LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN 2020 - 2025

for

HURST MEADOWS

Land north-east of Hurstpierpoint,
West Sussex

Version 1

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with the Hurst Meadows Working Group
on behalf of Hurstpierpoint and Sayers Common Parish Council

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1. Introduction

Hurst Meadows is an area of woodland, ex-arable land with a newly planted orchard, hedgerows, amenity grassland and garden to the north-east of Hurstpierpoint village in West Sussex (see Figure 1).

The majority of the land was acquired by Hurstpierpoint and Sayers Common Parish Council (HSCPC), as part of a section 106 (s106) planning agreement, to mitigate the impact of the adjoining Layton Fields and Bramble Park housing developments (see Figure 1). The area transferred comprises approximately 22.4 hectares of woodland (predominantly ancient woodland), ex-arable farmland and hedgerows with the intention that the area benefit both the local community and wildlife as Countryside Open Space.

During 2017-2018, the s106 land was transferred from the two developers to the Parish Council in 3 tranches:

- 20 July 2017 - following completion of the Layton Fields development, Rydon Homes Ltd transferred Bellow's Nose and Buckwilly fields.
- 06 March 2018 - whilst constructing Bramble Park, Bovis Homes Ltd transferred Fifteen Acre, Walnut Tree Field, Edgerley Meadow and Hovel Field north and south.
- 04 December 2018, Bovis Homes Ltd transferred The Wilderness and Tilley's Copse semi-natural ancient woodlands.

In addition to the land transfer, the s106 settlement after uplift (a method of adjustment for construction inflation), included £510K; £170K to deliver preparatory, safety and access works, e.g. paths, dog waste bins etc. and approximately £17K for annual management over a 20-year period.

In spring 2016, the Parish Council assembled the Hurst Meadows Advisory Board (HMAB) and the Hurst Meadows management group (HMMG) to manage the s106 land as it was transferred and set up the area to be known as Hurst Meadows. The former group was to provide recommendations and advice on the land management and the latter was to agree, cost and implement any Council agreed plans. The HMMG has subsequently been replaced by the Parish Council Estates and Facilities Management Committee (PC E&FMC), which supervises the routine maintenance and regulatory compliance of the Parish Council estate, including the appointment of contractors and the implementation of approved Council projects. The HMAB meets 2 to 3 times a year, or as required, whilst the PC E&FMC meets approximately 8 times a year.

In 2019, a smaller Hurst Meadows working group (HMWG) was established to ensure timely land management advice, planning and implementation between HMAB and PC E&FMC meetings. All these groups comprise Parish Council Officers, Parish Councillors and local people with a sound knowledge of the local community, land, wildlife and access management.

The remainder of Hurst Meadows comprises land leased to the Parish Council from West Sussex County Council (WSCC). St George's Green is leased as a reserve burial ground and is managed as amenity grassland. In 2000, the land that is now The Millennium Garden, was leased from WSCC on a sixty-year lease and sub-leased to the St George's Millennium Garden Trust (registered charity no: 1078350). The Trust set up and managed the garden from 2000-2020, maintaining the trees and amenity grassland and establishing two wildflower meadows, one natural and one seeded. In April 2020, The Millennium Garden reverted to the Parish Council and it was decided that the management for both The Millennium Garden and St George's Green would be incorporated into Hurst Meadows.

Therefore, in 2021, the total area managed as Hurst Meadows is approximately 23.4 hectares and is covenanted against future development in accordance with the policies and aims of the Neighbourhood Plan.

Both Tilley's Copse and The Wilderness are designated as semi-natural ancient woodland (see section 3.1) and many of the trees in The Millennium Garden are protected by Tree Preservation Orders (see section 3.5.1), otherwise the site currently holds no other designations.

1.1 Scope

Based on discussion and research by the Hurst Meadows Advisory Board and Working Group, this management plan provides the strategic short and long-term management objectives to realise their vision for Hurst Meadows. The vision, set out below, defines the management of Hurst Meadows now and into the future.

The Management Plan gives a brief history and a detailed description of the site. It includes results from the most recent known habitat and species surveys, to provide base-line information on what is currently known on the site at this early stage of the project. This base-line data coupled with continued monitoring will inform management decisions as the project progresses. It incorporates all relevant information from the Landscape and Ecological Management Plan (LEMP)[1] produced to facilitate the management of Hurst Meadows following its transfer to the parish from Bovis Homes. It provides details of the species that are legally protected in the UK that are known to be present or, based on habitat suitability, may be present on the site. It also gives guidance on how to manage for them to avoid committing an offence under current UK legislation.

There is a vision for each aspect of Hurst Meadows, providing objectives and actions to guide the management planning process and finally the Management Action Plan provides principles and specific actions for each aspect of Hurst Meadows (e.g. hedgerows, grassland area etc.), which may not necessarily include any action at all for the 2020-2025 time period. A schedule of work is to be developed on agreement of this plan by the Advisory Board and the approval of the Parish Council Estates and Facilities Management Committee, which will detail the actions to be taken, when and by whom for the 2020-2025 time period.

Hurst Meadows includes two ancient woodlands Tilley's Copse and The Wilderness (see Figure 1). Although, this plan provides a description and vision for these woodlands, detailed management plans for them and the woodland shaw at Iden Hurst that connects them, are provided in two separate plans by Petra Billings Woodland Consultancy (see section 3.1.4).

This plan is intended to be a working document; providing management objectives and actions that are regularly reviewed, updated and approved as the site management evolves and lessons are learned. The next official review should be no later than 2025-6.

1.2 Notes on the text

Latin names for plant and some animal species are given once in the text, as they provide a unique identifier for that species, however common names are used thereafter to aid clarity for the reader. For reference, all Latin names of plant species can be found in Appendix 1. Birds are referred to by their common name. Hedgerow and management area labels can be found in Figure 3 and all paths are unofficial unless specifically referred to as Public Rights of Way (PRoW).

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[1] David Huskisson Associates (2012) Outline Landscape and Ecological Management Plan for proposed development at Hurstpierpoint, West Sussex on behalf of Rydon Homes Ltd.

2. The vision for Hurst Meadows

The vision for Hurst Meadows is to maintain and further develop this important area of open countryside as a rich, diverse habitat for plants and animals and a place for peaceful enjoyment by the community.

This will be achieved by:

- Informed, sound environmental land management and monitoring which seeks a balance between the needs of people and wildlife
- Inspiring and empowering people of all ages to enjoy and connect with nature and the outdoors by creating a place that is accessible, safe, well-maintained and interesting in its diversity
- Developing people's knowledge, understanding and awareness of the natural environment, by providing opportunities to learn, engage and get involved
- Encouraging the local community to a feel a sense of ownership and pride in Hurst Meadows through publicity, information, consultation and opportunities for participation

3. Site description

3.1 The Woodlands

Hurst Meadows has two areas of designated semi-natural ancient woodland, Tilley's Copse and The Wilderness, located towards the north of the site (see Figure 1). An ancient woodland is land that has been wooded continuously since at least 1600AD (in England). Through their relative lack of disturbance, they comprise soil structures and wildlife communities that take hundreds of years to establish and are therefore irreplaceable. They are places that were, and still are, well-used by people and so often reflect our cultural, historical and landscape heritage. All ancient woodlands are registered on the Ancient Woodland Inventory held by Natural England and are a priority habitat in the UK Biodiversity Action Plan. They are protected from development by para. 175c of the National Planning Policy Framework[2] and also designated as Tree Protection Areas (see Figure 5a).

According to Sussex Wildlife Trust, the Sussex Weald has the greatest cover of woodland relative to its total area in Britain. Sussex in general has several large ancient woodland complexes and, significantly, many small ancient woodlands. These smaller woodlands, can become disconnected from other woods, making them vulnerable to disturbance and degradation, as is the case in Hurst Meadows. Therefore, managing our ancient woodlands to ensure they are in good condition for wildlife and helping to reconnect them to the wider landscape, so the wildlife can move is an important objective for Hurst Meadows.

3.1.1. Tilley's Copse Ancient Woodland

Summary

Tilley's copse is a small (1.72 hectares), triangular area of semi-natural ancient woodland to the north of Hurstpierpoint village and east of Fairfield recreation ground (see Figure 1). The woodland canopy is predominantly English (or pendunculate) oak (*Quercus robur*), with an understorey of old-coppiced hazel (*Corylus avellana*) and hornbeam (*Carpinus betulus*) and in places, a carpet of English bluebells (*Hyacinthoides non-scripta*) in spring, particularly in the northern part of the wood.

[2] The National Planning Policy Framework states that:

> *(c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.*

Accompanying the oaks in the canopy layer are; ash (*Fraxinus excelsior*), horse chestnut (*Aesculus hippocastanum*), cherry (*Prunus avium*) and aspen (*Populus tremula*). Many of the oaks have good open canopies and some could already be classified as veteran, while others are potential veterans.

Sycamore (*Acer pseudoplanatus*) is also present in both the canopy and understorey and although it adds to the woodland biodiversity, can become invasive. Aspen, although an ancient woodland indicator species[3], is clonal and can also become invasive. The ash, particularly in the north, have symptoms of ash die-back disease.

As well as hazel and hornbeam, the mid-canopy supports a good variety of native trees and shrubs, including hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), holly, yew (*Taxus baccata*) and field maple (*Acer campestre*). An old hornbeam stool next to the path to the north-east of the wood is notable.

There is a good amount of deadwood, which is beneficial to wildlife, particularly fungi and invertebrates. Some of the deadwood is standing, but most is on the ground from fallen branches or wood left in situ after tree-work.

In addition to English bluebells, the ground flora supports patches of wood anemone (*Anemone nemorosa*) dog's mercury (*Mercurialis perennis*) and other ancient woodland indicator species. Holly (*Ilex aquilifolium*), bramble (*Rubus* agg.) and ivy (*Hedera helix*) are more dominant to the south, where less light penetrates to the woodland floor (for a preliminary ground flora species list see Appendix 1a). On the south-west corner there is also a small patch of variegated yellow archangel which is an invasive garden escape and should be removed.

