CITY OF LONDON

Riddlesdown

Registered Charity

Management Plan

2021 - 2031

This is one of 14 green spaces managed by the City of London at little cost to the general public.

Above: Main Grazing Area, Riddlesdown

Riddlesdown is a unique 43 hectare (104 acre) open space owned and managed by the City of London Corporation.

The site is part of the four Coulsdon Commons, protected downland and woodland sites on the border of London and Surrey. The Coulsdon Commons is a registered charity (number 232989) which receives the major part of its funding from the City of London Corporation.

The Coulsdon Commons includes ancient woodland, rare wood pasture and remnants of chalk grassland, one of the most biodiverse habitats in Western Europe. The four commons are part of the newly-designated South London Downs National Nature Reserve; a wider landscape of open spaces which are nationally-recognised for their value to people and nature.

Situated in an increasingly urbanised landscape, we are working to carefully manage Riddlesdown as an important site for people and wildlife, with the support of local communities at all levels to try and minimise the deterioration of habitats and reduce the impacts of fragmentation.

The City of London Corporation is committed to managing Riddlesdown in perpetuity to ensure that it remains as a truly special place.

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Below: Pyramidal orchid, Riddlesdown

Introduction

Much of Riddlesdown was acquired under the Corporation of London (Open Spaces) Act 1878. This Act enables the City of London to acquire and protect land up to 25 miles out from the boundary of the Square Mile. Enacted over 130 years ago, the City of London has a duty to protect and conserve Riddlesdown for public recreation and wildlife conservation 'in perpetuity'. Riddlesdown is further safeguarded by national legislation. It is a registered charity which receives a major part of its funding from the City of London.

Riddlesdown has been influenced by the legacy of centuries of interactions between people and the environment. The history of the site is complex, with swathes of flower-rich meadows, nationally rare chalk downland habitat requiring delicate management techniques alongside ancient woodland, hedgerows, deciduous woodland and three chalk quarries. Much work has gone on over the last few decades to restore the natural landscape elements across the site to improve biodiversity and sustain vital ecosystem functions.

There is evidence of rich human heritage with the impacts of the past still visible today through impressions on Riddlesdown; over the centuries, Riddlesdown has seen heavy industry, exotic pleasure gardens and even secret passages under the downs. A former road that runs through the middle of the site is believed to be of Roman origin and ran from London to the coast and remained an active road for vehicles well into the 1970's. Today, the road allows for a peaceful journey on foot, bike or horse.

The site is, however, much more than a nature reserve or time capsule from a bye gone era, rather it is a living landscape and place for people to find beauty, quiet and space in an increasingly busy and hectic modern society that is becoming disconnected from nature. The challenge for the City of London, as land managers, is to balance traditional habitat management with 21st century expertise and expectations, and to ensure that Riddlesdown is prepared for mounting social and environmental pressures as we progress through the 2020's and beyond.

Riddlesdown is managed by a small ranger team who are collectively responsible for the Coulsdon Commons including Farthing Downs, Kenley Common and Coulsdon Common. A dedicated group of volunteers support a site Ranger and are actively involved with completing projects each month with additional tasks carried out by external volunteer groups.

Already a Site of Special Scientific Interest (SSSI), Riddlesdown has been part of the South London Downs National Nature Reserve (NNR) since 2019. The newly designated NNR links 417ha of downland and woodland sites and is a ground-breaking new partnership initiative involving Natural England (NE), the City of London Corporation and Croydon Council.

This new management plan aims to build upon the achievements of previous plans, summarising how Riddlesdown will be managed over the next 10 years.

The plan is the result of extensive consultation with a wide variety of stakeholders including government and non-government agencies, local authorities, conservation experts, local groups and site visitors.

Our thanks go out to all those who have helped to influence and produce this document and members of the public who participated in the consultation of this plan's main actions.

Below: Looking towards the Quarry, Riddlesdown

Things we have learnt in the last 10 years

- Increasing the amount of walks, talks and self -guided trails has been very successful in showing off different parts of Riddlesdown whilst gaining new supporters to our work including potential volunteers. This has raised the City of London's profile within the community.
- Using directed volunteers of all ages has been vital in delivering projects, events and surveys across the site. This develops an understanding and level of respect for the site in general, especially with local students. Having the Countryside Office and its toilet have been vital in delivering many of these activities.
- Developing relationships with external groups can have additional benefits, for example the London Branch of the Open University Geological Society (OUGS) started out scrub bashing and are now helping to develop a new geology trail. Working with the Riddlesdown Residents Association (RRA) and attending Safer Neighbourhood Team (SNT) meetings has seen Health Walks start on Riddlesdown. Additionally, the local U3A have attended talks on Riddlesdown, through which we have recruited volunteers to help with English Nature's *Rapid Assessment* surveys of the chalk grassland.
- Goats have proven to be vital in managing the scrub saplings on the steep slopes in the Quarry.
- Staying on top of the holly (*Ilex aquifolium*) in the woodlands has seen ancient woodland plants develop in Coombes Wood and hazel (*Corylus avellana*) coups bloom again in Yew Tree Walk.
- Installing a cattle-proof stock fence around Norfolk Bank enabled both sheep and cattle to graze, resulting in a clear improvement in the variety and extent of grasses and wildflowers.
- The site is developing as a nature reserve, with top tier predators such the peregrine falcon (*Falco peregrinus*), kestrel (*Falco tinnunculus*), buzzard (Buteo buteo) and red kite (*Milvus milvus*) regularly seen hunting over the Downs. Deer are often seen grazing through the woods and the small blue and brown hairstreak butterflies have increased their ranges.

Right: Kestrel, Riddlesdown, (©Tim Nightingale)

Achievements 2010-2020

Community involvement, access and recreation

Riddlesdown volunteers

- Over the past 10 years we have engaged with hundreds of volunteers from many different groups achieving an average of 1500 volunteer hours per year. The Riddlesdown volunteers have developed over the past 10 years and have been a mainstay of help. Projects have included chalk grassland restoration, woodland management, footpath maintenance, scrub clearance, pond restoration, ragwort pulling as well as assisting and leading public events.

Events and public participation

- There has been an increase in the family-friendly events programme including self-guided trails, bat walks, fire and food, forest school activities, wildlife events and history walks. We have also started health walks for the elderly and those recovering from illness or surgery, linking with the Riddlesdown Residents Association (RRA) and local doctors.

Education visits

- The Rangers host both primary and secondary school groups, leading activities such as practical conservation work, heritage walks and nature days. Working with Riddlesdown Collegiate students is particularly rewarding supporting young adults and SEN students. The Quarry has been used by geology groups and experts to study one of the best-preserved examples of open chalk expanse in London. Rangers also visit local clubs and societies to give talks about the Downs, its wildlife and management.

Green Flag and Green Heritage

- Since 2007 Riddlesdown has held a Green Flag award, and a Green Heritage award since 2015. Annual accreditation in these prestigious national award schemes reflects the high management standards of Riddlesdown.

Heritage board

- A new interpretation panel titled "Changing history" has been produced and installed near the car park. It celebrates some of the unique heritage of the site and is updated monthly with historical stories.

Below: Students visiting the Quarry, Riddlesdown

Achievements 2010-2020

Habitat conservation and restoration

South London Downs National Nature Reserve

- The South London Downs NNR is a diverse landscape on the urban fringe, covering 417 hectares along the border of Croydon and Surrey and is the second largest NNR in London after Richmond Park. Jointly managed by the City of London Corporation and Croydon Council, this new NNR brings together seven sites which will be at the heart of recovering nature across South London, improving and connecting areas that will benefit wildlife and people. It seeks to enhance the management of the area for wildlife, while creating a site where people can enjoy, learn and engage with the natural world.

Chalk grassland restoration

- After ten years of work we have achieved the aim of creating a continuous "ribbon" of chalk grassland linking all the downland together and creating wildlife corridors with wind-borne links. This was realised through projects such as clearing over-mature scrub from Famet, managing woodland edges and dense scrub blocks to retain chalk grassland in the Bull Pen and removing over 120 trees from the Main Grazing Paddock to reduce shading of the delicate chalk flora.

Conservation grazing

- Many of the wildflower meadows and downs are grazed by our own herd of Sussex cattle and flock of Jacob's sheep. Installing a taller stock fence in Famet enabled the cattle to return and graze on the taller ranker grasses in winter 2020. Creating a purpose-built race between Famet and Norfolk Bank has meant safer, more efficient and less damaging livestock moves on the Downs.

Riddlesdown Quarry

- The dominance of woodland pioneer species, such as silver birch (*Betula pendula*) and goat willow (*Salix caprea*), has been significantly reduced. Goats were re-introduced to control tree regrowth and young saplings. This has allowed kidney vetch (*Anthyllis vulneraria*) to spread across the open sunny banks. We have also developed a good relationship with the London Branch of the Open University Geological Society (OUGS) who help clear scrub from geological features and want to help in re-establish a safe Geology trail. The seasonal pond and its surrounds have also been improved and a reptile transect was established in 2018.

Woodland management

- In Yew Tree Walk an ecotone landscape has been created, with the grassland above, moving down to new coppice and then mature yew woodland. This coppice is now reinvigorated with young plants laden with fruits and is home to the elusive nocturnal Dormice. Coombes Wood has also had holly (*Ilex aquifolium*) removed around the veteran beech (*Fagus sylvatica*) trees to help survey and protect them whilst creating small sunny glades.

Below: Kidney vetch flowering on the slopes of the Quarry, Riddlesdown

1 Site Description

1.1 Location

Riddlesdown is situated within the London Borough of Croydon. It lies above the Caterham/Croydon valley and runs adjacent to the A22 (Godstone Road).

1.2 Ownership and access rights

Riddlesdown is owned by the City of London which acquired most of it in 1883. The site was purchased under the Corporation of London (Open Spaces) Act 1878, providing the public with open access to all areas subject to the byelaws. Riddlesdown was bought at the same time as three other open spaces collectively making up the Coulsdon Commons, these being Farthing Downs, Coulsdon Common and Kenley Common.

1.3 Site status

Both Riddlesdown and Riddlesdown Quarry are designated as Sites of Species Scientific Interest (SSSI) by Natural England and are managed with the objective to achieve a 'favourable condition', meaning that the SSSI's habitats and features are in a healthy state and are being conserved by appropriate management. Riddlesdown Quarry is a Regionally Important Geological site (RIGs). The largest of Riddlesdowns' three quarries, it is the most spectacular of all the quarries within the Greater London area and is one of the jewels in the site's crown. Restricted to the public for safety reasons, nearly 50 m of chalk are exposed and it is an invaluable asset for researchers and engineers studying the nature of the chalk beneath London. It is also an extremely useful teaching quarry for school-age children, students and geological groups.

Riddlesdown is not registered common land, becoming exempt in December 1966 under Section 11 of the Commons Registration Act 1965; there are no rights registered over the site today. It lies within the Metropolitan Green Belt and has been designated part of the South London Downs National Nature Reserve (NNR) since July 2019.

The whole of Riddlesdown is designated as a Site of Importance for Nature Conservation (SINC) within the London Borough of Croydon.

Croydon Council and Historic England have classed a small section of Riddlesdown to the

Below: Looking towards Croydon and The City, Donkey Field, Riddlesdown (©Tim Nightingale)

Above: Frosty morning over Riddlesdown (Brett Oliver)

west of the site, nearest the carpark and rangers cottage, as a Tier 1 Archaeological Priority Area as it contains heritage assets of national importance including a Scheduled Monument . The main pathway and surrounding grasslands running the length of Riddlesdown are classed as a Tier 2 Archaeological Priority Area which, by definition, holds specific evidence indicating the presence or likely presence of heritage assets of archaeological interest and may encompass a group of heritage assets. This feature is the London to Brighton Roman Road. The rest of Riddlesdown, including Riddlesdown Quarry, is within a Tier 3 Archaeological Priority Area due to evidence indicating the potential for heritage assets of archaeological interest and the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future. This area makes up a section of the Croydon Downs Archaeological Priority Area.

1.4 Financial situation

The City of London provides funding for the management of Riddlesdown largely from its private funds. For the last 10 years there have been increasing pressures to make revenue savings and these are likely to continue. The City of London's revenue can now meet only part of the running costs for Riddlesdown; the site is increasingly reliant on grants and other sources of income.

The success of much of this management plan depends on the ability to identify and secure significant external funding to match any savings required by the City of London. Countryside Stewardship grants help pay for habitat conservation work but the long-term future of these grants is uncertain. New sources of revenue will need to be explored in coming years: the passing of a new Open Spaces Act (2018) together with increased use of technology may open up some new avenues for funding.

1.5 Physical features

Riddlesdown's distinct physical features have played a huge role in sculpting both the habitats found on the site and the activities that gave rise to the heritage features that have endured to this day.

Running the length of the site are gentle slopes down into neighbouring valleys, getting steeper the closer to the valley you go, providing excellent views across the Caterham Valley – a prehistoric river valley that now only runs seasonally in underground pipes.

1.6 Cultural heritage

1.6.1 Landscape

Riddlesdown lies within the North Downs National Character Area which forms a chain of chalk hills extending from the Hogs Back in Surrey and ending dramatically at the White Cliffs of Dover. The proximity of chalk to the surface gives rise to infertile, calcareous, shallow, well-drained soils. In a more local context, Riddlesdown was part of the very characteristic downland landscape of open chalk hills, patchwork fields and small woodlands linked by scrubby shaws and thick hedgerows.

The growth of railways close to London meant that many downs in the surrounding area were developed, becoming lost beneath residential housing and roads. The City Corporation's ownership since 1883 prevented Riddlesdown being developed in this way as well as nearby Kenley Common and Farthing Downs.

1.6.2 Land use history

Riddlesdown is a relic agricultural and pastoral landscape, strongly influenced by its use as marginal Common land. The celebrated downland we see today owes its appearance to a combination of underlying chalk geology and human influence that often go hand-in-hand with grazing animals. Chalk downland is often unsuitable for intensive agriculture because of the nutrient-poor, shallow soil and steep slopes. For this reason, Riddlesdown, and similar downland sites such as Kenley Common, survived uncultivated when other more easily worked land was ploughed or settled upon.

During Medieval times, Riddlesdown, alongside the other Coulsdon Commons sites, formed part of the waste land of the Manor of Watendone. Commoners had legal rights to gather fuel, bedding and roofing, as well as rights to graze their own cattle and sheep.

By the time the City of London acquired Riddlesdown in 1883 the need for grazing and wood products had declined and the land use was changing. As the grazing diminished, thick scrub and trees grew up, and many parts of the Downs that were once open were lost.

