22305 59111	ü	footpath by side of fairway

Anthyllis vulneraria	Kidney Vetch	Verge on south side of Burgh Heath Rd	TQ22201 59199		by side of hedge
Anthyllis vulneraria	Kidney Vetch	Verge on north side of Burgh Heath Rdd	TQ22343 59123		in short rough by side of fairway
Anthyllis vulneraria	Kidney Vetch	Steep chalk bank in woodland	TQ22403 59397		
Anthyllis vulneraria	Kidney Vetch	Path alongside Longdown Lane South	TQ22517 59318		
Anthyllis vulneraria	Kidney Vetch	Path alongside Longdown Lane South	TQ22534 59273		
Anthyllis vulneraria	Kidney Vetch	Path alongside Longdown Lane South	TQ22516 59348	ü	
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22136 59148	ü	Three scrapes on path by tee
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22131 59134		Three scrapes on path by tee
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22130 59129		Three scrapes on path by tee
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22167 59167		Scrapes in scrub area
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22171 59161		Scrapes in scrub area
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22179 59153		Scrapes in scrub area
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22189 59147		Scrapes in scrub area
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22115 59123		Scrapes alongside two tracks
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22112 59103		Scrapes alongside two tracks
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22084 59103		Scrapes alongside two tracks
Anthyllis vulneraria	Kidney Vetch	Scrapes	TQ22079 59082		Scrapes alongside two tracks
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22062 59029		
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22065 59046	ü	
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22051 59009		
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22085 59063		in vehicle ruts
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22100 59120		
Anthyllis vulneraria	Kidney Vetch	Upper track	TQ22114 59113		in natural close to scrape
Anthyllis vulneraria	Kidney Vetch	Field adjacent to Lower Track - private?	TQ22036 59112	ü	
Anthyllis vulneraria	Kidney Vetch	Field adjacent to Lower Track - private?	TQ22016 59140	ü	
Anthyllis vulneraria	Kidney Vetch	Field adjacent to Lower Track - private?	TQ22041 59101		by gate
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ22150 59209		

Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ22069 59081		
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ22061 59063		
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ22053 59048		
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21906 58895	ü	
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21870 58873		
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21845 58825		
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21817 58817		near entrance to track from Downs Road
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21873 58845	ü	large patch over wide area in meadow
Anthyllis vulneraria	Kidney Vetch	Lower Track	TQ21838 58815		seeded ditch
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ21943 58865	ü	
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ21967 58881		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22039 58941		in hollow crossing fairway
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22061 58978		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22114 59008		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22107 58986		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22115 58935		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22069 58919		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22053 58867		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ22013 58830		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ21958 58799		
Anthyllis vulneraria	Kidney Vetch	By side of 6th fairway	TQ21900 58753	ü	
Anthyllis vulneraria	Kidney Vetch	Grandstand Road roundabout	TQ21867 58712		
Anthyllis vulneraria	Kidney Vetch	Grandstand Road roundabout	TQ21858 58700		
Anthyllis vulneraria	Kidney Vetch	Granstand road Car park	TQ22022 58754		