The copse is bounded on all sides by streams and ditches (see Figure 2). The stream on the western boundary runs from The Wilderness, with connecting ditches running along the southern and eastern boundaries. Some of these ditches are blocked, causing localised flooding.

Access

There is one public right of way through Tilley's copse from the south-east towards the north-east (See Figure 2). There is also a network of paths and desire-lines through the wood, including a wide path from east-west between Fairfield Recreation Ground and the PROW exit point to the west.

Condition and threats

Tilley's Copse is in fair condition with some fine mature oaks and a dense, diverse understorey. However, the key issue is poor age structure with little evidence of oak regeneration as either seedlings or saplings. Over-crowding of the oaks, particularly in the south, has led to a closed canopy with limited light reaching the woodland floor. This has led to low/no oak seedling survival and the ancient woodland ground flora being replaced by more low-light tolerant species. Other threats include ash die-back which requires monitoring and invasive variegated yellow-archangel, which would best be removed.

The wood is well-used by the public and nutrient enrichment from dog fouling and compaction from walkers are both issues, as is anti-social behaviour from litter, particularly along the boundary with the recreation ground. Its integrity is also threatened by its small size and isolation from other woodland.

Management recommendations

Selective and sensitive removal of some trees and light re-coppicing of others, coupled with sensitive management of the understorey following the restoration of light to the woodland floor, should help to improve the oak age-structure and spread of ancient woodland ground flora. The abundance of aspen and sycamore should also be monitored and managed if over-abundant. The invasive ground-flora species, although not extensive, should be removed to prevent further spread. Public awareness of litter and dog-fouling and improving a sense of ownership should help reduce the threat from over-use.

[3] According to the ancient woodland indicator (AWI) species inventory compiled by Kirby, K. in Rose, F. (2006) The Wildflower Key, Warne.

A hydrology assessment of Hurst Meadows (including of Tilley's Copse and The Wilderness) is required to understand the movement, drainage, localised flooding and management of water in the area. This plan should provide recommendations for drainage ditch and water storage management across Hurst Meadows for implementation in the management action plan (section 6).

More detailed management recommendations are given in the Woodland Management Plan for Tilley's Copse and The Wilderness (see section 3.1.4).

3.1.2 The Wilderness Ancient Woodland

Summary

The Wilderness is a narrow strip of semi-natural ancient woodland, to the south of Tilley's Copse, covering 2.62 hectares (see Figure 1). The woodland is bounded by housing developments to the east and west and connected to Tilley's Copse by a narrow shaw of trees to the north and to the rest of Hurst Meadows via Hovel field to the south.

In recent years, the woodland has not been actively managed and lives up to its 'Wilderness' name with rough terrain and numerous fallen and hanging trees. The edges of the woodland remain relatively undisturbed, whilst at some time in the past the central area was dug into a series of ponds, which were used for fish. These ponds are groundwater and stream fed via two ponds at Little Park to the south. The stream continues north, through Tilley's Copse and on to the south-west of Burgess Hill. At the time of writing, the ponds hold water from autumn until spring, but dry out in summer with those to the north and south holding water longer than those in the centre. There is another natural ephemeral pond to the north-east of the wood. The woodland and ponds are potentially suitable foraging habitat for great crested newts (see section 4.4).

The edges of the woodland are relatively undisturbed and although the wood supports fewer notable trees than Tilley's Copse, there is greater species diversity and evidence of natural regeneration under the more open canopy. The woodland edge canopy layer supports abundant English oak, wild cherry and ash standards, with among other species, sycamore and horse chestnut. The fishponds are gradually succeeding to secondary woodland and subsequently there is an abundance of mature and sapling sycamore and diseased ash in these central areas. Alder (*Alnus glutinosa*), mature willows and sallow are also present in these wetter areas and should be encouraged.

The mid-canopy comprises a diverse mixture of species including; hazel, hornbeam, field maple, hawthorn and midland hawthorn (*Crataegus monogyna* and *C. laevigata*), blackthorn, spindle (*Euonymus europaea*), willow (*Salix spp*), elder (*Sambucus nigra*) and yew. An old bank and ditch system with some notable trees makes an interesting feature towards the eastern boundary.

The ground flora supports a diversity of wildflowers, grasses, sedges, aquatic plants and ferns (see Appendix 1a). English bluebells (*Hyacinthoides non-scripta*) and wood anemone (*Anemone nemorosa*) are abundant on the higher ground, which in some areas has been replaced by cow parsley (*Anthruscus sylvestris*), reflecting the past ground disturbance. There is also low abundance of invasive and non-native species present, particularly towards the boundaries, that should be removed; notably Wilson's honeysuckle (*Lonicera nitida*), periwinkle (*Vinca* spp.), variegated arum (*Arum italicum*), garden daffodil and various non-native laurels.

There are many other ancient woodland indicator species present, including; ransoms (*Allium ursinum*), dog's mercury (*Mercurialis perennis*), opposite-leaved golden saxifrage (*Chrysospllenium oppositifolium*), moschatel (*Adoxa moschatellina*), goldilock's buttercup (*Ranunculus auricomus*) wood melick (*Melica uniflora*), remote and wood sedge (*Carex remota, C. sylvatica*) and soft-shield fern (*Polystichum setiferum*).

In or near the ponds are wetland and aquatic plants, such as hemlock water dropwort (*Oenanthe crocata*), pendulous sedge (*Carex pendula*), bulrush (*Typha latifolia*), water plantain (*Alisma plantago-aquatica*) and water starwort (*Callitriche stagnalis*). The central southern pond has an abundance of great horsetail (*Equisetum*

telmateia) that has formed dense patches in places. The non-native least duckweed (*Lemna minutae*) is also present in this pond, which has colonised from the upstream ponds at Little Park.

A brief survey of mosses and liverworts was carried out by the Sussex Bryological Society in the winter of 2019 and the results can be seen in Appendix 2. Management advice from the bryological society suggests encouraging wetter conditions in The Wilderness to increase humidity around the ponds, which would create better conditions for wet woodland epiphytes and other wet woodland species.
Wet woodland is a rare woodland type in Sussex. It only occurs in scatter patches across the higher landscapes, where hollows are combined with springs and impermeable soil [4], as they do in Hurst Meadows. They are characterised by alder, willow and birch and often support interesting bryology (mosses and liverworts); something to bear in mind when making decisions here, particularly in relation to tree replacement and regeneration in relation to ash-dieback management (see below).

There is a large, active badger main sett in the north-west corner of wood and evidence of active holes, recent badger activity and field signs (see section 4.1). However, the sett it is yet to be fully surveyed. Roe deer are also active throughout the woodland, but significant damage by deer grazing was not in evidence.

Access
There are no public rights of way (PRoWs) through The Wilderness, but there is a well-used path that runs north-south through the wood and another running east-west across the northern boundary.

Condition and threat
The main issue in the Wilderness is the belt of ash running north-south through the ponds, all of which are suffering to varying degrees from ash-dieback and will eventually die and fall. Sycamore is also relatively abundant in the pond areas and there are many suppressed and misshapen trees suggesting recent disturbance. The small size of The Wilderness and its isolation from other woods (other than Tilley's Copse) means that it is susceptible to degradation by disturbance. Although the poor access protects it to some degree from disturbance by people and anti-social behaviour, it also means it cannot be fully enjoyed by the public. There are small patches of invasive species that would be best removed.

Management recommendations
The diseased ash trees in the Wilderness require regular monitoring and trees sensitively felled if they become a hazard to property or walkers. Natural regeneration of the areas where ash has already fallen or been removed should be monitored, to ensure that sycamore doesn't become dominate in the developing canopy. Instead, wet woodland species such as alder, willow (and birch) should be encouraged with oak, field maple and hornbeam in the drier areas. If natural regeneration is insufficient to restock the canopy, replanted with a suitable mix of broad-leaved species could be undertaken (see restocking recommendations in Billings 2020).

Some of the deadwood in the ponds could be removed towards the centre and the south to allow greater light and warmth into them to promote the aquatic flora and fauna. However, some pond areas could be managed as wet woodland habitat.

It is also recommended that the invasive and non-native species present around the edges of the woodland should be removed before they spread.

Improving the woodland's buffer zone and the woodland's connectivity to the surrounding habitats would be beneficial (see sections 3.1.5 & 3.2). This could be achieved by encouraging large, diverse native hedgerows, trees and shrubs in the local landscape and linking these to the woodland. Sensitively providing (limited) access, whilst managing anti-social behaviour and compaction may also be beneficial. More detailed management recommendations are given in the Woodland Management Plan for Tilley's Copse and The Wilderness (see section 3.1.4).

[4] Wet woodland | Sussex Wildlife Trust

3.1.3 Woodland shaw by Iden Hurst

Tilley's Copse and the Wilderness are connected by a narrow shaw of approx. 0.14ha, to the west of Bramble Park (see Figure 1). This area comprises a canopy of mature English oak and horse chestnut, some notable, with a dense understorey of holly and English bluebell ground flora.

Access

There is no public right of way, but there is an unofficial path running north-south through this area.

Condition, threat and management recommendations

This shaw supports some notable trees and is an important wildlife corridor between Tilley's Copse and The Wilderness. Maintaining this area by managing disturbance from anti-social behaviour, removing any invasive species and possibly managing the holly and encouraging more bluebells would be beneficial. If possible, given space restrictions, encouraging a shrubby edge in this area to widen the shaw would help to buffer it from disturbance.