1.6.3 Archaeology

Riddlesdown has an incredibly long history of human activity and settlement. Palaeolithic (between 3,000,000 and 12,000 years ago) and Neolithic (between 12,000 and 2000 years ago) flint axes have been found in Wilmot Road to the east of the site. These finds indicate that Riddlesdown and its immediate environs have been exploited by humans for a very long time, but no definitive evidence for continued activity during the early prehistoric period has been found so far.

The presence of a cross dyke, called Newe Ditch, represents a former prehistoric territorial boundary and is indicative of the area having been at least partially cleared by the Bronze Age when the earthwork is likely to have been constructed. It comprised three banks with a double ditch until building work in the early 20th century destroyed much of the monument. The remaining bank and ditch is now protected as a Scheduled Monument.

Above: 1803 map of Riddlesdown and the surrounding area (British Library)

Lynchets and other agriculture-related features can be found across the site and appear to represent medieval, Iron Age occupation. Riddlesdown road and the main path across the Riddlesdown are thought to be a Roman road, running from London to Lewes. The road probably dates from before 150 AD and was one of the two main roads built to open up the corn-growing South Downs and the Wealden iron-workings. A path that links Godstone Road and

Above: The open quarry on Godstone Road, Riddlesdown

Above: Riddlesdown Quarry and the railway viaduct, Riddlesdown

Famet Close is also a possible Roman road; in profile it appears to conform to a standard Roman form with an ager with ditches flanking it on both sides.

Graves of a Saxon date have been excavated off site at the nearby junction of Riddlesdown Road with Mitchley Avenue. Burials have also been identified along Riddlesdown Road with its junction to the New Ditch dyke.

The three quarries that lie along the length of the valley bottom vary significantly in size but were all formerly chalk extraction sites. The two smaller quarries were used as a source of chalk by both the local people and the local council. The largest quarry, Riddlesdown Quarry, was in production in the late 1700s, with the chalk being burnt to produce lime. From the 1820s ownership of Riddlesdown Quarry went to Riddlesdown Limeworks Limited. After the Second World War this quarry was owned by the Blue Circle Cement Company until its closure in 1967. There are relics left from when the site was used as an active quarry including old lime kilns, tracks used for transporting equipment and quarry products around the site.

1.6.4 The Second World War (1939-1945)

The quarry between Famet and Norfolk Bank was modified during the Second World War to accommodate a substantial underground complex of tunnels that were used as a deep level public air raid shelter. The air raid shelter was opened in June 1942 to provide protection "against the biggest bomb yet known". The corridors were lined on either side with two tiers of bunks enabling 1500 people to sleep there. From the 1960s these tunnels have been used by a company for the production of precision optics and lenses.

1.6.5 Recent history

Due to the reduction of grazing on site gradually throughout the 20th century, successional scrub began to take hold. Scrub and woodland growth was greatest on the slopes which became unmanaged once grazing ceased. Woodland succession also took place on the flatter grassland higher up the slope where some land was burnt to control scrub. In 1967 some 30 acres of scrub was bulldozed to restore a more open landscape. These areas were maintained by haymaking and during 1989 grazing was reintroduced to selected areas of grassland, a management technique still used today.

Riddlesdown Quarry was purchased by the City of London Corporation in 1996 for its geological and biodiversity interest.

Recent onsite interpretation has also improved with the installation of a history board telling the stories of Riddlesdown's complex past.

Riddlesdown Site Map

1.7 Access and visitors

1.7.1 Visitor appeal

Riddlesdown receives 220,530 visits per year (2013 survey). Over a third of a million people live near to the Common – for many around Croydon it is one of the nearest stretches of rolling countryside they can visit. Walking, trail running and dog walking are all regular activities seen across the Downs. Families use the woods for den building and nature exploration. Other popular activities are cycling and horse-riding which are permitted on the Public Bridleways and a permissive ride. Riddlesdown is also a valuable resource used by schools, hiking groups and wildlife enthusiasts.

Riddlesdown is used quite heavily as an access route for a variety of local people going to and from nearby locations including school children, commuters and families.

1.7.2 Access provision

Riddlesdown is easily accessed by visitors, especially those living locally in the surrounding residential areas. There is a small pay and display public car park located at the end of Riddlesdown Road. The nearest railway stations are Riddlesdown and Kenley with services from Central London, Croydon, Caterham and East Grinstead. Regular bus services also stop a short walk away with links to Croydon, Caterham, Purley and Coulsdon.

Below: The Roman Road, Riddlesdown (©Tim Nightingale)

Above: Runners, Riddlesdown (©Tim Nightingale)

> “This is our sanctuary during lockdown. Oasis of nature in the middle of suburbia.
>
> Visitor comment

1.7.3 Stakeholders

Riddlesdown is a complex site with various aspects including wildlife conservation, visitor recreation and railways all taking high priority when it comes to management, visitor safety and communications. There are many stakeholders and neighbouring landowners including Natural England, Historic England, Croydon Council (Riddlesdown Common), Optical Surfaces Ltd, Transport for London, London Wildlife Trust, local residents associations, Riddlesdown Collegiate, The Downlands Partnership, and private landowners.

1.7.4 Visitor facilities and information provision

There are two notice boards on site which are updated regularly with site information, upcoming events, volunteering opportunities and much more. They also display the map of the South London Downs National Nature Reserve. Additionally, there is a heritage board near the car park.

Byelaw boards can be found at the main entrances to Riddlesdown with the site byelaws, maps of the Downs and other useful visitor information. Any fields with livestock in are sign-posted on the gateways before you enter the field.

Dog poo bins are located near to the main entrances onto Riddlesdown and areas of high use. These are accompanied by posters

Below: Ranger vehicle outside the Riddlesdown Countryside Office, Riddlesdown (Gary Watson)

reminding dog owners that all dog faeces must be picked up. Currently dog bags are provided from dispensers; this is subject to future review.

An e-newsletter provides visitors and others on the mailing list with regular information about current news and issues on Riddlesdown as well as the wider Coulsdon Commons. The City of London website includes a range of information for visitors including how we manage the site, wildlife commonly seen and volunteering opportunities. Rangers run a programme of events throughout the year. These are popular with visitors and help to engage people with Riddlesdown's rich history and habitats. Events include nature walks and talks, self-guided trails, heritage walks and nature-based activities for families, which are promoted locally via the website, posters, e-news and on social media. Most events are free and donations help to support the cost of equipment and contribute to the wider operation of the Commons.

1.7.5 Education and research

School and college groups regularly visit the Downs to learn about management, conservation and history. Croydon's largest school, Riddlesdown Collegiate, is close by and combined with the local Ranger-led volunteer groups and students, working out of the site's countryside office, thousands of hours of volunteering have helped shape and restore Riddlesdown while teaching future generations about the City's role in the local community and about their natural environment.

Student and other research groups are encouraged, and the staff and volunteers also carry out long term monitoring for the benefit of the site and to contribute to regional and national monitoring programmes. Examples of these are butterfly transects, moth trapping and monitoring for bats, contributing to a national picture of ecosystem health and the changes happening to protected sites across Britain.

1.7.6 Other estate features

The Riddlesdown Countryside Office is located near the Ranger's cottage on site, with a small reception area, a toilet and an office. It is used

Below: Students visiting the Quarry, Riddlesdown

Above: Riddlesdown Road (David Pinkney)

as a base for school visits and volunteer tasks. Infrastructure across Riddlesdown includes stock-proof fences to contain grazing animals, a freshwater drinking fountain, water troughs, benches and a range of gates, posts and boundary fences to prevent vehicles from gaining access to the site.

1.8 Current use

Under the Open Spaces Act, there is a requirement for Riddlesdown to be managed for informal recreation. Given the popularity of this site and its location in one of the most densely populated regions of the UK, care must be taken to ensure that recreation activities remain low-key and do not result in damage. Legal obligations such as the NERC (Natural Environment and Rural Communities) Act and the Wildlife and Countryside Act 1981 require positive management for nature conservation; this is strengthened and supported by the NNR designation and grant funding through Countryside Stewardship. During the lifetime of this plan, Countryside Stewardship agreements are likely to transition to the Environmental Land Management scheme, (ELMS).

2
Biological features

2.1 Communities and flora

Lowland meadow
Neutral grassland, a Priority Habitat, covers an area of almost 3ha in the meadow above Riddlesdown Quarry. Neutral grassland also occurs in small patches across the rest of Riddlesdown amongst the chalk downland. The richest neutral grassland tends to be nearest the chalk downland where the livestock graze, such as in Main Grazing Paddock, the Butterfly Glade and the Bull Pen; where there is a continuous transition from the chalk to neutral.

The main attribute of lowland meadow includes open flower-rich grassland with plenty of grasses, flowers and shrubs. This type of habitat is dynamic and shifting. It is characterised by multiple transitions between tall and short vegetation, light and shaded areas and warm and cooler places, all happening at both large and small scales. The habitat is continually changing but the essential elements—wildflowers, scrub and grazing remain consistent.

Chalk grassland
Chalk grassland, a Priority Habitat, covers the majority of the grassland on Riddlesdown totalling an area of almost 16ha and 2ha in Riddlesdown Quarry. This nationally rare chalk downland habitat is sometimes referred to as "Europe's tropical rainforest"; these habitats can have up to 40 flowering plants in one square metre, meaning a well-managed chalk downland is an incredibly biodiverse habitat. This unique environment is a result of the thin layer of lime rich but low nutrient soil on top of chalk.

Ninety million years ago these meadows would have been at the bottom of the ocean. Over millions of years the bodies of microscopic plankton accumulated at the bottom of the great sea, compressed with sediment to eventually become rock. Later earth movements, related to the formation of the Alps, raised these former sea-floor deposits above sea level.

Nowadays this creates a somewhat harsh environment for common grasses and flowers, resulting in rare plant species growing here, which in turn support rare invertebrates and larger animals.

To maximise biodiversity, we manage the chalk downlands by grazing cattle and sheep. Conservation grazing creates a varied sward height, controlled soil disturbance creates space for new seedlings to grow, localised soil enrichment without the introduction of nutrients into the system and a low yet significant impact on scrub regrowth. This dappled shady environment is favoured by a variety of

Below: Grassland wildflowers

invertebrates and essential for specialist species that rely on herbivore dung such as fungi and many species of beetles. Some of the chalk grassland fields are managed as a hay meadow in late summer/autumn. The cuttings are removed to reduce to nutrients and bailed to feed the livestock during the winter.

Ant hills

Because areas of grassland have been kept open by grazing livestock (a tradition carried out over centuries) and are not cut often, there are many ant hills that are visible on the Downs created by colonies of yellow meadow ant (*Lasius flavus)*. Each ant hill can extend 30cm above and below ground creating their own microclimates for rare plants that require heat to grow. The mass of narrow underground chambers used by the ants to raise their young provide the additional protection for chalk hill blue butterfly larvae, who are taken below ground by the ants to be 'farmed' for their secreted substances.

Right: Round-headed rampion (©Bjorn S)

Below: Yellow meadow ant

Woodlands

Closed canopy mixed broad-leaved woodland covers almost 12ha of Riddlesdown, with some areas having plants indicative of ancient woodland sites, including bluebell (*Hyacinthoides non-scripta*) and wood anemone (*Anemone nemorosa*).

The woodland canopies are dominated by pedunculate oak (*Quercus robur*) and ash (*Fraxinus excelsior*), with additional species such as beech (*Fagus sylvatica*), yew (*Taxus baccata*), wild cherry (*Prunus avium*), sycamore (*Acer pseudoplatanus*). Hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), hazel (*Corylus avellane*) and elder (*Sambucus nigra*) form the understory.

Veteran trees

A veteran tree is one that is biologically, aesthetically or culturally important because of its age, size or condition. In 2010 we identified 59 mature and veteran trees located mainly throughout the woodlands with some open grown maidens in the grasslands. Species include pedunculate pedunculate oak (*Quercus robur*), ash (*Fraxinus excelsior*), juniper (*Juniperus communis* ssp. *Communis*), yew (*Taxus baccata*), beech (*Fagus sylvatica*), field maple (*Acer campestre*) and whitebeam (*Sorbus aria*). The majority of these veterans are maiden trees with a few coppice too.

Veteran characteristics include: Shattered branch stumps; Rot holes; Decaying wood; Fallen deadwood; Water collecting depressions; Sap runs; Fractured bark; and bracket fungi.

These features provide many unique micro-habitats on a single tree, allowing it to support a wide range of wildlife. Cavities provide homes for birds and bats to nest and roost in, while deadwood supports a variety of specialised fungi, lichens and invertebrates. Many fungi and invertebrate species supported by veteran trees and their associated deadwood are very rare and cannot survive anywhere else. These species are extremely poor at dispersing themselves and rely on a consistent supply of deadwood to survive. Where possible, fallen branches are left next to the original tree and stacks of cut timber from conservation work are left in habitat piles.

Yew woodlands

Yew woodlands make up around 3.5ha on Riddlesdown and are found on the moderately steep south-west facing slopes along Yew Tree Walk, below the Countryside Office and within the woodlands running adjacent to the A22. Some are so dense that there is almost no ground flora at all, while others have a more open canopy resulting in a diverse understory and ground flora. These woodlands are dominated by mature yew trees with sparse pedunculate oak, whitebeam, and ash amongst the canopy. The understorey is mostly poor with holly (*Ilex aquifolium*) and ivy (*Hedera helix*). Woodland areas with a less dense canopy support a scattered understory of hawthorn (*Crataegus monogyna*), hazel (*Corylus avellane*) and dogwood (*Cornus sanguinea*) and other hardy understory flora.

Semi-natural ancient woodland

Coombes Wood is thought to be Ancient Woodland. Most have been used by humans, managed for timber and other industries over the centuries, but they have had continuous woodland cover for over 400 years. Much of the woodland canopy is pedunculate oak, ash and beech. Hawthorn, holly, hazel and elder form much of the understory of shrubs here. Furthermore, ground flora indicative of ancient woodland sites can be found here, including species such as bluebell (*Hyacinthoides non-scripta*), wood anemone (*Anemone nemorosa*) and yellow archangel (*Lamium galeobdolon*). Ground flora also includes wood-sedge (*Carex sylvatica*), early dog-violet (*Viola reichenbachiana*), hairy brome (*Bromopsis ramosa*) and goldilocks Buttercup (*Ranunculus auricomus*).

Secondary woodland

The rest of the woodlands are made up of secondary woodland, which is classified as a woodland occupying a site that has not been wooded continuously throughout history (in Britain since the last ice advance). It may be the product of natural succession or of planting on formerly unwooded land. These woodlands are a mixture of young oaks, birch (*Betula pendula*), beech, cherry (*Prunus avium*), yew and other species.

Deadwood

Dead and decaying wood is one of our most important habitats whether it is within living trees, standing or lying on the ground. It supports a huge range of insects which also provide a food source for bats and birds. Decaying wood is not just a single habitat but a complex series of changing microhabitats intricately linked to the fungi that 'process' the decaying wood; supply of well-rotted wood is a key requirement for stag beetles, a Priority Species for London.

Above: Male stag beetle

Below: Coombe Wood, Riddlesdown (©Tim Nightingale)

Hazel coppicing
Hazel is common on Riddlesdown, the majority of which grows within Yew Tree Walk where there is an established 15-year coppice rotation. This hazel is coppiced to ensure that there are trees at different stages of maturity. In areas of freshly cut coppice, more sunlight can reach the woodland floor allowing ground flora to thrive. Variation in tree height, tree age and light level provides a more complex habitat structure. In turn, this allows the woodland to support a greater variety of plant and animal species. We collect the timber by-products from the hazel coppice and use them for charcoal making, hedge laying and pea sticks for the volunteers.

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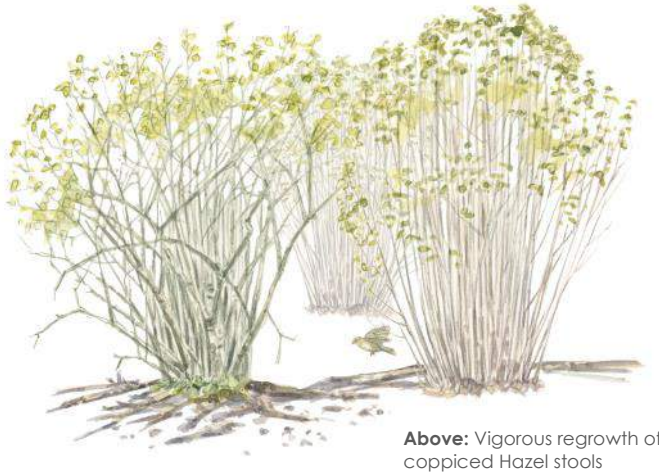


Above: Vigorous regrowth of coppiced Hazel stools

Hedgerows
Riddlesdown has several native hedgerows located across the site including species such as hawthorn, blackthorn (*Prunus spinosa*), crab apple (*Malus Sylvestris*), yew, cherry and spindle (*Euonymus europaeus*). Some mark boundaries and others are managed specifically for their wildlife conservation value. They are a vital resource for wildlife and often act as corridors linking habitats. Hedges which border Public Rights of Way need to be managed regularly to ensure they do not prevent a hazard to access. The rest of our hedges are managed for their conservation value using the following techniques:

Coppicing & hedge-laying create new growth and maintain the hedgerow.
Trimming hedges is done on a three-year rotation, with different sections of hedge trimmed each year. This ensures that production of flowers, nuts and berries is not drastically reduced across the site at any one time.
Planting with native species will be done if a hedgerow is "gappy" or when a new hedgerow is being planted. This ensures hedges are in-keeping with the landscape character.
Veteran hedgerow trees are retained and managed individually as necessary.
Long grass margins are left adjacent to the hedgerows and are cut on rotation.

Successional areas and scrub
Scrub represents a transitionary stage between open habitats like grassland and closed canopy woodland. Across the grassland habitats and some woodland edges, small pockets of scrub provide a valuable habitat for reptiles, nesting birds and invertebrates such as the brown hairstreak (*Thecla betulae*).

Above: Brown hairstreak butterfly

There is a block of over mature scrub totalling about 3ha in the woodlands above the WWII tunnels. This area needs some active management to control spread and increase biodiversity.

In winter, the berries of various scrub species provide a vital food source for many animals. On Riddlesdown, pockets of scrub are home to yellowhammer, blackcap and various thrushes. However, without attention, scrub can encroach on open habitats and must be controlled to ensure it does not spread and take over the grassland. Grazing animals will eat some young regrowth but cannot completely control scrub alone.

Scrub is therefore managed in three ways; by cutting back any large encroaching scrub plants and treating it with herbicide to prevent it from growing back, by coppicing and allowing to regrow at a controlled rate, or through a technique called tree popping where the root of the plant is pulled out of the ground to remove the whole plant without herbicides.

2.2 Species of Interest

Vascular plants

Riddlesdown is well known for its incredible display of wildflowers on the vast chalk downland, as well as the ancient woodlands and meadows across the rest of the Downs. A total of 311 species of vascular plants were recorded during a 2016/2017 National Vegetation Classification (NVC) survey, including chalk and neutral grassland specialists and woodland flora.

Wildflowers, grasses and herbs are such an important part of any habitat, providing nectar and food sources to insects, nesting opportunities for invertebrates, birds, reptiles, amphibians and small mammals, as well as overwintering habitats.

More variation in vascular plants means more diverse invertebrates will be attracted. These in turn bring a wider variety of predators to the food chain increasing the biodiversity of the habitat.

Some nationally scarce and locally rare species are present on Riddlesdown including greater yellow-rattle (*Rhinanthus angustifolius*), round-headed rampion (*Phyteuma orbiculare*) and stinking helebore (*Helleborus foetidus*).

The last National Vegetation Classification (NVC) survey completed for Riddlesdown was in 2016/2017 therefore we will be commissioning an up-to-date NVC survey throughout the duration of this management plan.

Scientific Name	Common Name	UK Red Data List	England Red List	
Anacamptis pyramidalis	Pyramidal orchid	LC	LC	
Briza media	Quaking grass	LC	NT	•
Dactylorhiza fuchsii	Common spotted orchid	LC	LC	
Galium verum	Lady's bedstraw	LC	LC	
Helianthemum nummularium	Common rockrose	LC	NT	•
Juniperus communis ssp.	Juniper*	LC	NT	•
Knautia arvensis	Field scabious	LC	NT	•
Leontodon hispidus	Rough hawkbit	LC	LC	
Linum catharticum	Fairy flax	LC	LC	
Lotus corniculatus	Common bird's-foot trefoil	LC	LC	
Neottia ovata	Common twayblade	LC	LC	
Ophrys apifera	Bee orchid	LC	LC	
Phyteuma orbiculare	Round-headed rampion	LC	LC	
Plantago media	Hoary plantain	LC	NT	•
Primula veris	Cowslip	LC	LC	
Rhinanthus angustifolius	Greater yellow rattle**	LC	LC	•

Orchids and chalk grassland indicator species
*** UK Priority Species**
**** London Priority Species**

Key
LC – least concern
VU – vulnerable
EN – endangered
NT – near threatened
SCC – species of conservation concern

Below, left to right:
Stinking hellerbore
Field scabious
Greater yellow-rattle
(Elanor Wexler)

Fungi
Riddlesdown is a fantastic habitat for fungi with species being found in all habitats across the site including the grasslands, woodlands, leaf litter and footpaths. Through the dedication of a very knowledgeable volunteer we have recorded 74 species. One of which is on the UK Red List; Bluebfoot bolete (*Boletus cisalpinus*).

Roman snail
Roman snails are frequently found on Riddlesdown with small populations in the wooded areas and scrub blocks. This conspicuous mollusc is vulnerable to people collecting them for the restaurant trade and is becoming rare elsewhere in the UK. Roman snails require calcareous soils as they need to consume calcium carbonate to form their shell and it is for this reason that they have probably persisted in good numbers.

Mammals
Dormice (*Muscardinus avellanarius*) are known to inhabit Riddlesdown. Woodland and scrub management reflects this and is targeted towards maintaining healthy populations of dormice. Other resident mammals are mainly common species that are an integral part of the ecosystem and food chains on the site. There are regular sightings of roe deer (*Capreolus capreolus*) and fox (*Vulpes vulpes*) in addition to well-established badger (*Meles meles*) sets. Anecdotal sightings of hedgehogs (*Erinaceus europaeus*), a Priority Species, have also been recorded and targeted surveys are planned for the future.

Reptiles and amphibians
Riddlesdown Quarry has a seasonal pond which dries up throughout high summer. Common frog (*Rana temporaria*) spawn is regularly found here. In 2018, two hibernacula were created near the pond to improve overwintering habitats. Also, an annual reptile survey began in 2018 for the Riddlesdown Quarry. So far only slow worms (*Anguis fragilis*) have been recorded, however we are hopeful that over time more reptile species will be found here. Additionally, there are populations of common lizard (*Zootoca vivipara*) and common toad (*Bufo bufo*) found across Riddlesdown. There have also been possible unconfirmed sightings of grass snake (*Natrix natrix*).

Bats
As biological indicators of ecosystem health, the presence of numerous bats across the site suggests that there is a plentiful supply of nocturnal insects. So far we have only identified the common pipistrelle (*Pipistrellus pipistrellus*) on Riddlesdown, however with more surveying to be done we are optimistic that there will be more species found using the site.

All bat species and their roosts are protected by law so it is important to ensure that careful survey work is carried out before any tree work takes place.

Below: Common lizard, (Andy Magee)

Butterflies
Since 1990 butterfly transects have identified 34 species on Riddlesdown, and since 2000 31 species in Riddlesdown Quarry.

Of particular note are the following species which are rare in Surrey and London; chalk hill blue (*Polyommatus coridon*), green hairstreak (*Callophrys rubi*), grizzled skipper (*Pyrgus malvae*) small blue (*Cupido minimus*) and brown hairstreak (*Thecla betulae*).

Scientific Name	Common Name	UK Red List	UK Priority	London Priority	Surrey Species of Conservation Concern	Chalk grassland indicator
Thecla betulae	Brown hairstreak	VU	•	•	•	
Polyommatus coridon	Chalk hill blue	NT		•	•	•
Polyommatus icarus	Common blue	LC	•			•
Pyrgus malvae	Dingy skipper	VU	•	•	•	•
Callophrys rubi	Green hairstreak	LC			•	
Melanargia galathea	Marbled white	LC			•	•
Cupido minimus	Small blue	NT	•	•	•	•
Argynnis paphia	Silver-washed Fritillary	LC			•	
Coenonympha pamphilus	Small heath	NT	•	•	•	•

Left: Marbled white and pyramidal orchid, Riddlesdown (Mick Rowland)
Above: Brimstones, Riddlesdown (©Tim Nightingale)
Right: Common blue (©Tim Nightingale)

Birds

Bird surveys have been conducted by a dedicated volunteer on Riddlesdown since 2004. A total of 62 species have been recorded, of which 10 are on the IUCN's Red List of Threatened Species and 10 are on the Amber List. The site is of local importance for 'downland' birds, including, linnet and bullfinch but is also host to various warblers, finches and buntings. There are regular sightings of at least 5 raptors hunting on site; kestrel, sparrow hawk, buzzard, red kite and peregrine falcon and the woodlands are home to breeding tawny owls. The open grassland supports ground feeding birds including green woodpecker, jackdaw and starling, that predate on a range of invertebrates throughout the year.

Below: Red kite

Scientific Name	Common Name	IUCN Category	UK Priority	London Priority	Surrey SCC
Chroicocephalus ridibundus	Black-headed Gull	AMBER			•
Pyrrhula pyrrhula	Bullfinch	AMBER	•	•	•
Larus canus	Common gull	AMBER			•
Prunella modularis	Dunnock	AMBER	•	•	•
Turdus pilaris	Fieldfare	RED			•
Larus argentatus	Herring gull	RED	•	•	•
Delichon urbica	House martin	AMBER			•
Passer domesticus	House sparrow	RED	•	•	•
Falco tinnunculus	Kestrel	AMBER			•
Linaria cannabina	Linnet	RED	•	•	•
Anthus pratensis	Meadow pipit	AMBER			•
Turdus viscivorus	Mistle thrush	RED			•
Falco peregrinus	Perigrine falcon			•	•
Milvus milvus	Red kite				•
Turdus iliacus	Redwing	RED			•
Alauda arvensis	Skylark	RED	•	•	•
Turdus philomelos	Song thrush	RED	•	•	•
Sturnus vulgaris	Starling	RED	•	•	•
Apus apus	Swift	AMBER			•
Strix aluco	Tawny owl	AMBER			•
Emberzia citrinella	Yellowhammer	RED	•	•	•

Below: Song thrush, (Daniel Greenwood)

Below: Bullfinch (Ian Preston)

3 The need for management

3.1 The legacy of the Coulson Commons and the South London Downs NNR

The four Coulsdon Commons are more than just your average suburban parks; because of their size, age and centuries of management, many of the habitats within the Coulsdon Commons are now rare within London and the South East of England.

Over the many years since their purchase by the City of London Corporation in 1883, the rural landscape surrounding the Coulsdon Commons has significantly changed; initially, new railway lines were spreading rapidly across South London, driving up land values and creating a surge of new housing developments from the heart of London into the surrounding countryside. Today, the four Commons are some of the last significant swathes of open space in South London; they are green oases in an increasingly urban landscape. The protection afforded in perpetuity to these open spaces, under their own Act of Parliament, helps secure and safeguard them for the benefit of all Londoners.

In 2019, Riddlesdown (along with the three other Coulsdon Commons) became part of Greater London's newest National Nature Reserve known as the South London Downs National Nature Reserve.

This designation brought together 1,030 acres of land managed by the City of London Corporation and London Borough of Croydon to create a linked downland landscape rich in nature and opportunities for people to engage with the natural world. A steering group regularly meets, with project partners collaborating on joint initiatives such as increasing habitat connectivity across the NNR.

National Nature Reserves (NNRs) were established to protect some of our most important habitats, species and geology, and to provide 'outdoor laboratories' for research. Most NNRs offer great opportunities to schools, specialist interest groups and the public to experience wildlife at first hand and to learn more about nature conservation.

Right: Walkers in the mist, Main Grazing Paddock, Riddlesdown (Steve Cussell)

3.2 The importance of chalk grassland restoration and management

Chalk grasslands were once widespread across the landscape, wherever suitable substrate occurred. Historically, agricultural techniques gradually advanced to the point where around the 18th century, meadows were being ploughed for more intensive farming. This trend continued and accelerated with the introduction of fertilisers and heavy machinery.

The general topography of the remaining chalk grassland sites being very steep left another big challenge for the chalk grassland habitats - ecological succession. Succession is the process by which ecosystems change and develop over time.