3.1.4 The Lost Woods of the Low Weald and Downs Project

In July 2020, Tilley's Copse and the Wilderness, were chosen by the Lost Woods of the Low Weald and Downs Heritage Lottery Fund project as sites for their 18-month development phase. This partnership project, led by the Woodland Trust and supported by Action in Rural Sussex, aims to help landowners and communities bring woods that are small and fragmented into better condition, boost biodiversity and create a more resilient network of trees within the project area.

Through funding from this project, a woodland assessment and a woodland management plan have been produced [5,6], and approved by the Forestry Commission. The project aims to facilitate the removal of the invasive species from both woodlands in spring and further management and community engagement are planned throughout 2021. More detailed management advice is given in these management plans and therefore no further management information for the woodlands is detailed in this report. The schedule of work, as it is developed, will however include actions taken from these plans.

3.1.5 The Wilderness ancient woodland buffer zone

As part of the Bramble Park development proposal there is a 15m buffer zone allocated around The Wilderness to be managed by the Bramble Park site management company. Although out of Parish Council ownership, given the woodlands' small size it will be important for the protection of the Tilley's Copse and particularly The Wilderness, that this area is managed as a woodland shaw to buffer the ancient woodlands from the new development.

3.2 The permanent pastures

Location and past management

The two smallest fields in Hurst Meadows, Hovel Field north and Hovel Field south, are situated immediately to the south of Bramble Park (see Figure 1). The north-west corner of the field is adjacent to the south-east corner of The Wilderness and they are just connected by a narrow strip of land currently supporting bramble. The two triangular fields were once one, but are now separated by an access track and grown-out hedge of mature trees. They are both improved (i.e. have high nutrient status) permanent pasture and in the recent past were used for horse grazing.

[5] Petra Billings Woodland Consultancy Ltd. (2020) Lost Woods of the Low Weald and Downs – Tilley's Copse and the Wilderness Ancient Woodland Assessment

[6] Petra Billings Woodland Consultancy LTd. (2020) Forestry Commission Woodland Management Plan

3.2.1 Hovel Field north

Grassland summary

Hovel Field north is approximately 0.28 hectares of improved grassland that gets very wet in winter (see Figure 1 & Figure 6a).

One of the planning conditions for Bramble Park (to be fulfilled by Bovis Homes Ltd.), was to plant a tree belt along the northern boundary of this field to reduce the visual impact of the new development from the south. However, to develop this field into a woodland, the Parish Council planted a mixture of native trees suited to the wet conditions across the whole field and in the winter of 2019, 57 trees were planted (see Appendix 1b). There were also several self-seeded oaks here, that were left in situ or translocated to more appropriate positions within the field. Six silver birch (*Betula pendula*) were linearly planted towards the south of the field to screen the development from the residence to the south.

In early 2021, a native hedge (Figure 3, H1) was also planted towards the north of the field to provide a further visual screen, particularly from the new footpath (see below, see planting scheme see Appendix 1c and for maintenance see section 6).

Access

In the spring of 2020, a 3m wide Fittleworth stone path was laid along the northern boundary roughly parallel to the newly planted hedge, giving access from Marchants Close to Edgerley Meadow (see Figure 3). There is also a hard stand vehicular access track under the treeline along the eastern site boundary.

Condition, threats and management recommendations

Hovel Field north is wet, improved permanent pasture. It is intended that eventually, both Hovel Field north and south will become woodland, as this will help connect Tilley's Copse and The Wilderness to the wider countryside. The tree planting undertaken to date is a step towards creating a woodland, but it is likely that supplementary planting will be required to ensure woodland establishment. This could be funded through a Woodland Trust tree planting grant. The newly planted trees will require maintenance and protection from grazing until they are established. In a few years, management will be required to introduce some age-structure and encourage the ground flora into the newly created wood. Walkers tend to stay on the path through Hovel Field and therefore litter is the main threat here, although tree damage, particularly by deer, should be monitored.

3.2.2 Hovel Field south

Grassland summary

Hovel Field south is approximately 0.26 hectares of permanent pasture, which also gets very wet in winter (see Figure 1 & Figure 6b). There is a patch of creeping thistle (*Cirsium arvense*) to the south and three oaks were translocated here from Hovel Field north in the winter of 2019.

Hedgerow summary

The field is bounded by hedgerow treelines (see Figure 3, H2, H3, H4), with the southern hedge (H3) being more open with large patches of bramble and irregular tree standards, including ash. The hedgerow adjoining Edgerley Meadow (H4, see section 3.3.1) supports a notable mature oak, and includes blackthorn, hawthorn and field maple and is the only hedgerow in Hurst Meadows to support elm (see Appendix 1e). The blackthorn in this hedge, is starting to thicken with new growth extending into the field.

Access

There is currently no direct access into Hovel Field south.

Condition, threats and management recommendations

Hovel Field south, is also wet, improved permanent pasture. The intention is that this field will also eventually become tree covered, however, its pathway to woodland is undecided at present. This field is being considered

as a potential location for Forest School activities and, if selected, tree and wildflower planting may be undertaken and managed should the child-led activities lean in this direction. If not, it should be planted with trees, potentially using funding from the Woodland Trust tree planting programme and managed as Hovel Field north above. The blackthorn growing into the field is suitable for brown hairstreak butterflies, which lay their eggs on the last year's growth. If eggs are found and the hedge encroachment requires management, it should be managed in blocks to avoid cutting all the young growth at once. The ash should be assessed for ash-dieback and managed appropriately.

The elm in the hedge should be assessed for Dutch elm disease and any diseased areas removed. The elm should then be managed by trimming or coppicing to maintain young growth which is less susceptible to the disease. The spread of creeping thistle in this field should also be monitored to avoid it becoming dominant.

3.3 The ex-arable fields

Location and past management

Edgerley Meadow, Fifteen Acre and Walnut Tree Fields are located to the south-east of Bramble Park and to the north of Hurstpierpoint High Street (see Figure 1 & Figure 6c-6g).

These fields were all used for arable crops until around 2011, when the planning application for Bramble Park was submitted. Between 2011-2017, as the planning application progressed, the fields were periodically mown and the cuttings left *in-situ*. On transfer to the Parish Council in 2018, these fields comprise an abundance of coarse grasses and arable wildflowers consistent with improved, disturbed grassland (see Appendix 1d). Between 2018 and 2019 most of this area was mown to 10cm once annually (in June 2018 and September 2019) and the cuttings mulched *in-situ*. The exception was, in 2019, an 8m strip of grassland along the northern boundary of Edgerley Meadow was left uncut to provide over-wintering habitat for invertebrates and encourage tree sapling establishment. During 2020, in June and to avoid disturbing nesting skylarks, the broad-leaved dock in the western half of Fifteen Acre were strimmed and collected by hand, and in September the eastern half (2.5ha) was cut using a tractor pulled flail mower and collected. Edgerley Meadow, Walnut Tree field and the remainder of Fifteen Acre were left uncut (see Figure 4).

Wildlife observations

The tussocky grassland, particularly in Fifteen Acre, supports nesting skylarks during the early breeding season and green woodpecker (pers. obs. 2017-2020). This grassland, particularly in Edgerley Meadow, also supports small mammals and a pair of kestrels are regularly seen hunting here (pers. obs.). In each of the fields the hedgerows and treelines are mature, and most are of significant value to wildlife. These treelines, their understorey and the brambles and dogrose in the hedges form the main passerine bird breeding habitat, shelter for small mammals and reptiles and flight-lines for bats. Preliminary species lists for the grassland and hedgerows can be found in Appendix 1d and 1e.

Condition, threats and general management recommendations

As arable fields that have recently been taken out of cultivation, the species composition in Edgerley Meadow, Fifteen Acre and Walnut Tree fields is typical of ex-arable land and is not in 'favourable' condition (as described by JNCC 2004 for designated grasslands)[7]. The soil in ex-arable fields have typically been nutrient-enriched with fertiliser, the soil structure disturbed by regular, deep ploughing and the seedbank and fungal biodiversity destroyed by prolonged arable crop planting. If there is a residual wildflower seedbank, the seeds are suppressed and any seedlings that do germinate are often unable to compete with the dominant species that thrive in the high nutrient environment. This leads to tussocky grassland with a plant species composition dominated by competitive grasses and herbs often with a low grass:herb ratio. However, these ex-arable fields are still important, as they prove space for nature, have the potential to be enhanced for wildlife, add to nature recovery networks[8], intercept and store rainwater, slowing run-off and assist in climate change resilience.

[7] JNCC (2004) Standard Monitoring Guidance for lowland grass habitats, JNCC

[8] Nature Recovery Network - GOV.UK (www.gov.uk)

England has lost 97% of its wildflower meadows since the 1930s[9] and maintaining grasslands for their intrinsic wildlife value and water storage capacity is increasingly important as the pressure to reverse climate change builds.

To improve biodiversity there are a few options. The key element initially is to encourage greater structural diversity; providing a mosaic of habitats of different heights and complexity to provide more places for wildlife to live. Encouraging the treelines and hedgerows to thicken, by allowing brambles and other shrubs to grow out into the grassland, will provide nesting habitat for birds, shelter for small mammals, reptiles and amphibians, diverse microhabitats for invertebrates and more flowers, pollen, nectar and fruit. Areas of long grass are also important, providing habitat for spiders and insects, including pollinators like butterflies, moths and flies and the dense leaf litter (produced by the competitive grasses) provides habitat for small mammals, which in turn are food for birds of prey and larger mammals. Short grass and bare ground are also important for many animals that need to stay warm, like reptiles and invertebrates or that need mud to build nests, like birds and bees. Most species need a combination of these habitats and this habitat heterogeneity in turn leads to higher biodiversity.