In terms of chalk grassland habitats, without management they will become colonised by tussocky grasses over time, which shade and dominate the rare wildflowers, scrub then populates the downland and trees begin to grow eventually becoming woodland.

Riddlesdown's grasslands are almost entirely chalk grassland, with small pockets of neutral grassland where scrub has been cleared previously. Much restoration work has been undertaken to restore these grasslands back to a 'favourable condition'. Our focus now is on fine tuning the management of the restored open downland through grazing of cows and sheep so that returning rare and specialist plants and invertebrates can become established and thrive.

> "It is estimated that **since WWII we have lost roughly 80% of our chalk grasslands in the UK**. The remaining sites tend to be on valley sides and slopes too steep to be ploughed or re-seeded.

3.3 The importance of grazing

Grazing over millennia shaped parts of Riddlesdown to the landscape we have today and is still an integral part of grassland management to maximise biodiversity. The use of grazing cattle and sheep helps to maintain a more varied vegetative structure than mowing

Below: Red admiral on a field scabious, (Gail Hampshire)

Conservation grazing creates a diversity in sward height, a limited and beneficial amount of soil disturbance, localised soil enrichment without the introduction of nutrients into the system overall and can produce tunnels and cavities within scrub blocks. Hoof prints create hot microclimate conditions which specialised invertebrates such as the small blue (*Polyommatus bellargus*) butterfly require for egg laying; a butterfly we are hoping to encourage to inhabit Riddlesdown in greater numbers.

Conversely, the resulting dappled shady environment created by grazing is favoured by a variety of invertebrates and essential for specialist species that rely on dung such as fungi and many species of beetles.

The presence of ant hills in the chalk grasslands indicates centuries of grazing by animals as the anthills are retained rather than being flattened by mechanical mowing. Each mound is created by a single colony of meadow ants which can number several thousand individuals and extend up to a metre underground. Many anthills are believed to be several hundreds of years old, highly intricate and benefit not just the ants stored within, but add to the biodiversity of these meadow systems by creating small scale micro-habitats each with valuable differences in soil nutrients, temperature, humidity, drainage and sunlight. This drives the diversity of plant species found in the chalk grasslands, favouring rare wildflowers and herbs.

Grazing does have a limited effect on scrub growth. Tree regeneration is not completely stopped; shrubs, brambles and dead wood protect some seedlings that are able to grow into trees if left. Grazing of these plants when they are young and often supple does help to suppress their growth to some extent, but often other forms of removal are needed such as through tree popping, cutting and treating or spraying with targeted herbicide.

Below: Species rich chalk grassland (Des Sussex)

3.3.1 Managing livestock

Our approach to grazing is intended to be as sustainable and holistic as possible. Jacob sheep and Sussex Cattle are bred on the Coulsdon Commons to ensure that the calves and lambs spend their first grazing season learning from their mothers about what plant species to forage and to become accustomed to the various site-users, both human and canine, they will encounter on what are busy suburban open spaces. Sussex Cattle are a very docile rare breed that would historically have roamed the downs of Surrey and Sussex. They cope well with the steep downland terrain and low quality

grazing, a trait that benefits the flower rich grasslands present on the Commons. Jacob Sheep, which are also now a rare breed, similarly fare extremely well on the exposed downland slopes and will graze 'swards' very short. This is vital for small, low-growing plants that need open conditions to successfully flower.

In addition to daily welfare checks from Rangers and volunteers, we help maintain herd health by carrying out breeding 'in-house' using a bought in bull for several years. This eliminates the risk of disease entering a herd with new stock, reducing the reliance on veterinary treatment and vaccinations.

We graze with both cows and sheep due to their different grazing techniques and preferences. The cows use their strong curling tongue to wrap around the grass and pull it up, tearing it off in clumps. Jacob sheep are a hardy and attractive breed used to 'nibble' at the shorter grass cutting it low down to the ground. Through the combined use of sheep and cattle, a mosaic of different microhabitats is created, creating multiple niches for species over a small area.

Below: Grazing sussex cattle, Riddlesdown (Gary Watson)

In addition to a our own livestock, a small herd of goats seasonally graze the Riddlesdown Quarry provided through the Downlands Partnership; a charitable organisation that delivers an extensive conservation grazing programme at 24 locations across NE Surrey and in the adjoining urban fringe areas of Croydon and Sutton. The goats are adept at grazing thick scrub, undulating terrain and the steep slopes in the quarry providing the ideal, low-growing community of wildflowers that thrive in the nutrient deprived conditions and spoil heaps created during the quarry's former industrial use.

Below: Goats grazing the Quarry, Riddlesdown

3.4 Climate change

Climate change is causing higher temperatures and more extreme and unpredictable weather events. Managing Riddlesdown in the face of these uncertainties is a challenge; projections suggest that oak trees may decline in health as a result and other species such as hazel, may fare better in warmer conditions. Generally, this might result in a more scrubby and open woodland with lower tree canopies.

One way to reduce the risks associated with climate change is to make the site more resilient. Generally, ecosystems with a higher diversity of species are more resilient to negative drivers such as climate change or disease, for example. Actions to boost resilience include increasing structural diversity within habitats to create more ecological niches for wildlife to fill promoting species diversity. Other actions include managing and monitoring ancient oaks and other tree species to reduce the risk of structural failure in high winds and more severe storm events. Likewise, surveying and monitoring plants and animals will play an important role in understanding the impact of climate change, species response and efficacy of our work.

Left: Chalkhill blue butterfly (Helen Llew)

3.5 Biodiversity in crisis

The UK is one of the most nature depleted countries in the world*. Biodiversity has plummeted due to the loss of wildlife and wildlife habitats.

- In 1966 there were **40 million more birds** in the UK than there are today.
- Numbers of the most endangered species in the UK have halved since the 1970s.
- **One in 10 species** in the UK is now threatened with extinction.
- A quarter of Britain's native mammals are at risk of extinction.
- Moths have **declined by 88%** and butterflies by **76%** since 1970.
- Approximately one plant species is lost per county per year, and the rate of loss is accelerating.
- Despite government policies and actions, 150 out of 250 'priority species' for nature conservation are still declining in number.

**UK State of Nature reports (2013 and 2016).*

3.6 Fragmentation, pests and diseases

Riddlesdown is increasingly under threat from pests and diseases that benefit from general warming and continue to be introduced on plant stock from abroad.

Ash dieback (*Hymenoscyphus fraxineus*) is one such disease that has inflicted Riddlesdown's population of ash trees over the last few years. It has been spreading rapidly since it was first identified in the UK in 2012 and can affect up to 95% of ash trees on a site.

On Riddlesdown, and across the wider Coulsdon Commons, we are finding that some of the older trees are showing some resilience to the disease. Through ongoing tree safety checks, severely afflicted ash trees, especially those in high-use areas and on our urban boundaries, have been cleared.

Although it is not currently present on Riddlesdown, we are aware that the oak processionary moth (*Thaumetopoea processionea)* is within the local environment. The caterpillars of oak processionary moth (OPM) are found on oak trees and are a hazard to human and animal health. We are continuously monitoring the site for any signs of OPM and adhering to the most up-to-date advice from the Forestry Commission on its management.

Habitat fragmentation is a very real threat to all habitats across the world, with wildlife being cut off from other habitats isolating individuals within one habitat, unable to move between habitats to mate and expand territories due to roads, buildings and railways. Through the linking of habitats using wildlife corridors and controlled successional scrub blocks, we are aiming to create a mosaic of interlinked habitats across Riddlesdown to support greater biodiversity.

Below: Biodiverse chalk grassland is grazed by livestock adjacent to busy urban boundaries, Norfolk Bank, Riddlesdown (Brett Oliver)

3.7 Nature deficit, visitor access and community engagement

With more and more green spaces being lost across the country and the fast pace of life within our society, it is now more important than ever for people to have access to quality open spaces. We know there are numerous benefits to having access to the outdoors including improving mental health, keeping physically active and learning about the natural environment and its necessity to sustain life on earth.

Nature deficit can cause numerous problems amongst children and adults and we are committed to encouraging more people to get outdoors and use Riddlesdown. We endeavour to make Riddlesdown as accessible as possible, whilst balancing the semi-rural character and ensuring site security, visitor safety and livestock welfare.

We have found that by opening up new glades and areas of Riddlesdown, more families are venturing further onto the site, not just sticking to their regular dog walking or bike riding routes; More people have been able to explore the chalk grasslands which were previously populated with dense growing scrub. We will continue to encourage more people to explore the whole of the site, diversifying the way they visit and changing their perception of Riddlesdown, all the while encouraging pro-environmental behaviour such as picking up dog waste and taking litter home.

Through public events, interpretation and regular visitor/ranger communication we will promote the wilder side of the downs so that all visitors are aware of how special and important the site is for nature conservation.

We aim to actively encourage all members of our community to get involved in the management and conservation work on Riddlesdown. We have a large, very active and incredibly valuable volunteering group who over the past 10 years have achieved an average of over 1500 volunteer hours per year. However, we are aware that wider members of our community are not as actively involved, therefore we are hoping to create more connections and opportunities for work experience students, Duke of Edinburgh activities, apprenticeships, youth volunteering and more.

One of the most significant outcomes from the ongoing coronavirus pandemic has been the importance of the site not just for physical exercise but the restorative effect it has on people's mental health and wellbeing. We will take the opportunity to build on some of lessons learnt from the pandemic.

Right: A family walking across the Downs, Riddlesdown

4 Vision

Vision statement:
Riddlesdown will be enjoyed and cherished in ways that contribute to people's health and wellbeing. City of London Rangers will work together with volunteers, communities and stakeholders to deliver management actions that protect and promote its wildlife, ancient heritage and landscape. The biodiverse chalk downlands, flower-rich grasslands, woodland and open wood pasture will be treasured by local people and all those who come to visit:

- Riddlesdown's mosaic of wildlife habitats are enhanced, extended and integrated into the wider downland landscape of the National Nature Reserve.
- People are integral to the site. They understand and are inspired by Riddlesdown's special wildlife and heritage and are actively engaged in its conservation.
- The Scheduled Monument and heritage assets will remain properly protected whilst events and interpretation will uncover the interesting past of the Downs.
- Conservation grazing and traditional skills will be used to maintain a tranquil landscape where wildlife will be abundant and can easily move between habitats and is resilient and adapted to a changing climate.

The vision for the next ten years will specifically focus on key projects to:

- Expand and explore **new grazing regimes** through invisible fencing technology and different hay cutting approaches to maximise plant and animal diversity within the grassland habitats and edges for overwintering mammals and invertebrates.
- Ensure the woodlands across the Downs are **sustainably managed**, creating places rich in biodiversity and resilient to stresses such as disease whilst recycling by-products locally where possible such as producing charcoal through traditional coppicing.
- **Improve habitat for rare and threatened species** such as juniper, dormice and the small blue butterfly.
- **Monitor wildlife** and changes to the environment through species surveys to build a bigger picture of the impact of management actions.

- Explore opportunities and initiatives to showcase the **less-known heritage features** present on the Downs and celebrate these through the Green Heritage Award.
- **Improve access on the common**, upgrading key tracks, maintaining rights of way and replacing trail posts with a focus on extending paths on New Hill.
- **Develop a QR code trail** that will tell the stories behind landscape features such as the Quarry, Riddlesdown's unique past and the history of the WWII tunnels.
- Support the **Riddlesdown volunteer group and other volunteers** to work on a large variety of individual and team tasks from restoring grassland to coppicing woodland and helping with the site infrastructure.
- Develop interpretation materials and continue with **events** such as walks, talks, self -guided trails and workshops to spread knowledge on the ecological and cultural value of the Downs.
- **Lead 'health walks'** to help those who are recovering from physical injury or less mobile, ease into gentle exercise and meet people.
- **Promote Riddlesdown as a place of scientific study** where contributions and observations are encouraged from geologists, students, amateur naturalists and professionals to increase understanding of the downland ecosystem and beyond.

On the next page of this Management Plan we have used two specially commissioned vision illustrations to highlight the elements of change within the next 10 years of management.

Below: Bee orchid, Riddlesdown

Above: Chalk grassland wildflowers, Riddlesdown

5
Aims & targets

The aims of the 2021-2031 Management Plan seek to maintain a biodiverse nature reserve and provide a direction of travel towards achieving the vision for the site. The targets detailed here will be monitored throughout the plan and adjusted as needed to achieve the overall aims. Each aim is linked to the governing document of the Coulsdon Commons charity, the Corporation of London (Open Spaces) Act 1878.

Aim 1: Biological
Maintain the biodiversity of Riddlesdown by managing the habitats to favourable condition and achieving conservation gains that benefit the site and beyond.

Aim 2: People and heritage
Encourage the sustainable use of Riddlesdown for recreation, promoting community involvement in its management.

Aim 3: Estate assets and legal issues
To fulfil all legal obligations and to maintain estate and heritage structures in good condition so they are safe and secure, now and in the future.

Aim 1: Biological

Maintain the biodiversity of Riddlesdown by managing the habitats to favourable condition and achieving conservation gains that benefit the site and beyond.

The biological elements of Riddlesdown are interdependent: habitats and species cannot be managed in isolation. In general, the stronger the nature reserve is in terms of habitat vigour and diversity, the more resilient it will be to the impact of outside influences such as climate change, pollution and habitat fragmentation.

4.1.1 Chalk grassland restoration and management

Riddlesdown is best known for its extensive chalk grassland habitat. We have got to the stage where we have completed the majority of the restoration works across the downs by removing large over-mature scrub blocks. There is still a small amount of work to be done to restore the chalk grasslands; once this is complete the focus will change to maintaining the open downland. Chalk grassland specialist species already present will gradually spread across the slopes to the newly cleared areas, with new species hopefully emerging due to the increase in light and reduction of nutrients. This also requires the seasonal removal of certain plants, namely ragwort species, that can quickly colonise grasslands and, when mixed in hay crops, can cause toxicity problems in livestock.

Left: Pyramidal orchids, Main Grazing Paddock Riddlesdown

Target: Maintain the grasslands in a favourable condition, whether through grazing or hay making

Achieved by:

- Continuing with the current grazing regime across all our grazed meadows.
- Continuing with the current hay making regime.

Target: Manage scrub across all chalk grassland meadows using different techniques depending on the scrub species, scrub age and topography

Achieved by:

- Continuing the scrub management across the main grazing area by felling larger scrub blocks, treating stumps with herbicides, seppi mowing and stump reduction to stop regrowth.
- Treating some blocks with herbicide using a handheld sprayer or tractor-mounted weed wiper.
- Tree popping younger hawthorn growth in specific meadows to remove the plant from the root.
- Mow or brushcut brambles depending on access and slopes.

Target: Connecting areas of grassland

Achieved by:
- Exploring the possibility of installing cattle grids on the entrance track.
- Exploring the introduction of grazing to more of the grassland areas, specifically the grasslands to the west of the site, nearer the carpark.
- Trialling the 'No Fence' system to selectively graze areas of the hay meadows to increase grassland biodiversity.

Target: Ensure grassland boundaries are maintained for both maximum habitat potential and access

Achieved by:
- Managing scrub encroachment into the grassland through rotational cutting/ coppicing whilst maintaining successional scrub zones for breeding birds and winter food sources.
- Ensuring we leave at least 10% of all the hay cut meadows uncut each year to create more overwintering habitat for invertebrates and late-flowering species, through buffer zones, blocks and/or strips depending on the meadow.

Target: Protect delicate grassland habitats from compaction and trampling

Achieved by:
- Maintaining safe and accessible footpaths for the public to encourage site exploration but discourage site users walking through the middle of the grasslands.

Target: Reduce the spread of ragwort across the site

Achieved by:
- Annually remove ragwort by hand.
- Treating extensive ragwort growth with a tractor mounted weed-wiper.

Below: Cowslips, Main Grazing Area, Riddlesdown (©Timothy Hart)

Famet restoration
In the winter of 2016/2017, over-mature scrub that had covered much of the former chalk grassland was cleared in Famet. Since then, intensive restoration and management has been undertaken to reduce leftover stumps, remove scrub regrowth and graze ranker grasses. Over time, the reduction in nutrient input, increased light and temperature and seasonal grazing will have a positive impact on the diversity of chalk grassland invertebrates and delicate wildflowers that the downlands are famous for. Famet supports a small population of native juniper *(Juniperus communis)*. Part of their management includes protecting them from browsing.

Below: Restored chalk grassland and juniper trees, Famet, Riddlesdown

Target: Continue the intensive restoration work in Famet to create a species rich chalk downland habitat.

Achieved by:
- Continue grazing with sheep and introducing cattle to control the ranker grasses.
- Treating brambles and nettles with herbicide.
- Cutting and treating scrub regrowth on the steeper slopes which the tractor can't reach.
- Brushcutting bramble.
- Protecting the veteran and planted junipers (*Juniperus communis*) from grazing animals with stock fencing.
- Continuing to seed with green hay from other areas of Riddlesdown.
- Exploring opportunities with local conservation land managers to collect and reseed areas of species-poor grassland with locally sourced material.
- Explore funding opportunities for this project.
- Monitoring establishment of sward using wildflower surveys.

Riddlesdown Quarry
Riddlesdown Quarry is a Site of Species Scientific Interest (SSSI) and a Regionally Important Geological Site (RIGS). Chalk grassland restoration and geological study are the main priorities here.

It is closed off from the public due to the risk of rockfall from the cliffs and the sheer cliff face. On occasions, the quarry is open on Ranger-led walks and educational visits from schools, universities and geological groups. With fewer visitors and human disturbance it has become a nature reserve in its own right; the open mosaic of microhabitats in the form of slopes, bare ground and chalk mounds is of high value to biodiversity, particularly invertebrates, reptiles and wildflowers.

Left: The Riddlesdown Quarry face seen from Kenley Common

Target: Manage scrub and reduce goat willow (*Salix caprea*) and silver birch (*Betula pendula*) from the chalk grasslands in Riddlesdown Quarry.

Achieved by:
- Continuing the removal of dense willow and birch blocks.
- Continuing to graze with goats between September and April each year to manage vigorous birch regrowth.
- Maintaining a relationship with the London Open University Geological Society (LOUGS), inviting them to a group task annually to maintain the geology trail.
- Manage the scrub within the grassland at the top of the quarry through weed wiping, mowing and grazing when necessary.
- Protecting the planted junipers (*Juniperus communis*) from grazing animals with stock fencing.

> “
> Volunteering in the Quarry is quite special, you often forget that you are on the edge of London...
>
> Riddlesdown volunteer

Enhancing low biodiversity grassland areas
In 2020 the banks around the car park were planted with plugs containing a mixture of birds foot trefoil (*Lotus corniculatus*), kidney vetch (*Anthyllis vulneraria*), yarrow (*Achillea millefolium*), horseshoe vetch (*Hippocrepis comosa*) and marjoram (*Origanum majorana*).

A small area of Famet was also seeded with a mixture of the above, as well green hay collected from other areas of Riddlesdown. Once established, these flower-rich areas will attract a diverse range of invertebrates such as the small blue butterfly (*Cupido minimus*), the chalkhill blue (*Polyommatus coridon*) and adonis blue butterfly (*Polyommatus bellargus*).

Target: Enhancing low biodiversity grasslands across the site through altering cutting regimes and seeding.

Achieved by:
- Reviewing the cutting regime of certain areas of grassland across Riddlesdown, such as areas which have previously been regularly mown for aesthetic purposes.
- Considering seeding, plugging or spreading green hay in other areas of Riddlesdown.
- Collecting and storing seeds from biodiverse hay meadows and grasslands for sowing.

Above: Sussex cattle grazing using a NoFence collar, 13-Acre Bury, Farthing Downs

4.1.2 Grazing

Since 2019 we have been trialling a new "No Fence" system with our Sussex cattle in order to be more selective about where they graze across the Coulsdon Commons, without the need for electric fencing or permanent stock fencing.

This new technology builds upon existing 'invisible fence' systems that have been used across other City of London Open Spaces. The main differences include a collar GPS system that allows us to locate cattle and draw grazing compartments on a mobile phone app. This new grazing technique may also allow for better information to be gathered about grazing habits so we can fine tune the conservation grazing programme.

Target: Have the whole herd trained with the No Fence system

Achieved by:

- Ensuring all animals have been trained with the collars and are monitored.
- Using the system in new compartments on Riddlesdown without the need for temporary electric fencing.
- All rangers being alerted immediately through the No Fence app if a cow leaves the designated compartment.

Left: Jacob sheep in the snow, Riddlesdown

4.1.3 Day-to-day management of livestock

The livestock are checked every day by rangers or by trained volunteers. At certain times of the year, livestock management is particularly labour intensive. Across the Coulsdon Commons we have a specially selected group of livestock volunteers who help with cattle round-ups, livestock movements, sheep husbandry such as worming or foot trimming and general livestock management.

Target: Maintain a specialist livestock volunteer team who can assist rangers with day-to-day livestock management

Achieved by:

- Continuing to support our dedicated livestock lookers.
- Training volunteers to help with general livestock management until we have a small, skilled and dedicated group we can call on to help as and when needed.

> "The livestock do a fantastic job of maintaining the site and are always a delight to see.
>
> Riddlesdown volunteer

4.1.4 Woodland management

Woodlands make up just under 12 hectares of Riddlesdown, the majority being mixed broad-leaved deciduous woodlands, with a mixture of ancient, yew and secondary woodlands.

Over the life of this management plan we will be working to increase biodiversity within these woodlands, whilst controlling undesirable species such as laurel (*Prunus laurocerasus*) and buddleia (*Buddleja davidii*) and controlling the spread of holly (*Ilex aquifolium*) that can otherwise shade out and smother low-lying plants on the ground and in the woodland understory.

Target: Ensure woodland ground flora thrives by providing space to grow where sunlight can reach the woodland floor

Achieved by:

- Thinning dense canopies to encourage development of understorey and ground flora.
- Thinning the holly (*Ilex aquifolium*) understory and controlling the spread of buddleia (*Buddleja davidii*) in Yew Tree Walk, Tunnel and Coombe Woods.

Below: Oak tree, Yew Tree Walk Riddlesdown, (Timothy Hart)

Target: Creating a mosaic of age classes and a multi-storied canopy including plenty of links between different levels of the canopy and undergrowth, benefitting all wildlife whilst encouraging increasing populations of dormice on site

Achieved by:

- Continuing to coppice the hazel (*Corylus avellana*) on a 15-year rotation in Yew Tree Wood to improve the habitat for dormice (*Muscardinus avellanarius*) and other species.
- Thinning woodland edges to graded grass-scrub-wood interface up to 10m into woodland.
- Using the byproducts e.g. stakes/binders for hedgelaying elsewhere on site.

Target: Assess and update ancient, veteran and maiden tree inventory

Achieved by:

- Re-surveying the ancient, veteran and maiden trees to assess condition and identify any preservation work including pruning, clearing surrounding vegetation, halo release and other stresses that may be affecting the health of the trees.
- Surveying for bats to locate potential roost sites.

4.1.5 Managing arisings from woodland management

All felling, clearance and extraction activities should be carefully planned and timed to minimise disturbance and damage to wildlife.

As far as possible, sustainable use of all arisings should be found within the woodland, examples include deadwood habitat creation, charcoal making and using hazel stakes and binders for hedge laying. If this is not possible, regional markets such as firewood sales and wood chip for biofuel can recover some of the costs of habitat management whilst removing excess nutrients from particularly sensitive areas.

When we do have to burn wood and brash cut during habitat work, we use a burning platform to avoid damaging the soil and influencing the type of vegetation that would grow on burn sites.

Left: Volunteers carrying out habitat work, Riddlesdown Quarry

Target: Sustainable use of habitat work arisings

Achieved by:

- Begin milling timber from woodland management for use on Riddlesdown and elsewhere e.g. bench tops, fence posts, rails etc.
- Identifying possible markets for supply of wood product.
- Utilising local volunteer skills and enthusiasm, practice traditional woodland management techniques such as layering and hedgelaying.

Target: No damage to soil or tree canopy as a result of burning excess brash resulting from habitat works

Achieved by:

- Using a burning platform for all fires on the site.
- Positioning platforms in clear areas to avoid damaging tree canopies.
- Ensuring the method is appropriate for the job, avoiding damage when moving the burning platform and using additional protection underneath as required.

4.1.6 Decaying wood

The presence of dead and decaying wood is important to the health of woodlands and plays a big part in nutrient recycling (see pg. 21). When left in situ, deadwood provides a constantly changing series of microhabitats.

The cavities, holes and hollows associated with the decay of heartwood provide valuable nesting and roosting sites for birds, bats and hibernating invertebrates (see pg. 19).

Target: Management of deadwood as a habitat by protecting existing biomass and ensuring continuous supply of deadwood

Achieved by:

- Retention of aerial deadwood and creation of further standing deadwood where risk management will allow.
- Retention of fallen deadwood in situ in large pieces close to the source tree.
- Diverting public or fencing off veteran trees where there is a significant risk to the public.
- Retention of cut timber arisings from tree management in log piles stacked nearby.
- Retention of flowering and fruiting vegetation near deadwood for birds, mammals and pollinating invertebrates.
- Creating more deadwood habitat piles near to the grasslands.

Above: Volunteers laying a hedge, Donkey Field Riddlesdown

4.1.7 Hedge creation and management

Our aim is to manage the hedges on Riddlesdown to their maximum wildlife potential, increasing biodiversity and enabling them to be valuable habitat resources year-round. We are proposing to increase the number of conservation hedges which means adjusting the management of these hedgerows (such as the timing and frequency of trimming).

Target: Maintain hedges for their wildlife value and increase the longevity of all hedges

Achieved by:

- Avoiding cutting during sensitive times of the year (never during bird nest season) when food for birds and pollinators is scarce.
- Identifying and managing more hedges for biodiversity.

Below: Redwing

4.1.8 Successional wood and scrub

Scrub is maintained using proactive management techniques to largely supress the establishment of trees and promote continuous scrub growth. Cutting rotations vary so that scrub blocks are cut at different ages across the site. Birds that nest in scrub often require a vigorous field layer margin skirting the scrub block to protect low and vulnerable nests. Many of the insect species associated with scrub specialise in the decaying wood component (see pg. 21), and these insects need ready access to nectar and pollens. This highlights the need for a well-maintained mosaic that includes standing and fallen deadwood and a well-structured interface between scrub, grassland and woodland. Rotating the cutting of scrub across multiple years will give the best mix of habitat elements with small blocks consisting of a small proportion of retained old scrub, young thick scrub and areas where cut scrub will be allowed to regrow.

One species which benefits from regularly cut scrub is the brown hairstreak butterfly (see pg. 20). A blackthorn thicket at the top of the Quarry is intended to become a key habitat managed for the brown hairstreak. This block will be brought into four-year coppice rotation, designed to give the optimum mix of habitat elements required to support egg laying of the brown hairstreak.

Left: Brown hairstreak egg on a blackthorn sapling

Above: Blackthorn flowers, Riddlesdown

Target: Management of scrub across Riddlesdown to ensure a variety of ages to maximise associated biodiversity

Achieved by:

- Rotating cutting of scrub blocks allowing for areas of older scrub.
- Cutting only outside of the breeding bird season (March to August).

Target: Management of the blackthorn thicket at the top of the quarry to sustain a thriving population of brown hairstreak butterfly

Achieved by:

- Cutting no more than a quarter of the blackthorn thicket in each year, ensuring that there are uncut sections of different ages.
- Cutting only outside of the breeding bird season (March to August).

4.1.9 Species monitoring and research

We know that over the past 10 years our biological recording could be improved. Although we have a good data coverage on butterfly species, vascular plants and fungi on Riddlesdown, we are lacking up-to-date data on many other species.

This information can help guide the future management of the habitats on Riddlesdown and is essential in understanding the effects of our long-term management. As habitat restoration progresses and areas change, the associated fauna and flora will also change. Throughout all our work it is important to record actions that are carried out and to evaluate the success of techniques used. In addition, long term monitoring is especially valuable because it provides data showing how species and habitats are being affected by climate change that can be used to inform mitigation and response measures.

The data we collect contributes to many national monitoring programmes: the data gathered informs not only the work carried out on the nature reserve but also across the country.

“

Visitor comment

Target: Have current, up-to-date data on a variety of wildlife on Riddlesdown.

Achieved by:

- Continuing the annual reptile transect survey in the Quarry and consider further surveying across Riddlesdown.
- Supporting volunteer butterfly surveyors to complete multiple surveys a month throughout the butterfly season.
- Supporting volunteer bird surveyors to complete multiple surveys during bird nesting season.
- Regularly monitoring of the wildflower and grass communities including condition surveys across the meadows.
- Supporting volunteer mycologists to update fungi records.
- Establishing annual amphibian surveys in and around the pond in the quarry.
- Forming relationships with local colleges and universities and offer survey/ research opportunities.
- Continuing with the Coulsdon Commons Bat Project, gather more data on species present and distribution across the site.