The second element is then how to improve plant diversity (that in turn will encourage more wildlife). The most biodiverse grassland habitats have low nutrient soil, as these conditions allow more plant species to co-exist without one species dominating another. Hurst Meadows overlies slowly permeable, seasonally wet, slightly acid, but base-rich loamy and clayey soils with impeded drainage and moderate natural fertility[10]. Fertiliser application to the ex-arable fields has also further increased the soil nutrients (extent of which is unknown without a site-specific soil assessment). Reducing the nutrient levels by natural soil leaching will take many years, as clay soils comprise fine particles that hold on to their nutrients and moisture and the original seedbank is likely to have been significantly depleted, suppressed by years of cultivation, or perhaps totally lost. However, over time the soil nutrient levels in these fields will naturally drop and the seedbank could replenish eventually, if the seeds can reach here from more species-rich neutral grassland; but patience is required as this process will take tens, perhaps hundreds of years.

Species-rich neutral grassland is an unlikely near-future scenario in the Hurst Meadows ex-arable fields. However, the existing tussocky grassland holds plenty of value for wildlife, particularly if structural diversity is enhanced, for example providing habitat for small mammals and overwintering invertebrates, ant mounds that attract green woodpeckers and thistles and ragwort that provide copious amounts of pollen and nectar for invertebrates (which are all already present).

One option is to leave nature to run its course and be content with tussocky grassland, whilst the soil and seedbank recover naturally. Managing the grassland to avoid succession to woodland, and encouraging structural diversity to improve biodiversity, will still be required and additional management to reduce soil nutrient levels will speed up the natural recovery process (see cut and collect below).

An alternative, or more usually, parallel option to natural regeneration, is to replenish the seedbank by sowing a suitable native wildflower mix or planting native wildflower plugs (all seeds should be native UK wildflowers, from a local seed source if possible and not garden varieties). There are some more desirable wildflowers and grasses suited to clay soils that are reasonable competitors in higher nutrient conditions that could be sown, as demonstrated in Bellow's Nose and Buckwilly Fields (see below). Managing sown areas of wildflowers, particularly in nutrient-rich conditions, to ensure that less desirable species, such as broad-leaved dock, creeping thistle, coarse grasses and their leaf litter do not dominate is likely to require intensive management. Therefore, this approach may be best managed over small experimental areas or left to a later date, whilst managing to reduce soil nutrient levels in the meantime (see below).

If the grassland is not to succeed to woodland, then regular grass cutting or grazing by livestock is required. Large herbivores tend to be selective about where they walk, which plants they graze and how they eat them

[9] State of Nature partnership (2019) State of Nature Report, State-of-Nature-2019-UK-full-report.pdf (nbn.org.uk)
[10] Cranfield Soil and AgriFood Institute (CSAI), Soilscapes, www.landis.org.uk

(e.g. sheep nibble and cows pull); they also differ in their size and weight distribution. So, animal grazing naturally varies the sward height and creating tiny differences in microhabitats. Mowing tends to be more uniform and lacks the capacity to create these microhabitats. However, as the Meadows are well-used by dogs and their owners, mowing is currently the preferred option to delay succession (as livestock are in danger of harassment by dogs). Regular mowing is needed to prevent sapling establishment and if soil nutrient levels are to be reduced the arisings must be collected and removed from site, removing the nutrients locked in the plant biomass. To encourage greater structural diversity (i.e. long and short grass), mowing can be carried out on a rotational basis in discrete areas, dependent on the intended outcome.

As a slight aside, wild grazers are present in Hurst Meadows. Roe deer have been observed in low numbers in both the grassland and woodland areas. At low population density, deer can be sustained and are a natural asset to a healthy diverse habitat. At high grazing pressure, deer can have a negative impact on grasslands and woodlands, as they tend to eat the buds, young leaves, flowers and bark of the trees, shrubs and wildflowers being encouraged for other wildlife. This can especially become an issue in winter and early spring when other forage is in short supply. Rabbits are also present in Hurst Meadows and tend to prefer similar forage to deer.[11] However, at low population densities, rabbits provide important areas of short grass, bare ground and holes for hibernation for wildlife, particularly invertebrates and reptiles. At present, both deer and rabbit numbers in Hurst Meadows are sustainable, but should be monitored and all newly planted trees, require deer and rabbit protection guards while they establish.

Clay soils also tend to be low in organic matter, which makes the soil dense and prone to compaction and flooding, as seen in the lower-lying areas of Edgerley Meadow. However, this may lend itself to the creation of ephemeral or permanent scrapes (shallow ponds), increasing the opportunities for aquatic plants and animals and a provision for water storage. By adding this new habitat to the Meadows biodiversity would increase.

The main threat in the ex-arable fields is anti-social behaviour and nutrient enrichment through dog-fouling and litter, and soil compaction and excessive path widening through trampling by people. These all require management through public awareness, engagement and ownership. The designated grassland areas should be maintained as grassland and not allowed to succeed to woodland, as grassland habitat is as intrinsically important as woodland. The more dominant grassland species should be monitored and managed where deemed appropriate and the hedgerows maintained and enhanced.

A plan to detail the grassland management across these fields (i.e. cutting regimes and rotations) should be developed.

3.3.1 Edgerley Meadow

Grassland summary

Edgerley Meadow is approx. 4.3ha and comprises large areas of coarse grasses and wildflowers indicative of improved, disturbed grassland, including; false oat grass (*Arrhenatherum elatius*), Yorkshire fog (*Holcus lanatus*), cock's foot (*Dactylis glomerata*) and other grasses, with large patches of creeping thistle (*Cirsium arvense*) and smaller areas of fleabane (*Pulicaria dysenterica*), white clover (*Trifolium repens*), bramble (*Rubus* agg.), creeping buttercup (*Ranunculus repens*) and a small patch of nettle (*Urtica dioica,* see Appendix 1d). Edgerley Meadow slopes from east to west with the lowest point of the Hurst Meadows being approximately 30m from the western boundary (Figure 3 H4 particularly and H5). The topography makes the eastern areas of this field wetter than the other ex-arable fields, which is reflected by patches of hard and soft rush (*Juncus inflexus* and *J. effusus*).

The field edges, particularly under the beech (*Fagus sylvatica*) hedge planted along the field's eastern boundary (H6), supports other rough grassland species, such as hairy and smooth tare (*Vicia hirsuta* and *V. tetrasperma*),

[11] Rabbits are listed under the Pests Act 1954, in the context that they can cause significant damage to agricultural crops.

common and bush vetch (*Vicia sativa* and *V. sepium*), creeping cinquefoil (*Potentilla reptans*) and a patch of ground ivy (*Glechoma hederacea*).

Hedgerow summary
The beech hedge (H6) along the eastern boundary is owned by the adjoining property, Big Edgerley, and the boundary is delineated with a 6ft post and steel-mesh fence. The northern boundary hedge, is also not in Parish Council ownership, comprises mainly mature oaks with a large yew in the far north-east corner. The Hurst Meadows boundary is marked by a post and wire fence here (F3).

The hedgerow on the south-western boundary (shared with Hovel field south, H4) compromises mature trees, including several notable oaks, ash, elm, field maple, sycamore, hawthorn and blackthorn (see section 3.2.2 and Appendix 1e). Heading north, where this hedge adjoins Bramble Park it is predominantly mature blackthorn with field maple, willow and oak standards (H5).

The southern boundary (H7) comprises mature trees in the western corner and then where the treeline joins Fifteen Acre the hedgerow becomes bramble scrub with adventitious ash, blackthorn and spindle (*Euonymus europaea*), with an associated ditch. Among other birds, white-throat have regularly been heard singing in this hedge (pers. obs.).

Access
There is a path through Edgerley Meadow from Hovel Field to Fifteen Acre, that is regularly mown and has been reinforced with stone in places (see Figure 3). There is also a circular path around the field perimeter. There are plans for a cycle path route through the village, which may include connections through Hurst Meadows via Edgerley Meadow.

Management recommendations
In Edgerley Meadow it is recommended that the hedgerows and the associated scrub thicken into the field, and a woodland shaw could be allowed to develop in the south-west corner of the field (see Figure 3). This may require mowing a new circular path at the boundaries further from the existing hedges. Only when it is considered the hedges are encroaching on the grassland areas too much, should they start to be managed. As in Hovel Field south, the blackthorn in H5 should be surveyed for brown hairstreak eggs and if they are present the blackthorn should be managed in blocks, not strips.

The hedgerow boundary with Fifteen Acre field (H7) is mainly brambles with a few standard trees and presently provides the main bramble resource in the ex-arable fields. As the bramble develops in other areas mirroring this resource, this hedgerow could be replanted with a native hedge, to help strengthen the connections between the ancient woodlands and the surrounding countryside. This would need to be considered in conjunction with the results of the hydrological assessment (see section 3.1.1), as ditch management may also be required here, as the ditch is blocked. A hedgerow grant from the Woodland Trust could possibly fund the hedge planting.

As the closest field to Bramble Park and the lowest in Hurst Meadows, mature trees within the grassland of Edgerley Meadow would help diffuse the views into the new development without compromising the far-reaching views from Fifteen Acre (see section 3.3.2 & Figure 6d). Careful site selection of naturally regenerating trees or the planting of new trees are both options and both require protection from deer grazing, using either tree guards, fencing or bramble patch development (see Figure 3 and Figure 6c & 6d). Mowing would then be undertaken around these designated areas to maintain the remaining grassland. A woodland shaw could also be allowed to develop in the area within 8-10m of the northern boundary fence (F3) providing a natural boundary feature (see Figure 3).

Grassland mowing needs to be undertaken in rotation to maintain areas of long and short grass to create further structural diversity and prevent dense leaf litter accumulating across the whole field. Whilst some leaf litter is beneficial for small mammals, populations decline with too much, as it stops the ground from being warmed by the sun and supresses low, fresh grass growth (as well as seedling recruitment). Cuttings should be collected

and removed from site. Where appropriate, management to reduce the abundance of dominant species, such as broad-leaved dock, could be undertaken and its success monitored, mitigating for ground nesting birds as appropriate.