Right: Slow worm, Riddlesdown

Aim 2: People

Encourage the sustainable use of Riddlesdown for recreation, promoting community involvement in its management.

Riddlesdown is protected forever for people to enjoy by virtue of the Corporation of London (Open Spaces) Act 1878. The Act allows people access to Riddlesdown for recreation. Byelaws made under the Act regulate activity to protect the Open Space and its visitors. The 1878 Act, together with a 2018 update, permit some other types of activity, such as organised events and some forms of commercial activity to occur under license. The following section uses the criteria of the Green Flag Award scheme to assess service delivery in relation to people, upholding the highest standards in green space management.

4.2.1 A welcoming place

There are numerous entrances onto Riddlesdown, some with byelaw boards welcoming visitors to the site, displaying a map of the site with key information and contact details for the estate office. There are two notice boards, each displaying important information on events, livestock movements, contact information and the National Nature Reserve map. New byelaw boards are currently being designed and created to incorporate more relevant and current information at our entrances with new maps to replace the old, deteriorating signs.

There are many mown footpaths throughout the grasslands on Riddlesdown, as well as unmown footpaths grazed short by the cattle within the main grazing area. This encourages people to explore, whist discouraging the trampling of the wildflowers and grasses by walking across the middle of precious meadows and glades. This also reflects the natural and rural character of the Downs. Additionally, there are almost 2km of bridleways and permissive rides for horse riders, cyclists and walkers.

Below: Walkers, Riddlesdown

Target: Maintain Riddlesdown as a welcoming place

Achieved by:

- Regular ranger patrolling to provide visual presence and interaction with visitors.
- Regular litter picking to keep the site clean and safe for people and animals.
- Keeping paths and rides clear of encroaching vegetation and regularly mown.
- Providing and maintaining safe bridleways and permissive rides.
- Working towards making the site as accessible as possible for all site users.
- Improving particularly boggy parts of the unsurfaced path network for access.

Target: Provide appropriate signage

Achieved by:

- Maintaining and improving waymarker signs to demarcate Public Footpaths, Public Bridleways and Permissive Rides.
- Replace all finger posts as and when necessary.
- Designing and installing interpretation panels at the car park.
- Keeping information on the notice boards relevant and up to date.
- Using temporary signage (including those about grazing) before and after habitat work, to highlight what is taking place and why.
- Using accessible language that reinforces positive environmental behaviour e.g. "thank you for taking your litter home" rather than "do not drop litter".

4.2.2 Healthy, safe and secure

The City of London has a strong safety culture and safety systems are embedded in all aspects of work covered by this plan. At the heart of the operation, a team of Rangers regularly patrol the Downs on weekdays and weekends to assist visitors and advise on behaviour in relation to the byelaws and can respond to incidents 24 hours a day year-round.

Beyond that is a range of safety planning, inspections and systems that transcend all areas of operation to ensure that Riddlesdown is a safe place to visit and work. As a countryside site managed under legislation that requires the protection of the natural aspect, the provision of facilities on Riddlesdown is limited. However, such features as footpaths, benches, gates, waymarkers and fences are regularly inspected and kept in good order.

Right: City of London byelaw board at the entrance to Famet, Riddlesdown, (Gary Watson).

Target: Ensure Riddlesdown is a healthy, safe and secure place

Achieved by:

- Maintaining a dedicated Ranger team working seven days a week with 24hr coverage for incidents and emergencies.
- Regular patrols to assist visitors and advise on behaviour in relation to byelaws.
- A system of incident recording, and incident reports shared with Police as required.
- A programme of tree safety assessments using a zoned risk-based approach.
- Risk-based approach to managing emerging risks, such as Ash dieback and potential risks such as Oak Processionary Moth infestation.
- Audits of countryside furniture conducted every six months.
- Measures to control dog fouling and reduce the spread of Neospora in the breeding herd of cattle.

4.2.3 Well-maintained and clean

Work across several areas of activity contributes towards the achievement of the Green Flag Award and Green Heritage Award scheme. This work is explained throughout the plan. The relevant targets in relation to 'well maintained and clean' are summarised here. For some

targets, reference is made to the sections of the plan that give more detail.

There are parts of Riddlesdown where litter is regularly a problem. The Rangers litter pick every weekend and throughout the week to keep the site looking clean and welcoming. Members of the local community often assist with litter picking across the rest of the site.

There is an ongoing issue with boundary houses fly-tipping garden waste onto the Downs. Individuals have been challenged on this but there is a wider community issue which needs to be addressed and resolved throughout the life of this plan.

Target: Ensure Riddlesdown is well maintained and clean

Achieved by:

- Removing offensive graffiti within 24 hours.
- Damage caused by vandalism made safe within 24 hours.
- Residential boundaries regularly inspected and fly-tipping challenged before liaising with authorities.
- Regular litter picks across all areas.
- Developing a campaign to tackle hotspot litter areas working with stakeholders and local residents.
- Supporting community and volunteer litter picks on the Downs (see pg.53)

4.2.4 Community involvement

Riddlesdown has benefitted from significant levels of community involvement over the past 10 years. There are many volunteer groups we have connections with including The Conservation Volunteers (TCV), Downlands Partnership, Croydon U3A and corporate groups in addition to our own practical, livestock, events and survey volunteers.

Students from the Riddlesdown Collegiate, which is located on the edge of the Downs, have also been heavily involved in practical conservation tasks and there are now strong links with the Collegiate and the Ranger team. In recent years, several groups of students with special educational needs have been working with the site Ranger across a series of weeks, developing skills in nature conservation.

We aim to actively encourage all members of our community to get involved in conservation work on Riddlesdown. Throughout the lifetime of this plan we are hoping to focus on building connections with younger people at the beginning of their career who have an interest in countryside management and wildlife conservation, or individuals who have a personal interest in wildlife surveying. Therefore, we are hoping to create more connections and opportunities for work experience students, Duke of Edinburgh activities, apprenticeships, youth volunteering and more.

Above: Dog walkers, Riddlesdown

Target: Widening participation of our local community

Achieved by:

- Putting a call out to wildlife enthusiasts to undertake surveying and monitoring on Riddlesdown.
- Enabling and encouraging more work experience students to shadow rangers and assist with practical projects.
- Creating new apprenticeship positions within the ranger team.
- Promote youth volunteering opportunities on weekends and during college holidays.
- Encourage more secondary schools to get involved in conservation days on the Downs.
- Continuing to make connections with local scout and brownie groups, facilitating group activities on site.
- Hosting light conservation sessions targeting specific neighbours to the Downs.

> “
> I’ve been volunteering across the Commons since I moved here in 1995… I love the company and exercise but also the joys of keeping ancient crafts like charcoal making alive!
>
> Coulsdon Commons volunteer

Below: Installing fences around planted Juniper

Target: Supporting volunteer groups on Riddlesdown

Achieved by:

- Leading a programme of regular volunteer tasks.
- Keeping volunteer tasks interesting and varied throughout the year, ensuring the volunteers know exactly why we are carrying out the task and the benefit it has to the Downs.
- Ensuring there are tasks and opportunities for people with varying skill sets and interests such as wildlife surveying, practical conservation, events, heritage conservation etc.
- Continuing to involve other volunteering organisations such as TCV, CCV and the Downlands Partnership
- Seeking opportunities to recruit a greater diversity of volunteers and specifically those who are less represented in nature conservation.

4.2.5 Key messages and communication

Riddlesdown represents a site of significance for wildlife that also benefits people and is important to the physical environment and for society at large. These elements and benefits to the environment as well as our physical and mental health and wellbeing might not necessarily be seen, understood or mutually perceived by everyone.

Left: Riddlesdown volunteers celebrating achieving Green Flag status

It is important that the value and significance of this site are clearly communicated via key messages aimed at:

- Promoting the benefits people can enjoy from visiting the Downs (as distinct from promoting to attract more visitors).
- Highlighting its historical significance and ecological importance.
- Describing the physical evidence of our work; the benefits of management for wildlife and people, including ecosystem services that benefit latent needs.
- Providing appropriate information for people to safely enjoy their visit and respect the nature reserve.
- Promoting pro-environmental behaviours such as taking litter home and always picking up after your dog.

Having a regular Ranger presence offers both reassurance and a point of contact for many people. Face-to-face conversations are therefore an effective way to target and deliver key messages to visitors and build contacts within the local community.

Virtual contact

The way in which we receive information and experience activities, even outdoors, is constantly evolving and being shaped by emerging technologies that are part of our everyday lives. These technologies can be a fantastic opportunity to engage with different visitor demographics, provide information and be a creative tool to exploring the Coulsdon Commons.

Left: Dog walker, Riddlesdown

Visitor information is available via the City of London website, but increasingly this is becoming a streamlined prospectus rather than an archive of information. Consequently, it will be necessary to develop new and innovative ways to convey detailed site and subject specific information.

For example, digital walking trails, including sections across the Coulsdon Commons, are helping smartphone users to accurately navigate routes, see images of what to look out for and have detailed information of interesting sights at the touch of a button.

The Coulsdon Commons also have a dedicated Facebook page and maintains a presence on Twitter. With the growing number of users across all social media platforms, sharing information via these channels will likely become increasingly important.

Target: Maintain a visible Ranger presence

Achieved by:

- A minimum of two patrols each week, including weekends, and a 24/7 on-call out of hours emergency ranger service.
- Rangers to adopt a friendly approach using the four E's technique to Engage; Explain; Encourage; Escalate (to the Police if necessary)
- Targeted pop-up activities focusing on specific issues.

Target: Ensure virtual interaction

Achieved by:

- Promoting our social media platforms and maintaining communications via social media.
- Producing a monthly electronic newsletter for subscribers.
- Producing site and subject specific material for electronic and physical distribution.

4.2.6 Activities and events

On Riddlesdown we aim to actively engage with all site users, encouraging our local community to get involved and participate in a diverse and varied range of events and activities. These will provide opportunities for people to explore, learn about and celebrate the Downs.

Over the next 10 years we aim to target our events programme to encourage a wider range of participants to get involved. We would like to hold an informal community day once a year to promote the work the Rangers and volunteers do, with a range of informal activities for members of the public to observe or participate in, whilst speaking to the public about their interests or concerns.

Under the 2018 change to the 1878 Act, charges can be levied for licensing events and commercial activities. Whilst not wanting to discourage visitors to the site, we should ensure certain activities are balanced according to the sensitive nature of Riddlesdown as a SSSI.

Left: Exploring wildlife in the Quarry, Riddlesdown

Target: Provide and facilitate events

Achieved by:

- A Ranger-led programme with a wide variety of events throughout the year including:
- Family events (during weekends and school holidays)
- Nature walks and talks
- Heritage themed events
- Meet the Ranger events, learning about management and upcoming projects
- Community days
- "Helping on the Common" days (e.g. litter picking)
- Practical craft workshops (e.g. bushcraft, festive wreath making)
- Health walks and rambles
- Practical volunteering
- Wildlife surveys and citizen science (e.g. nature BioBlitz, moth trapping)
- Outreach talks to local clubs and societies.
- Promoting events through a variety of media, using an electronic booking system.
- Exploring options for charging for certain activities using authority given by the 2018 change to the 1878 Act.
- Gather feedback from activities and use to help plan and tailor future events.

Above: A fungi foray in Coombes Wood, Riddlesdown

4.2.7 Educational visits, work experience and student studies

Riddlesdown is a great place to learn about the wonders, complexity and fragility of nature. It naturally provides space for learning and play without the need for artificial enhancement. The Downs can thus function as an outdoor classroom for a range of studies and activities.

The Ranger team responds positively to requests by schools, colleges and youth groups to provide educational sessions on site whenever possible. Work experience can be accommodated within safeguarding constraints. We would also like to encourage more undergraduate and postgraduate studies of Riddlesdown through links with higher education establishments.

Target: Provide opportunities for formal learning

Achieved by:

- Responding positively to requests to provide educational activities.
- Supporting and leading visits by schools and educational establishments.
- Guiding educational organisations on the safe use of the Downs in relation to specific hazards such as livestock, ground conditions and electric fencing.
- Providing work experience placements when safeguarding measures are possible.
- Advising students on possible topics for study where there are gaps in our knowledge or projects of interest.
- Continue to facilitate visits to the Quarry from geological groups and students.

4.2.8 Liaison with other public open spaces

Through the creation of the South London Downs NNR, we have strengthened our relationship with Croydon Council who own several large open spaces local to Riddlesdown. This partnership has enabled us to protect more of the open spaces in the local area, raising the profile of the site collectively. We can also collaborate with grant applications, habitat conservation projects and public communications. We also maintain a strong working connection with the London Wildlife Trust (LWT) who manage a small site situated within Riddlesdown. This includes increasing habitat connectivity between the two sites, sharing resources and promoting events and opportunities.

Right: Geologists visiting the Quarry Riddlesdown

Annually, the Rangers attend networking "Culture Days" days with other divisions within the Open Spaces and Heritage Department in order to share experiences and knowledge, as well as learn about new projects which could be relevant to the site. Our designated Livestock Ranger regularly communicates with other open spaces who have livestock for conservation grazing, especially when it comes to the new "No Fence" system we have been trialling.

Target: Maintain good working relationships with other public open spaces and organisations

Achieved by:

- Rangers will continue attending Culture Days to encourage networking with other open spaces.
- Regularly liaising with Croydon Council's teams who manage the other sites within the South London Downs NNR.
- Continue working with other conservation graziers to keep up to date with methods and ideas to enhance our grazing approach.
- Working collaboratively with the London Wildlife Trust to support wider landscape goals.

Aim 3: Estate assets & legal issues

To fulfil all legal obligations and to maintain estate and heritage structures in good condition so they are safe and secure, now and in the future.

4.3.1 Conserve and protect heritage features

The management of the features associated with the Scheduled Monument involves controlling the vegetation growing over them to limit root damage. This sometimes involves the use of livestock through seasonal grazing.

Target: Preserve, protect and promote heritage features

Achieved by:

- Ensuring that all staff and contractors working on site are aware of the locations of delicate heritage features.
- Never allowing vehicles to drive on heritage features.
- Targeting key heritage features to preserve on Riddlesdown.
- Clearing trees and scrub where appropriate.
- Providing interpretation for key heritage features.

4.3.2 Tree safety

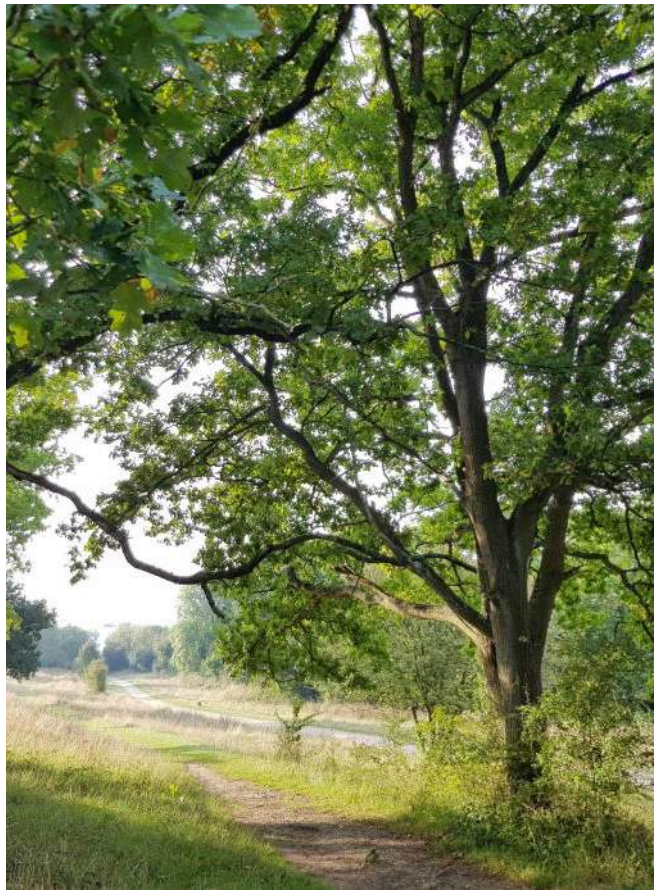
The tree safety strategy for Riddlesdown takes full account of the conservation importance of the site. The inspection process should not lead to a loss of character or species diversity. Rather, it should assist the management process ensuring that, as far as reasonably practicable, balance is maintained between conservation and risk management. Accordingly, the following principles are applied:

- Standing dead timber is an important resource and is left wherever possible. Dead trees are 'reduced' if safety work is necessary.
- Limbs or timber felled are left in situ wherever possible.
- The presence of fungal bodies on trees is not to be taken as an automatic indication that the tree is dangerous but may act as an indicator that further, detailed, inspection is required.
- When considering remedial action to reduce risk, due consideration is given to removing the target from the hazard wherever possible.

Below: Changing history panel showcasing insights into Riddlesdown's heritage

Zoning
Zoning is an important part of managing tree risk. Each part of Riddlesdown is divided into one of three risk zones; high, medium and low risk. These are mapped and reviewed to ensure the information is relevant and includes changes made to boundaries and pathways on the Downs.

Below: Oak tree, Main Grazing Paddock, Riddlesdown



ZONE	FREQUENCY
High risk Main public areas, properties, roads, easy access routes etc.	Annually in **autumn/ winter** (any trees retained noted to have defects but not felled - inspected every **six months**)
Medium risk Other areas frequented by the public not included above	At least every **two years** (retained trees every 12 months)
Low risk	During normal routine patrols
Zones 1 and 2 following a storm event (winds gusting 45 mph+)	Areas inspected as soon as practicable after the event (usually next day but always within five days)

4.3.3 Bats and other protected species

All bats and their roosts are protected in law: all trees must be inspected before any surgery or felling. Surveys should also be made before any work on trees and improvements made to bat habitats wherever possible. In addition, general bat surveys should be carried out to ensure that the best information is available about where and how bats are using Riddlesdown. Full details are given in the bat policy.

Target: Prevent any harm to bats, their roosts, or other protected species

Achieved by:
- Implementing the bat policy; ensuring the needs/legislation regarding other protected species like badgers are adhered to when carrying out habitat work.

4.3.4 Residential boundaries

Residential boundaries are managed according to set criteria to ensure safety and consistency. Managing for light and views are not generally considered appropriate reasons to undertake work. Generally, homeowners are not permitted access across the Downs to maintain their properties, although exceptions are sometimes granted if the work benefits the site or its visitors – for example tree safety work. Wayleaves for gateway access from boundary gardens can be purchased annually.

Target: Manage residential boundaries

Achieved by:
- Regularly patrolling and inspecting (including tree safety).
- Using set criteria to determine requests to manage vegetation.
- Annually issuing wayleaves to allow neighbours direct access.
- Only permitting under licence access across the Common to the rear of properties for Maintenance if the proposed work benefits the site or its visitors (tree safety for example).
- Challenging fly-tipping of garden waste along residential boundaries

4.3.5 Built assets

Many of the built structures on Riddlesdown are maintained by the City Surveyors Department and are listed in a 20-year plan for periodic maintenance and replacement. Assets managed this way include the Riddlesdown Countryside Office and car park.

Target: Maintain built assets

Achieved by:
- 20-year maintenance plan.
- Reporting and rectifying defects through City Surveyors department.
- Carrying out site audits every six months.

4.3.6 Utilities

The City of London (Open Spaces) Act 2018 allows the granting of easements and licenses under whatever terms the City of London considers necessary to protect the open space.

A map of services is maintained as a guide only and does not replace the need for thorough checks prior to any activity that might impact on services; where maintenance is essential, any impacts are assessed and robust measures are taken to prevent disturbance and damage to the environment.

Target: Protect utilities and infrastructure while safeguarding Riddlesdown

Achieved by:
- Granting access for the installation and maintenance of infrastructure assets under license only if the site is adequately protected.
- Ensuring companies proposing work that might damage the SSSI/Scheduled Monument gain consent form Natural England/Historic England
- Maintaining a map of utilities to act only as a general location guide.

Below: Sunset over Riddlesdown

4.3.7 Emergency planning

It is essential that plans are in place to deal with emergencies.

Target: Plan for emergencies

Achieved by:
- Maintaining emergency plans and keeping them available for instant use.
- Regular liaison with emergency services.
- 24 hours over 7 days rota for Ranger response.
- Maintaining a 24-hour call answering service for people to report incidents.
- Attending local policing panel meetings and feeding back information and incidents.

Below: Ranger vehicle, Riddlesdown

Above: Guided history walk, Riddlesdown

4.3.8 External accreditation

Achieving external quality standards validates management practices and gives assurance to our community, staff and elected Members that Riddlesdown is being well run.

Riddlesdown has successfully achieved a Green Flag award every year since 2007, and a Green Heritage award since 2013. External assessments of wildlife and habitat quality are welcomed and outside input into surveying and data analysis is sought.

Target: Seek external accreditation

Achieved by:
- Applying annually for Green Flag Award and Green Heritage accreditation.
- Seeking professional input into wildlife and habitat assessments.
- Welcoming specialist groups to survey for species.

Above: Aerial view over the Riddlesdown Quarry and viaduct

6
2021 –2031 Work Programme

The following section details the works that will be carried out to achieve the aims and objectives of this management plan.

The table on the following pages summarises when the major projects will be undertaken on Riddlesdown in the next 10 years. An annual plan and details of each project further guide the work.

Other documents steer our work too. For example, the Open Spaces Department Business Plan is a City of London document listing the key projects for the Department and each open space.

This aims to enrich people's lives by enhancing and promoting access to ecologically diverse open spaces and outstanding Heritage assets across London and beyond. Riddlesdown receives grant funding from Natural England in the form of a Countryside Stewardship Scheme Agreement. This gives an area payment for some habitat types and also money for some specific projects.

Key to projects:
1 - essential 2 - highly desirable 3 – desirable

CODE	OBJECTIVE 1: BIOLOGICAL	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
	CHALK GRASSLAND/GRASSLAND										
BIO1	Target: Maintain grasslands for biodiversity	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO1.1	Continue current grazing regime across all grazed meadows	1	1	1	1	1	1	1	1	1	1
BIO1.2	Continue with hay making regime	1	1	1	1	1	1	1	1	1	1
BIO2	Target: Manage scrub for varied age and species	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO2.1	Manage scrub on rotation	2	2	2	2	2	2	2	2	2	2
BIO2.2	Remove encroaching scrub using treepoppers	2	2	2	2	2	2	2	2	2	2
BIO3	Target: Connect grassland habitat	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO3.1	Explore possibility of grazing new areas of Riddlesdown	3	3	3	3	3					
BIO3.2	Explore possibility of installing cattle grids on the entrance track	3	3	3	3	3					
BIO3.3	Trial No Fence system to graze areas for increased biodiversity	3	3	3	3	3	3	3	3	3	3
BIO4	Target: Protect delicate grassland habitats from compaction/trampling	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO4.1	Maintain safe and accessible footpaths and summer mowing routes	2	2	2	2	2	2	2	2	2	2
BIO5	Target: Reduce spread of ragwort across the site	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO5.1	Annually remove ragwort by hand	1	1	1	1	1	1	1	1	1	1
BIO5.2	Treat extensive ragwort growth with weed-wiper	3	3	3	3	3	3	3	3	3	3
BIO6	Target: Continue intensive restoration work in Famet	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO6.1	Continue grazing with sheep/cattle to restore ranker grasses	2	2	2	2	2	2	2	2	2	2
BIO6.2	Control brambles and nettles as necessary	2	2	2	2	2	2	2	2	2	2
BIO6.3	Cut and treat scrub regrowth on steeper slopes	2	2	2	2	2	2	2	2	2	2
BIO6.4	Protect Juniper and veteran trees from browsing	2	2	2	2	2	2	2	2	2	2
BIO6.5	Seed with green hay from other areas of Riddlesdown	2	2	2	2	2					
BIO6.6	Explore opportunities to collect seed from other local donors sites and funding	3	3	3	3	3	3	3	3	3	3
BIO6.7	Monitor establishment of sward with wildflower surveys	2	2	2	2	2	2	2	2	2	2

CODE	OBJECTIVE 1: BIOLOGICAL	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
	CHALK GRASSLAND/GRASSLAND CONT.										
BIO7	Target: Manage and reduce scrub in the Quarry	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO7.1	Remove dense willow and birch scrub blocks	2	2	2	2	2	2	2	2	2	2
BIO7.2	Graze with goats between September and April to manage scrub regrowth	1	1	1	1	1	1	1	1	1	1
BIO7.3	Maintain relationship with geological groups and restore/manage geology trail	2	2	2	2	2	2	2	2	2	2
BIO7.4	Manage scrub at the top of the Quarry as necessary	2	2	2	2	2	2	2	2	2	2
BIO7.5	Protect the planted junipers from browsing	2	2	2	2	2	2	2	2	2	2
BIO8	Target: Enhance low biodiverse grasslands	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO8.1	Review cutting regime on verges and amenity areas	2	2	2	2	2	2	2	2	2	2
BIO8.2	Consider seeding/plug planting/green hay low biodiverse grasslands	3	3	3	3	3	3	3	3	3	3
	GRAZING										
BIO9	Target: Have grazing herd trained with NoFence	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO9.1	Ensure all animals are trained with GPS collars	2	2	2	2	2	2	2	2	2	2
BIO9.2	Respond promptly to NoFence alerts/animals leaving paddocks	1	1	1	1	1	1	1	1	1	1
BIO9.3	Use system to graze in new compartments	2	2	2	2	2	2	2	2	2	2
BIO10	Target: Maintain specialist livestock volunteers to assist Rangers	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO10.1	Support dedicated livestock lookers	2	2	2	2	2	2	2	2	2	2
BIO10.2	Training volunteers to help with general livestock management	2	2	2	2	2	2	2	2	2	2
	WOODLAND MANAGEMENT										
BIO11	Target: Diversify woodland ground flora	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO11.1	Thin dense woodland canopies	2	2	2	2	2	2	2	2	2	2
BIO11.2	Remove holly understory and control spread of buddleia	2	2	2	2	2	2	2	2	2	2

CODE	OBJECTIVE 1: BIOLOGICAL	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
	WOODLAND MANAGEMENT CONT.										
BIO12	Target: Create a mosaic of tree age classes	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO12.1	Coppice hazel along Yew Tree Wood on 15-year rotation	2	2	2	2	2	2	2	2	2	2
BIO12.2	Thin woodland edges to graded grass-scrub-wood interface	3	3	3	3	3	3	3	3	3	3
BIO12.3	Use by-products e.g. stakes/binders for hedgelaying	3	3	3	3	3	3	3	3	3	3
BIO13	Target: Assess and update ancient, veteran and maiden tree inventory	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO13.1	Re-survey ancient, veteran and maiden trees to asses condition and works	3	3	3	3	3	3	3	3	3	3
BIO13.2	Survey for bats to locate potential roost sites	3	3	3	3	3	3	3	3	3	3
BIO14	Target: Sustainable use of habitat arisings	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO14.1	Mill timber from woodland management for local use	3	3	3	3	3	3	3	3	3	3
BIO14.2	Identify possible markets for wood product	3	3	3	3	3	3	3	3	3	3
BIO14.3	Utilise local volunteer skills in woodwork	3	3	3	3	3	3	3	3	3	3
BIO15	Target: No damage to tree or soil through burning brash arisings	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO15.1	Use a burning platform on all fires										
BIO15.2	Position platforms in clear areas to avoid damaging tee canopies										
BIO16	Target: Management of deadwood habitat	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO16.1	Retain aerial deadwood and create standing deadwood where risk will allow	3	3	3	3	3	3	3	3	3	3
BIO16.2	Retain fallen deadwood in situ close to source tree	2	2	2	2	2	2	2	2	2	2
BIO16.3	Divert public or fence off veteran trees where there is significant risk to public	1	1	1	1	1	1	1	1	1	1
BIO16.4	Retain cut timber arisings from tree management in log piles and stacks	2	2	2	2	2	2	2	2	2	2
BIO17	Target: Maintain hedges for wildlife value	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO17.1	Avoid cutting during sensitive times of year/bird nesting season										
BIO17.2	Manage more hedges for biodiversity	3	3	3	3	3	3	3	3	3	3