If any wildflower areas are planned, they should be towards the middle of the field on the higher ground, away from the hedgerows and the leaf litter they generate. Any wildflower seed sowing or plug planting will require careful ground preparation, regular maintenance to remove undesirable species and leaf litter, mowing annually and the cuttings collected and removed from site. Further information on meadow management can be found at www.magnificentmeadows.org.uk.

No decisions on whether scrapes are an option in Edgerley Meadow should be made until the route of the cycle path through the village is decided, as careful planning for both will be required.

Mown paths should be maintained regularly, monitored for compaction and excessive widening and managed appropriately. Anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter.

3.3.2 Fifteen Acre and Walnut Tree fields

Grassland summary

Fifteen Acre and Walnut Tree fields are approx. 9.3ha and were once separate (as shown on the 1842 tithe map[12]). However, by 1888 the Walnut Tree field boundary had been removed to create one large field (see Figure 1). For ease of reference, Walnut Tree field is defined as the area to the north of the east-west footpath dissecting the two fields, although the old field boundary extended from the south-eastern corner of Edgerley Meadow to the treeline on St George's Lane/Latchett's Lan, a few tens of metres north of the boundary with St George's Green.

From the southern corner of Fifteen Acre field, as the land slopes away to the north-west and north-east, there are beautiful, far reaching views across the ex-arable fields of Hurst Meadows. These views extend to Bramble Park, Big Edgerley, the patchwork landscape of the Low Weald and Hurstpierpoint College (see Figure 6a&b).

Similarly to Edgerley Meadow, the species composition of Fifteen Acre is indicative of improved grassland (see Appendix 1d). False oat grass is abundant and there are large patches of creeping thistle, bristly oxtongue (*Helminthotheca echioides*), ragwort (*Jacobaea vulgaris*) and rose-bay willowherb (*Chamerion augustifolium*). A patch of self-seeded goat willow (*Salix caprea*) is on the higher ground near the south-eastern boundary and broad-leaved dock (*Rumex obtusifolia*), indicative of historical ground compaction, is abundant.

Walnut Tree field is similar in species composition, but with a greater abundance of finer grasses such as *Festuca rubra* and *Agrostis* species. There is less creeping thistle and broad-leaved dock, but it supports the largest patches of ragwort in Hurst Meadows[13]. Around 2011, this field was seeded with a red and white clover (*Trifolium pratense* & *T. repens*) seed-mix which is still present, mainly at the field edges.

[12] The 1842 Tithe map is available through the West Sussex County Council Records office. The 1870-1960 OS map sheets (where held) can be viewed side-by-side with modern OS maps at https://maps.nls.uk/geo/explore/side-by-side/swipe.

[13] Ragwort (*Jacobaea vulgaris*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*) broad-leaved dock (*Rumex obtusifolia*) and curled dock (*Rumex crispus*) are identified as injurious weeds to agriculture and livestock as prescribed by the Weeds Act 1959. Ragwort, creeping thistle and spear thistle also provide a greater nectar and pollen resource than many other wildflowers, see Hicks DM, Ouvrard P, Baldock KCR, Baude M, Goddard MA, Kunin WE, et al. (2016) Food for Pollinators: Quantifying the Nectar and Pollen Resources of Urban Flower Meadows. PLoS ONE 11(6): e0158117. doi:10.1371/journal.pone.0158117

Hedgerow and tree-line summary
The fields are bounded by species-rich hedgerows of mature trees and shrubs, including several notable mature oaks and a notable hornbeam hedge (Figure 3, H7-H15).

The treelines along Ladies Walk (H14) and H15, which are currently owned and managed by third parties, include, field maple, sycamore, sweet chestnut (*Castanea sativa*), hazel, hawthorn, beech, ash, goat willow, blackthorn, holly, and elder (*Sambucus nigra*, see Appendix 1e).

The northern boundary comprises the bramble hedge with tree standards adjoining Edgerley Meadow (H7), which is detailed above in section 3.3.1 and the remainder (H8 & H9) is predominantly hawthorn and blackthorn and is also owned by third parties (see below).

The trees along St George's Lane/Latchett's Lane (H10) are a mixture of mature trees including English oak, ash, field maple, sycamore, hornbeam, sweet chestnut, hazel, hawthorn and willow, with a dogwood (*Cornus sanguinea*); with a bramble understorey in Fifteen Acre and notable stools of hazel and hawthorn and remnant ancient woodland flora in the lane. The lane is sunken with steep banks that support among other species, bluebells, wood anemone and wood melick (*Melica uniflora*). Birds are abundance here and it is an important wildlife corridor. There is a stock-proof fence along the western boundary of H10 in Fifteen Acre and Walnut Tree Fields.

The boundary with St. George's Green comprises a notable hedgerow of old, grown-out hornbeam coppice (H11, see section 3.5.2), and the boundary of The Millennium Garden supports among other trees and shrubs, mature horse chestnut, sycamore and lime (*Tilia x europaea*), that were probably planted as part of the garden design and some are notable for their age and stature (H12-13, see section 3.5.1).

Land ownership and management
The Parish Council own and are responsible for the management of the hedgerow between Fifteen Acre and Edgerley Meadow (H7), the treeline boundary with St George's Lane/Latchett's Lane (H10) and the treeline boundaries with St George's Green and The Millennium Garden (H10-H13).

The hawthorn and blackthorn hedge along the northern boundary of Walnut Tree Field is owned by Big Edgerley (H8). The rest of this hedge (H9), the PRoW (6m strip) to the south of H9 and H8 and access rights over the PRoW to the south of H7 (also a 6m strip) are owned by one landowner, which is currently Mr. Houghton (see Figure 3). The treeline to the west of Fifteen Acre (H15) and the strip of PRoW to the east of it are also owned by Mr. Houghton. An agreement with the Parish Council states that the 6m strip of PRoW to the south of H7 is to be kept clear of encroaching vegetation to allow vehicular access to the metal gate to the west. In practice, the Parish Council mows the PRoW from St George's Lane/Latchett's Lane to the access point to Trinity Road south of H15, by the telecommunications mast (see Figure 3, Figure 6h&6i and section 6).

Access
There is a circular path around the perimeter of Fifteen Acre and Walnut Tree field and a few paths through them. Access points are located at Trinity Road (west, by Hurstpierpoint Health Centre) and Edgerley Meadow (north), with two gates from St George's Lane/Latchett's Lane (north-east and east), another from St George's Green (south-east) and two in The Millennium Garden to the south (see Figure 3), a few metres of the path by some of these access points have been reinforced with stone to maintain their integrity.

Management recommendations
Hedgerows and treelines
The species-rich sunken lane of St George's Lane/Latchett's Lane (H10) is an important wildlife corridor and the health and safety of the trees here should be checked regularly (particularly in relation to ash dieback) and managed accordingly. It may be appropriate to sensitively re-coppice some of the hazel and any other notable coppice stools here to ensure tree regeneration and a greater amount of light to the lane banks and its remnant ancient woodland flora. The scrub under these trees in Fifteen Acre and Walnut Tree Field should be allowed to thicken and only managed when it encroaches too far into the grassland.

The management of the treelines in St George's Green (H11) and The Millennium Garden (H12-13) are detailed in sections 3.3.1 and 3.5 respectively. The shrub layer next to these boundaries in Fifteen Acre should also be allowed to thicken too (and managed as above). The grassland to the east of Ladies Walk should be allowed to develop into a woodland shaw, eventually with mature trees. This will extend the thickness of Ladies Walk increasing its value as a woodland corridor and provide additional woodland shaw habitat within Hurst Meadows.

To further improve the connectivity of the Hurst Meadows ancient woodlands (see sections 3.1.1 & 3.1.2) mowing in Walnut Tree field could cease to allow this area, or part of it, to develop into a woodland shaw and eventually woodland (see Figure 3). Alternatively, it could be planted with a suitable mix of native trees (locally sourced if possible), funded locally or with a Woodland Trust woodland grant. Any planted trees would require protection from deer grazing.

Where possible, close relations with the owners of the other boundary hedges should be maintained to ensure appropriate management to enhance wildlife value.

Grassland
As in Edgerley Meadow, grassland mowing in Fifteen Acre should be undertaken in rotation to maintain areas of long and short grass to create further structural diversity and prevent dense leaf litter accumulating across the field. Cuttings should be collected and removed from site. Where appropriate, management to reduce the abundance of dominant species, such as broad-leaved dock could be undertaken and its success monitored, mitigating for ground nesting birds as appropriate.

If any wildflower areas are planned, they should be towards the middle of the field, away from the hedgerows. Any wildflower seed sowing or plug planting will require careful ground preparation, maintenance, mowing annually and the cuttings collected and removed from site[14].

The PRoW along the north-west and northern boundaries (adjacent to H7-H9 & H15) is to be maintained as grassland suitable for vehicular access (see Figure 3 & Figure 6h-6i). Mown paths should be maintained regularly, monitored for compaction and excessive widening and managed appropriately.

Fifteen Acre and Walnut Tree fields are the fields most used by dog-walkers and anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter.

3.4 Market garden fields and the Heritage Orchard

Location and past management
Bellow's Nose and Buckwilly fields are nestled between Fifteen Acre field to the west, College lane to the east and are north of the housing development at Layton Fields. The houses in Layton Fields have views into both fields and the houses on the western side of College lane have views into Buckwilly.

Historically, these fields were managed as market garden and orchard. In 2015/16, areas of both Bellow's Nose and Buckwilly fields were landscaped with the excavated clay subsoil from an attenuation pond built on the Layton Fields development. These areas were subsequently sown with a perennial wildflower and grass seed mix (although the exact mix is unknown the species list in Appendix 1d suggests that it is a meadow mix for clay soil). Buckwilly field is also the location of the newly planted Hurst Meadows Heritage Apple Orchard (see section 3.4.2.1). Preliminary species lists for the grassland and hedgerows in these fields can be found in Appendix 1d and 1e. The grass in these fields has been cut annually, usually in late summer, and the cuttings collected.

[14] For further information on meadow management see www.magnificentmeadows.org.uk

3.4.1 Bellow's Nose field

Woodland shaw and scrub summary

Bellow's nose is approx. 1.3ha and was improved pasture, but most of the field has now developed into secondary woodland through natural succession, after being left unmanaged for over twenty years (see Figures 1,3 & 6j). The field is fenced along the western boundary by a stock-proof fence.

Woodland summary

The woodland is a mixture of among other species, oak, silver birch, cherry, hawthorn, blackthorn and goat willow (see Appendix 1e). The woodland provides foraging and nesting habitat for many passerine birds including, blue tits, great tits, goldfinches, robin, thrush and pigeons and foraging opportunities for woodpecker, corvids and birds of prey (pers. obs.). A nightingale has been heard passing through here in the spring (pers. comm.). In the south-west corner of the field, immediately north of Layton Fields an area of south-facing bramble and scrub is developing, which is improving the structural diversity in this location (see Figure 3).

Grassland summary

There are two paths, one runs from north to south through the centre of the field and the other from east to west to the south. Approximately 10-15m of land around the paths was covered in the sub-soil from the attenuation pond dug in Layton Fields and sown with a wildflower and grass seed mix (see Figures 3 & 6j-k). This covers a culvert placed under the path in this location from the attenuation pond to the ditch on the northern boundary (D1). The seed mix has taken well and led to a native, perennial wildflower-rich grassland, intermingled with species that have germinated from the original seedbank. The abundant wildflowers are knapweed (*Centaurea nigra*), ox-eyed daisy (*Leucanthemum vulgare*), lady's bedstraw (*Galium verum*), wild carrot (*Daucus carota*), yarrow (*Achillea millefolium*), scentless mayweed (*Tripleurospermum inodorum*), bird's foot trefoil (*Lotus corniculatus*), broad-leaved dock (*Rumex obtusifolius*) and creeping thistle (*Cirsium arvense*) (see Appendix 1d for species list).

Boundary features summary

The field is bounded to the west by mature hazel, hornbeam and cherry coppice that lines St George's Lane/Latchetts Lane (Figure 3, H16), the ground flora is similar to the opposite side (H10) and comprises remnant ancient woodland flora (see section 3.3.2). A well-developed, grown-out hazel hedge is to the east (H17) with an associated drainage ditch beneath it (this is also the western boundary hedge of Buckwilly field, see below). Above this hazel hedge running south-east to north-west of Bellow's Nose are aerial power-lines. The hazel hedge remains below the cables, but in 2019 a tree-break was created under the cables across the field, to remove the oak trees that would eventually interfere with them. It is intended that this tree-break is maintained to avoid maintenance issues in the future.

The southern boundary comprises a post and coated-wire mesh fence with several newly planted field maple delineates the boundary with Layton Fields (see Figure 3 & 6k). A drainage ditch, the scrub associated with it and a post and wire fence form the northern boundary (D1). The drainage ditch includes the headwall to the culvert from the attenuation pond in Layton Fields.

Access

Bellow's Nose is linked to Fifteen Acre across St George's Lane/Latchett's Lane via the north-south path and links to St George's Green and the Millennium Gardens also across this lane, via the east-west path (see Figure 3). The field gets waterlogged after rain, which has led to path widening and trampling by walkers to avoid muddy areas. To address this, in autumn 2020 Fittleworth stone paths were laid to replace the mown paths to help reduce compaction and trampling of the wildflower areas here. Although the paths have reduced the off-path footfall, the issues created by the COVID 19 pandemic means that trampling is still an issue.

Condition, threats and management recommendations

The succession of trees to woodland, scrub development and wildflower planting has improved the condition of Bellow's Nose from improved pasture. It has created woodland shaw habitat, otherwise absent presently from Hurst Meadows, and the wildflower area has increased the botanical diversity (albeit artificially) and therefore the nectar and pollen resource of the grassland.

Management should include maintaining the woodland area, checking for natural regeneration of trees to create age-structure and checking tree safety where appropriate. The management of the sunken lane along St George's Lane/Latchett's Lane (H16) should mirror the opposite side (H10, see section 3.3.2) and manage tree safety and perhaps involve sensitive coppicing to ensure the notable coppice stools regenerate, whilst improving light penetration to the lane banks and the remnant ancient woodland flora it supports. The bramble scrub to the south of the trees in Bellow's Nose should be allowed to develop, as increasing the amount of scrub may encourage the nightingales to stay longer. However, this area will eventually require management to keep if from developing into mature trees or interfering with the garden fences to the south. The brambles along the shaws edges next to the paths should be maintained but cut back regularly to avoid over encroachment in to the wildflower area. The tree-break under the power-lines is to be kept clear of tall tree species that may damage the cables.

The hazel hedge along the eastern boundary is an important feature that requires monitoring to ensure that its thick structure and vigour is maintained. Sensitive coppice management will be required to rejuvenate this hedge at some point to maintain its longevity.

The extent of the wildflowers in this field is limited, therefore it is recommended that all the wildflower areas here are cut very short annually to remove all the leaf litter and the arisings collected and removed from site. This would preferably be carried out in late summer, or if a late cut isn't possible, early spring. Not cutting annually will result in leaf litter accumulating and flower species being lost, hand raking may be required to remove additional leaf litter in places.

Following a hydrological assessment, ditch management may be required along the northern and eastern boundaries, as the ditches here are blocked. The fence will require removal along the northern boundary to allow ditch access. Southern Water also has a right of access to the ditch to ensure it is clear and access the headwall and culvert from Layton Fields in this location. A well has also recently been discovered on the corner of Buckwilly Field and St George's Lane/Latchett's Lane on the boundary with Primrose Cottage. Any ditch work should be carried out sensitively and at an appropriate time of year avoiding the bird nesting season. The field maple and grassland strip next to the attenuation pond are managed by the Layton Fields management company and this area could be managed more appropriately for wildlife. The stock-proof fence between Bellow's Nose and St George's Lane/Latchett's Lane could be removed.

Anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter here.

3.4.2 Buckwilly field

Grassland summary

Buckwilly field marks the eastern boundary of Hurst Meadows. It is approximately 2.3ha and incorporates the 0.3ha Heritage Apple Orchard in the north-eastern corner (see below). The grassland in the field comprises two distinct types; to the north, there is an arch of sown wildflowers on the clay subsoil placed here following the attenuation pond excavation from the Layton Fields development, and to the south the original improved grassland (see Figure 3 & 5l).

The area of the field to the north has been planted with the same wildflower and grass seed mix as Bellow's Nose field and the species present are similar (see section 3.4.1 & Appendix 1d). There is a spoil heap in the north-west corner of the field that was inherited with the site and is presently covered in nettles. Nettles are the food plant of the peacock, red admiral and comma butterflies, which are all present in Hurst Meadows (see Figure 6n & Appendix 3). Apart from a small patch of nettles in Edgerley Meadow and another small patch to the south in Buckwilly, this spoil heap is the main nettle resource in the Meadows. In 2019, the grass cuttings collected from the field were placed here to compost, however this was not repeated and in 2020, and cuttings were removed from site. In 2019 and 2020, the area of grassland to the south of the path through Buckwilly next to Layton Fields was not mown to support over-wintering invertebrates and help establish the path route

through the field (see Figure 3). In 2020, the grassland between the orchard and the gardens in College Lane was also not mown to provide some additional structural diversity.

The southern area of Buckwilly is a mixture of grasses, including false oat grass, Yorkshire fog, cock's foot, perennial rye-grass (*Lolium perenne*), red fescue (*Festuca rubra*), sweet vernal grass (*Anthoxanthum odorata*) meadow foxtail (*Alopecurus pratensis*) and *Agrostis* species with some broad-leaved dock and creeping and meadow buttercup (*Ranunculus repens* & *R. acris*) (see Appendix 1d). In 2020, the strip between the path and the new hedgerow to the east of Layton Fields was left uncut to provide habitat for overwintering invertebrates (see Figure 3).

Several field maple have been planted in the grassland around the Layton Field development to diffuse views into the site.

Hedgerow and tree-line summary
The northern and western boundaries support mature hazel hedges that have grown out to trees, except in the far north-eastern corner where the hazel has been removed and been replaced mainly by bramble and hawthorn (the western boundary hedge being the eastern boundary hedge in Bellows Nose, see Figure 3 and section 3.4.1). The hazel trees are notable for their height, thickness and shape and the hedge for its wildlife value. Underneath these hedges in Buckwilly is a remnant ancient woodland flora that comprises occasional, primrose (*Primula vulgaris*), English bluebell, cuckooflower (*Cardamine pratensis*), dog's mercury (*Mercurialis perennis*), barren strawberry (*Potentilla sterilis*), ground ivy and lesser celandine (*Ranunculus ficaria*).

The eastern boundary comprises a post and rail fence with stock-proof mesh and garden planting of the houses on College Lane (H18). To the south of the orchard is a mature, tall beech and hornbeam hedge maintained by the homeowner (H19) and to the far south there is a linear bramble 'hedge' adjacent to the garden boundaries (H20). The southern boundary comprises a mature native treeline adjoining St George's Twitten from College Lane to Highfield Drive (H21) that is not in Parish Council ownership. In March 2019, a hawthorn and hazel hedge was planted by the Parish Council along the western boundary, bordering the gardens of the houses in Layton fields (H22 & H23). This new hedge was a planning condition for Rydon Homes following completion of the Layton Fields development.

Access
There is a mown path that meanders from Bellow's Nose, through Buckwilly to St George's Twitten that has a branch to the orchard, and a circular path around the northern field boundary to the west of the orchard. Leaving the grass longer to the north and east of Layton Fields and between the orchard and College Lane has the added advantage of dissuading walkers from using these areas.