	OBJECTIVE 1: BIOLOGICAL	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
	SUCCESSIONAL WOOD & SCRUB										
BIO18	Target: Manage blackthorn thicket at the top of the Quarry	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO18.1	Cut no more than one quarter of blackthorn on rotation	3	3	3	3	3	3	3	3	3	3
BIO19	Target: Manage scrub of various age classes	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO19.1	Rotate cutting of scrub blocks	2	2	2	2	2	2	2	2	2	2
BIO20	Target: Species monitoring and research	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
BIO20.1	Survey reptiles on Quarry transect and consider additional surveys	2	2	2	2	2	2	2	2	2	2
BIO20.2	Support volunteer butterfly surveyors to complete monthly surveys	2	2	2	2	2	2	2	2	2	2
BIO20.3	Support volunteer bird surveyors to complete breeding bird surveys	2	2	2	2	2	2	2	2	2	2
BIO20.4	Regularly monitor wildflower and grass communities and condition assessments	2	2	2	2	2	2	2	2	2	2
BIO20.5	Support volunteer mycologists to survey fungi	2	2	2	2	2	2	2	2	2	2
BIO20.6	Establish annual amphibian surveys around the pond in the Quarry	2	2	2	2	2	2	2	2	2	2
BIO20.7	Facilitate survey and research opportunities with students, groups and universities	2	2	2	2	2	2	2	2	2	2
BIO20.8	Continue with Coulsdon Commons bat project for species present	2	2	2	2	2	2	2	2	2	2
	OBJECTIVE 2: PEOPLE	**Y1**	**Y2**	**Y3**	**Y4**	**Y5**	**Y6**	**Y7**	**Y8**	**Y9**	**Y10**
PEO1	Target: Maintain Riddlesdown as a welcoming place	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO1.1	Regular patrolling to provide visual presence and interaction with visitors.	1	1	1	1	1	1	1	1	1	1
PEO1.2	Regular litter picking to keep the site clean and safe	1	1	1	1	1	1	1	1	1	1
PEO1.3	Keeping paths and rides clear of encroaching vegetation	1	1	1	1	1	1	1	1	1	1
PEO1.4	Providing and maintaining safe permissive rides	1	1	1	1	1	1	1	1	1	1
PEO1.5	Work towards making the site as accessible as possible for all site users	2	2	2	2	2	2	2	2	2	2
PEO1.6	Improve particularly boggy parts of the unsurfaced path network for access	3	3	3	3	3	3	3	3	3	3
PEO2	Target: Provide appropriate signage	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO2.1	Maintain and improve way marker signs on footpaths, bridleways and rides	1	1	1	1	1	1	1	1	1	1
PEO2.2	Replace all fingerposts as and when necessary	1	1	1	1	1	1	1	1	1	1
PEO2.3	Create and install new signage at the car park	3	3	3	3	3	3	3	3	3	3
PEO2.4	Keep information on the noticeboards relevant and up to date	1	1	1	1	1	1	1	1	1	1

CODE	OBJECTIVE 2: PEOPLE	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
PEO2.5	Use temporary signage to inform visitors about site management	1	1	1	1	1	1	1	1	1	1
PEO2.6	Use language that reinforces positive environmental behaviour	1	1	1	1	1	1	1	1	1	1
PEO3	Target: Ensure Riddlesdown is a healthy, safe and secure place	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO3.1	Maintain a dedicated Ranger team working 7 days a week with 24hour coverage for incidents and emergencies	1	1	1	1	1	1	1	1	1	1
PEO3.2	Regular patrols to assist visitors and advise on behaviour in relation to bylaws	1	1	1	1	1	1	1	1	1	1
PEO3.3	A system of incident recording and incident reports share with Police	1	1	1	1	1	1	1	1	1	1
PEO3.4	A programme of tree safety assessments using a zone risk-based approach	1	1	1	1	1	1	1	1	1	1
PEO3.5	Risk-based approach to managing emerging threats e.g. ash dieback	1	1	1	1	1	1	1	1	1	1
PEO3.6	Audits of countryside furniture conducted every six months	1	1	1	1	1	1	1	1	1	1
PEO3.7	Measures to control dog fouling and reduce spread of Neospora	1	1	1	1	1	1	1	1	1	1
PEO4	Target: Ensure Riddlesdown in well maintained and clean	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO4.1	Removing offensive graffiti within 24 hours	1	1	1	1	1	1	1	1	1	1
PEO4.2	Damage caused by vandalism to be made safe within 24 hours	1	1	1	1	1	1	1	1	1	1
PEO4.3	Residential boundaries regularly inspected and fly-tipping challenged	1	1	1	1	1	1	1	1	1	1
PEO4.4	Regular litter picks across all areas	1	1	1	1	1	1	1	1	1	1
PEO4.5	Developing a campaign to tackle hotspot litter areas working with stakeholders	1	1	1	1	1	1	1	1	1	1
PEO4.6	Supporting community and volunteer litter picks	1	1	1	1	1	1	1	1	1	1
PEO5	Target: Widen participation of our local community	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO5.1	Advertise wildlife surveyors to assist with reporting and monitoring	2	2	2	2	2	2	2	2	2	2
PEO5.2	Enable and encourage work experience students	2	2	2	2	2	2	2	2	2	2
PEO5.3	Create new apprentice positions within Ranger team	3	3	3	3	3	3	3	3	3	3
PEO5.4	Promote youth volunteering opportunities	3	3	3	3	3	3	3	3	3	3
PEO5.5	Facilitate school involvement with conservation tasks	2	2	2	2	2	2	2	2	2	2
PEO5.6	Continue to make connections with local scout/brownie groups	2	2	2	2	2	2	2	2	2	2
PEO5.7	Host light conservation sessions targeting specific neighbours to the Downs	2	2	2	2	2	2	2	2	2	2
PEO6	Target: Support volunteer groups	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO6.1	Lead a programme of regular volunteer tasks	1	1	1	1	1	1	1	1	1	1
PEO6.2	Keep volunteer tasks varied throughout the year and ensure volunteers are well informed	1	1	1	1	1	1	1	1	1	1

CODE	OBJECTIVE 2: PEOPLE	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
PEO6.3	Ensure opportunities for volunteers with varying skill sets/interests	2	2	2	2	2	2	2	2	2	2
PEO6.4	Continue involvement with volunteer organisations including TCV, CCV and Downlands Partnership	2	2	2	2	2	2	2	2	2	2
PEO6.5	Seek opportunities to recruit a greater diversity of volunteers, specifically those less represented in nature conservation	3	3	3	3	3	3	3	3	3	3
PEO7	Target: Provide opportunities for formal learning	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO7.1	Facilitate requests to provide educational activities	2	2	2	2	2	2	2	2	2	2
PEO7.2	Support and lead visits by schools and educational establishments	3	3	3	3	3	3	3	3	3	3
PEO7.3	Guide educational organisations on the safe use of the site	1	1	1	1	1	1	1	1	1	1
PEO7.4	Advise students on possible topics for study where there are gaps in our knowledge or projects of interest	2	2	2	2	2	2	2	2	2	2
PEO8	Target: Maintain good working relationships with other public open spaces and organisations	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO8.1	Rangers to continue attending Open Spaces culture days to encourage networking with other City of London sites	3	3	3	3	3	3	3	3	3	3
PEO8.2	Regularly liaise with London Borough of Croydon teams/representation on the South London Downs steering group	1	1	1	1	1	1	1	1	1	1
PEO8.3	Continue work with other organisations to keep up to date with methods in conservation management and grazing	3	3	3	3	3	3	3	3	3	3
PEO8.4	Work collaboratively with London Wildlife Trust to support wider landscape goals	2	2	2	2	2	2	2	2	2	2
PEO9	Target: Maintain a visible Ranger presence	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO9.1	A minimum of two patrols each week including weekends	1	1	1	1	1	1	1	1	1	1
PEO9.2	Communicate issues via engaging, explaining, encouraging and escalating	1	1	1	1	1	1	1	1	1	1
PEO9.3	Targeted pop-up activites to focus on specific issues e.g. dog fouling	3	3	3	3	3	3	3	3	3	3
PEO10	Target: Ensure virtual interaction	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO10.1	Promote and maintain social media platforms	1	1	1	1	1	1	1	1	1	1
PEO10.2	Produce monthly e-newsletters for subscribers	1	1	1	1	1	1	1	1	1	1
PEO10.3	Produce site and subject specific material for physical and electronic distribution	1	1	1	1	1	1	1	1	1	1
PEO11	Target: Provide and facilitate events	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PEO11.1	Ranger-led programme with a wide variety of events throughout the year	2	2	2	2	2	2	2	2	2	2
PEO11.2	Gather feedback from activities and use to plan/tailor future events	3	3	3	3	3	3	3	3	3	3

CODE	OBJECTIVE 3: ESTATE ASSETS & LEGAL ISSUES	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
EST1	Target: Preserve, protect and promote heritage features	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST1.1	Ensure stall and contractors are aware of heritage features	1	1	1	1	1	1	1	1	1	1
EST1.2	Never allow vehicles to drive on heritage features	1	1	1	1	1	1	1	1	1	1
EST1.3	Target key heritage features to preserve on Riddlesdown	2	2	2	2	2	2	2	2	2	2
EST1.4	Clear trees and scrub where appropriate	2	2	2	2	2	2	2	2	2	2
EST1.5	Provide interpretation for key heritage features	3	3	3	3	3	3	3	3	3	3
EST3	Target: Tree safety	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST3.1	Routine tree safety surveys and resulting work	1	1	1	1	1	1	1	1	1	1
EST3.2	Emergency tree safety surveys and resulting work	1	1	1	1	1	1	1	1	1	1
EST4	Target: Prevent any harm to bats, roosts and other protected species	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST4.1	Implement the bat policy	1	1	1	1	1	1	1	1	1	1
EST4.2	Adhere to legislation on protected species when carrying out habitat work	1	1	1	1	1	1	1	1	1	1
EST5	Target: Manage residential boundaries	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST5.1	Regularly patrol and inspect	2	2	2	2	2	2	2	2	2	2
EST5.2	Use set criteria to determine requests to manage vegetation near boundaries	1	1	1	1	1	1	1	1	1	1
EST5.3	Issue annual wayleaves to allow direct access onto the Common	1	1	1	1	1	1	1	1	1	1
EST5.4	Challenge fly-tipping e.g. garden waste along residential boundaries	1	1	1	1	1	1	1	1	1	1
EST6	Target: Maintain built assets	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST6.1	Maintain and implement 20 year plan	1	1	1	1	1	1	1	1	1	1
EST6.2	Report and rectify defects	1	1	1	1	1	1	1	1	1	1
EST6.3	Carry out site audit every 6 months	1	1	1	1	1	1	1	1	1	1
EST7	Target: Protect utilities whilst safeguarding site	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST7.1	Grant access for utility maintenance under licence and ensure site protection	1	1	1	1	1	1	1	1	1	1
EST7.2	Ensure SSSI consent from Natural England and advice from Historic England	1	1	1	1	1	1	1	1	1	1
EST7.3	Maintain map of utilities to act as general location guide	2	2	2	2	2	2	2	2	2	2
EST8	Target: Plan for emergencies	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST8.1	Maintain emergency plans and keep available for immediate use	1	1	1	1	1	1	1	1	1	1
EST8.2	Liaise with emergency services	1	1	1	1	1	1	1	1	1	1

CODE	OBJECTIVE 3: ESTATE ASSETS & LEGAL ISSUES	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
EST8	Target: Plan for emergencies cont.	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST8.3	Maintain 7 day, 24-hour Ranger response	1	1	1	1	1	1	1	1	1	1
EST8.4	Maintain 24-hour call answering service to report incidents	1	1	1	1	1	1	1	1	1	1
EST8.5	Attend local policing panel to feed back on incidents	2	2	2	2	2	2	2	2	2	2
EST9	Target: Seek external accreditation	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST9.1	Apply annually for Green Flag Award/Green Heritage accreditation	1	1	1	1	1	1	1	1	1	1
EST9.2	Seek professional input into wildlife and habitat assessments	1	1	1	1	1	1	1	1	1	1
EST9.3	Welcome specialist groups to survey for species	1	1	1	1	1	1	1	1	1	1
EST10	Target: Fulfil all other legal obligations	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
EST10.1	Liaise with Natural England	1	1	1	1	1	1	1	1	1	1
EST10.2	Liaise with Historic England	1	1	1	1	1	1	1	1	1	1
EST10.3	Produce new Management Plan										1
EST10.4	Fulfil all Countryside Stewardship requirements	1	1	1	1	1					

Background information

Ancient woodland: woodland that has existed since at least 1600.

Coppice: a tree or block of trees cut once or more, close to ground level to obtain wood from the branches.

National Nature Reserve (NNR): are designated by Natural England as key places for wildlife and natural features in England. They were established to protect the most significant areas of habitat and of geological formations.

Priority species: are species that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). Formerly BAP priority species.

IUCN/Red data book: list (originally a red book) of rare and threatened species of plant and animal. The International Union for Conservation of Nature (IUCN) Red List is a critical indicator of the health of the world's biodiversity.

Secondary woodland: woodland that has grown up on previously open land such as heathland or farmland.

Site of Nature Conservation Importance (SNCI): are areas which are designated locally for their wildlife importance.

Sward: an expanse of short grass and vegetation.

Veteran tree: a tree is one that is biologically, aesthetically or culturally important because of its age, size or condition.

The 2021-31 Riddlesdown Management Plan has been ratified by Natural England (tbc).

Illustration by Dan Powell; photographs by Tim Nightingale, Gary Watson, Brett Oliver, Bill Bessant, Mick Rowland, David Pinkney, Helen Llew, Steve Cussell and Timothy Hart. Thank you to those who have commented on and contributed to the plan, including staff and volunteers from the Coulsdon Commons, Tim Nightingale, Dr Jane McLaughlin and Bill Bessant. Cover photo: Tim Nightingale.

Below: Misty morning, Riddlesdown

Above: Sunburst over Riddlesdown (©David Pinkney)

The City of London Corporation is the governing body for the Square Mile dedicated to a vibrant and thriving City, supporting a diverse and sustainable London within a globally successful UK.

The City of London owns and manages almost 4,500 ha of green spaces, parks and gardens in and around London as part of its commitment to sustaining a world class city. Each Open Space is a unique resource managed for the use and enjoyment of the public and for the conservation of wildlife and historic landscape.

The City of London's Open Spaces are protected under their own Acts of Parliament (Corporation of London (Open Spaces) Act, 1878 and City of London Corporation (Open Spaces) Act 2018). These enable the City Corporation to acquire land which, under the terms of the 1878 Act, must remain unenclosed and unbuilt upon as open spaces for the recreation and enjoyment of the public whilst preserving the natural aspect and protecting the trees and ground vegetation.

The 2018 Act clarifies that the City of London can undertake management and husbandry activities such as cutting trees, managing the other vegetation and grazing.

The City of London is required by law to comply with certain duties relating to conservation as set out in section 28G of the Wildlife & Countryside Act (1981, as amended) and the Natural Environment and Rural Communities Act (2006). These require the City of London to take reasonable steps to further the conservation and enhancement of its Open Spaces.

CITY OF LONDON

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