Condition, threats and management recommendations
Buckwilly Field is in fair condition, as the sown wildflowers and presence of several grass species offer botanical diversity and a good pollen and nectar source. The hazel hedges along the western and northern boundaries are an asset to be maintained, providing shelter and nuts to wildlife and a thick boundary feature. The remnant ancient woodland flora beneath is to be encouraged, by not cutting this area in the spring and early summer, allowing the flowers to grow and set seed.

The hazel hedges require monitoring and the thick structure and vigour maintained. This may require some sensitive, light coppicing to encourage new growth. The new hedgerow planted along the south-western boundary also requires regular maintenance to ensure its successful establishment (see section 6). It is recommended that once this hedge reaches a suitable height (in about 8 years) that it is laid to approximately 1m in height to encourage a thick boundary feature.

A strip of grassland along the southern boundary (H21) should not be cut and a shrub layer and long grass allowed to develop. The long grass should be cut on rotation and the bramble managed to avoid over encroachment. The bramble along the south-east boundary (H20) should also be allowed to continue to develop, possibly into a woodland shaw, but not too far into the grassland and the encroachment managed.

Buckwilly seems the best location to concentrate effort to maintain and expand a wildflower meadow. To manage for the sown wildflowers, the central area of Buckwilly should be cut very short annually and the arisings collected (which may require hand raking to remove all the leaf litter) and the arisings remove from site.

The longer grass areas to the east, should be managed for over-wintering invertebrates and cut on rotation; dividing the area into three sections to be cut very short and the arisings collected and removed once every three years. The on-going management of the grassland between the orchard and College Lane is yet to be decided, but could also be cut on rotation leaving it long in-between cuts.

The southern central area of Buckwilly, following the cut and collect, could be scarified and yellow rattle introduced to reduce the vigour of the grasses in this area. Scarifying would need to be regularly undertaken in autumn, to maintain the yellow rattle (it is an annual and requires gaps in the canopy to germinate) and weakening the grass would encourage natural regeneration from the seedbank. Regular botanical monitoring would establish if natural regeneration was yielding desirable meadow species or whether the introduction of some native wildflower seed, perhaps using coronation meadow hay or green hay from other sources, would be appropriate. Establishing this area as wildflower meadow (using yellow rattle) should take precedence over any wildflower areas in the ex-arable fields, as this area is quieter and meadow establishment and maintenance should be more efficient. A plan to detail the grassland management (i.e. cutting regimes and rotations) should be developed.

Anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter.

3.4.2.1 The Heritage Apple Orchard

Summary

The Heritage Orchard is approximately 0.47ha and located to the north-east of Buckwilly Field (see Figure 1 & Figure 6m). It was fenced with stock-proof fencing with a plain wire top in February 2019 and planted with 38 apple varieties and 13 damson varieties in March of the same year. A mix-species native hedge was also planted along the eastern boundary of the orchard within the stock fencing (for the species mix see Appendix 1c). Since planting, one damson failed and is to be replanted in the winter of 2020/21 with a further 10 apple varieties. Ten more varieties will be planted in the winter of 2021/22, which will complete the collection (see Appendix 4).

A full schedule of the orchard and its layout is detailed in Appendix 4 and all the trees have been researched, re-discovered, collected, grafted and grown by Martin Sadler, a local expert, and his colleagues. The row of damson varieties has been planted along the western boundary (see Appendix 4a), which is traditional of orchards in Sussex. As damsons flower slightly earlier than apples, they encourage pollinators to the orchard early, in preparation for the apple blossom in May.

All the apple trees have a Sussex origin except; Bramshott Rectory, a red apple from a Rectory Garden sited just half a mile from the Sussex border. Herefordshire Russet, Golden Hills, Freckles and Cobra are modern apples created by Pomologist Hugh Ermen who had Sussex connections. The Herefordshire Russet was given to Frank Matthews, fruit tree producers in Worcestershire but grown in a field in Herefordshire and Feuille Morte is French, but was used by Cheal's of Lowfield Heath (now Crawley) to cross pollinate the very late flowering Crawley Beauty.

A small wildflower area was also sown around an existing weeping birch towards the central south of the orchard, to encourage early pollinators (for the species mix see Appendix 1c). However, this was unsuccessful and the ground here requires a little attention. The soil in this area is the original soil and not the subsoil spread from the attenuation pond excavation. The clay-subsoil sown wildflower area does extend into the northern area of the orchard and there is no shortage of wildflowers here, however some may flower a little late to assist with the orchard pollination. A temporary water bowser, which is refilled regularly has been placed to the south of the orchard to provide water for the trees during dry periods.

In the past there were two orchards in Hurstpierpoint, both planted in the 1870's at Orchard Way and Bedlam Street that comprised apples, pears and cherries. Their produce supplied Hurstpierpoint and the surrounding villages and the surplus was sold at Brighton Market. Both these orchards were cleared in the early 1950's, as the market for British fruit declined in favour of imports from Europe (Martin Sadler, pers. comm). The Heritage Orchard is an important resource for the re-discovery and conservation of local apple varieties and will improve the resilience of national collections. It will also give the community an important opportunity to engage with tree care, crop and cider production, apple pressing, our local heritage and nature.

A booklet giving further information on all the apples and damsons in the Heritage Orchard can be requested from Martin Sadler via the Parish Office[15].

Access
At present, to protect the trees as they develop, the orchard is bounded by a stock-proof fencing and a locked gate at the centre of the western boundary. The fence will be removed once the fruit trees are fully established and there is less risk of damage to them by wildlife and people.

Condition, threat and management recommendations
The orchard is in good condition as the trees health and growth are being regularly monitored and maintained by Mr. Sadler. A 1m area around each tree should be kept weed-free, while the trees establish, using weed matting and regular weed maintenance. To maintain the wildflowers within the orchard, the grass is to be mown at least annually in late summer and cuttings collected and removed from site. Following the failure of the wildflower sowing around the weeping birch, a survey of open wildflowers and their pollinators may be prudent in spring, immediately prior to the fruit trees' flowering, to assess pollinator availability. It may be that the existing wildflowers within the field draw in enough pollinators, but if not, this issue may require further consideration. The water bowser must be retained for as long as is necessary and kept full.

3.5 The Millennium Garden and St George's Green

Location and past management
The Millennium Garden and St George's Green are located between Fifteen Acre Field, Brown Twins Road and St George's Lane, to the west and east of St George's Church respectively (see Figure 1). They were both part of the garden of St George's House, owned by Colonel Charles Smith Hannington in the mid to late 1800s. St George's House is still located on Hassocks Road in Hurstpierpoint, however is now separated from the Millennium Gardens by further development.

The Millennium Garden was set up in 2000 by The St George's Millennium Garden Trust (registered charity no: 1078350) on land leased by the Parish Council (until 2060) from West Sussex County Council (WSCC) and sub-leased to the Trust. In April 2020, the management of The Millennium Garden reverted to the Parish Council and the Trust was officially dissolved, although the grassland areas are still well-managed by the Trust's volunteer group. St George's Green is also held by the Parish Council on a lease from WSCC as a reserve burial ground and the Parish Council decided that both these areas would be managed as part of Hurst Meadows from April 2020.

Preliminary species lists for the parts of the grassland and hedgerows can be found in Appendix 1d and 1e, however a full recent botanical survey is yet to be completed. Hurstpierpoint pre-school, based at the Village Centre, currently use these areas for Forest School three mornings a week during term time.

[15] office@hurstpierpoint-pc.gov.uk

3.5.1 The Millennium Garden

Summary

The Millennium Garden is 0.61 ha of planted and natural native and non-native trees, hedgerows and three grassland/wildflower areas, which are located to the south of the main footpath that runs along the garden's northern boundary (see Figures 1 & 3). There is a wooded area in the south, comprising among other species, oak, ash, sycamore, horse chestnut, field maple, silver birch, hawthorn and an understorey of laurel. The trees have been regularly safety checked and work on trees deemed unsafe was last completed in the winter of 2019.

There is a small clearing to the south-west, next to the footpath called 'Western Meadow', that has been sown with a wildflower mix and comprises a mixture of woodland and grassland species including primrose, self-heal (*Prunella vulgaris*), red campion (S*ilene dioica*) and garden scabious (*Scabiosa* spp.), with cowslips (*Primula veris*) in spring (see Figure 3 and Figure 6q). This area is cut in late summer/early autumn and the cuttings dried, collected and removed a few days later.

A short avenue of beech along the main path, leads to several apple trees among which is the 'Orchard Meadow' (see Figure 3 and Figure 6p). In 2000, this area was heavily scarified and yellow rattle sown; the resulting natural regeneration has yielded among other species, common knapweed, cat's ear (*Hypochaeris radicata*), bird's foot trefoil, creeping cinquefoil (*Potentilla reptans*), meadow and creeping buttercups. This area is now managed with a spring and autumn close cut and the cuttings are dried, collected and removed. In spring, the ground is scarified following the hay collection to create some bare ground for seedling germination (see section 6). This area has a large bramble patch on its western edge, which is good for structural diversity, but is cut back to avoid encroachment into the grassland. There is a mixed native hedge to the east, next to the neighbouring house, which is managed to a height of approximately 1.5m and there are mature trees to the south.

To the east of Orchard Meadow is 'Church Green' where there are a series of wood sculptures crafted out of the wood and stump of a Monterey Pine that had to be felled in 2016 for safety reasons (see Figure 3 & Figure 6o). This area is wooded to the south, with a mature holm oak (*Quercus ilex*), sycamore and yew, and comprises improved grassland around the sculptures, with planted snowdrops in spring and standard trees (English oak) and mature trees to the north of the path. This area is mown in spring (avoiding the snowdrops) and summer and the arisings left *in situ* to mulch.

The Gardens supports several notable trees many of them protected by Tree Preservation Orders (see Figure 5a &b). However, a full recent survey of the trees and ground flora in the garden is yet to be undertaken.

The walls of a demolished building are evident within the woodland area to the west, which are the remains of Mr Hannington's croquet hut. There is also a set of brick steps in this area up a laurel covered mound that once looked out on an ornamental lake (formerly a fishpond) to the east and views to the north and west.

Access

There is a stone path that runs from the Trinity Court entrance to the south along the northern boundary to St George's Green in the east (see Figure 3). The woodland area and brick steps are well-used by children playing and there are a few paths leading through the trees to the vicinity of the Orchard Meadow.

Condition, threats and management recommendations

The Millennium Garden has been well-managed by The Millennium Garden Trust, who had an annual management plan in place. This management plan has been adopted by the Parish Council and the management is summarised above. Full details have been transcribed into the management action plan in section 6. A better understanding of the management requirements for the Garden will be gained by the Parish Council from the Trust over the coming months.

Anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter.

2.5.2 St George's Green

Summary

St George's Green is 0.45ha of improved grassland, with mature tree standards throughout (see Figure 1 & Figure 6r). The grassland is maintained relatively short and amongst the grass supports flowers, such as daisies (*Bellis perennis*), buttercups and self-heal that can survive in the short sward. There are mature trees as standards within the grassland and this area is well-used by community particularly during drier months.

The Green is bounded by a mature treeline from the vehicular access gate on the southern boundary to the steps to the east on St George's Lane. This treeline is owned by West Sussex County Council, but the Parish Council picks up the management here. There is a flint wall from the pedestrian gate on the southern boundary to just east of the vehicular access gate, this wall continues along the western boundary of the Green around the boundary of St George's Church (now a local residence).

A recent full botanical assessment of the area has yet to be undertaken.

Access

There are two paths through St George's Green, one is a continuation of the path from The Millennium Garden to the gate onto St George's Lane and the other runs along the northern boundary under the hornbeam hedge to steps down to St George's Lane. These steps are interesting in that they have a 5,4,3,2,1 step pattern from top to bottom. These paths, particularly through The Millennium Garden, are well-used routes. As un-made paths they pitted and puddled in winter and therefore in 2020, both paths were laid with Fittleworth stone to aid access to the village. There is a vehicular access gate towards the end of the flint wall on the southern boundary.

Condition, threats and management recommendations

St George's Green has been managed as amenity grassland for many years. A full assessment of the area is yet to be undertaken, however preliminary recommendations would be to leave some areas of grass longer between cuts, particularly in May and June, with perhaps only certain areas being regularly cut short and some areas only being cut in late summer/early autumn. This will leave grassland areas short for use by the community and longer areas to encourage greater diversity of wildflowers.

In 2019, a few trees were removed for safety reasons and these could be replaced with small native species, such as rowan (*Sorbus aucuparia*) in sunny, and guelder rose (*Viburnum opulus*) or hazel in shadier, areas. The remaining trees should continue to be managed for safety. The area around the gate to St George's Lane requires consideration, the ferns in this shady location could be left to flourish.

Anti-social behaviour should be monitored and public engagement enhanced to limit the impact of dog-fouling, compaction and litter.

4. Protected species and relevant legislation

Hurst Meadows supports habitats suitable for species that are legally protected in the UK. Therefore, to avoid committing an offence under this legislation, they require particular consideration well before any proposed habitat management activities commence. This may require species-specific surveys, mitigation and possibly licence requirements to be put into place prior to habitat management being undertaken.

Below is a summary for the protected species thought to be relevant for Hurst Meadows. The Wildlife Trusts website also provides useful information on other UK legislation that may be relevant to certain management activities - https://www.wildlifetrusts.org/uk-wildlife-law.

4.1 Badgers

In Wilderness Wood, there is a large active badger sett, with several well-used entrances and paths. Badgers and their setts are protected under the Protection of Badgers Act 1992, so care must be taken not to harm the badgers or disturb their setts during any woodland management activities.

Badgers (*Meles meles*) are the UKs largest land predator and live in family groups, in complex underground setts. They are nocturnal, opportunistic omnivores – active at night and often foraging at dusk and dawn, feeding on a wide variety of insects (mainly earthworms), fruits and berries; although they will eat smaller mammals, birds and eggs.

Tunnels and chambers can be up to 50m away from sett entrances; therefore any activities close to a sett (i.e. within about 30m) should be avoided where possible. Extra care should be taken during the breeding season (1 December to 30 June inclusive), where noises and vibrations over and above those the badgers are used to could disturb mothers and cubs below ground.

If disturbance to the sett is unavoidable, reference should be made to Natural England's guidance on working near badgers and any survey, mitigation and licensing requirements put into place before any work is undertaken. [16,17]

4.2 Bats

The trees in Hurst Meadows are suitable for roosting bats and the woodlands, hedgerows and grasslands are all suitable foraging habitat. In 2012, low numbers of common and soprano pipistrelle (*Pipistrellus pipistrellus* and *P. pygmaeus*), *Myotis* species and a noctule (*Nyctalus lasiopterus*) were recorded foraging along the hedgerows. However, a detailed bat survey has yet to be undertaken.

There are 18 species of bat in the UK, all of which eat insects and are mostly active at night, dawn and dusk. They need a well-connected, mosaic of habitats to be successful, using trees, buildings and caves to roost; woodland edges, waterways and hedgerows to feed and commute; and habitats where insects are abundant like woodlands, grassland and waterways to feed.

Bats and their roosts are protected under the Habitats Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). Any trees requiring work need to be assessed for bat roosts and bat potential by a suitably qualified (and licensed) individual and surveyed at a suitable time of the year. If bats are present suitable mitigation and possibly licensing will be required prior to any work commencing.[18]

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[16] Badgers and development – a guide to best practice and licensing version 12/11

[17] Natural England standing advice https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects

[18] Bat Survey Guidelines 2015 Collins, J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition), The Bat Conservation Trust, London.

4.3 Nesting birds

There is an abundance of opportunities for birds to nest in Hurst Meadows. Birds nest at different heights. Many birds nest well above-ground in trees and shrubs, woodlands and hedgerows (e.g. blackbirds, song thrush, chaffinch and greenfinch), some nest in the base of hedges (e.g. wrens, robins, dunnocks and whitethroat) and a few are ground nesting (e.g. skylark and lapwing).

All nesting birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). The main season for nesting birds is around February/March to July, with the possibility of second broods in July and August. Warmer spring temperatures also mean that the nesting season has the potential to start earlier if temperatures are warm.

Habitat management work on vegetation suitable for nesting should avoid the bird nesting season and be carried out in the autumn and winter, between September and February. No work should be undertaken between March and July, unless a survey can be successfully undertaken (which is often not possible), and nesting birds are not present. Management of vegetation is also more beneficial in winter, as the plants tend to be dormant.

Birds that nest low or on the ground are more vulnerable to nest failure, due to harassment by dogs. Care should also be taken to manage disturbance by dogs in grassland and scrub from March to July.

4.4 Great crested newts

Although no great crested newts (GCN) have been recorded in the Hurst Meadow woodland ponds; during a GCN survey in 2012, they were present in ponds to the north of Edgerley Meadow. Therefore, newts are likely to be using the Meadows, particularly around Edgerley to forage and shelter. Newts use hedgerows and tree-lines and the grasslands near them to forage, commute to ponds and migrate, often hibernating in the leaf litter, soil cracks and burrows under them.

As the weather warms in February/March, adult great crested newts move from their hibernation sites, usually in woodlands and hedgerows to suitable, nearby ponds to breed. They usually leave the ponds by mid-June to forage for invertebrates on land. As the weather becomes colder in October, they become less active and 'hibernate' under stones or paving, in soil cracks, mud and compost heaps, returning to the same breeding pond in spring.

Newt tadpoles hatch about two to four weeks after their egg is laid and feed and metamorphose into juvenile newts about three months later. Some juveniles leave the pond in August/September to forage and then 'hibernate' in similar habitat to their parents and some will migrate to find new breeding ponds. Newts are long-lived, and many return to the pond of their birth when they are adults two-four years later.

Great crested newts (*Tritucus cristata*), their eggs and habitat are protected under the Habitats Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). Care should be taken during any winter work to hedgerows or other suitable habitat not to significantly disturb the leaf litter or the ground. Any hedgerow work that requires significant disturbance should be surveyed by a suitably qualified (and licenced) individual prior to work being carried out and work should be only be carried out in September/October while the newts are still active.[19] [20]

[19] GCN-Conservation-Handbook_compressed.pdf (froglife.org) Langton, T.E.S *et al.* (2001) Great crested newt conservation handbook, Froglife, Halesworth.

[20] Great crested newt mitigation guidelines (wbs.cz) English Nature (2001) Great crested newt mitigation guidelines, English Nature

4.5 Reptiles

Slow worm, grass snake and common lizard were all recorded in low numbers in Hurst Meadows a 2012 survey. However, the survey conditions were sub-optimal and numbers could well be higher, particularly with management for greater structural diversity.

To thrive, reptiles need a structurally diverse habitat with patches of scrub, long grass, short grass and bare-ground that is neither too wet or too dry. They are often associated with field edges using the hedgerows for shelter and migration and hibernating in grass tussocks, leaf litter, soil cracks and burrows. Lizards and slow worms eat ground dwelling invertebrates and grass snakes eat invertebrates, but also frogs and small mammals.

All species of lizard, snake and slow worm are protected under the Wildlife and Countryside Act 1981 (as amended). Mechanical grass cutting can harm reptiles, as cutting is usually carried out in the summer months when reptiles are still active in grassland habitats. Therefore, care should be taken to cut grass in warm weather (not early mornings or late evenings) when reptiles able to react to the vibration of the mower and move away more quickly. Vegetation should also be cut from the middle, working outwards to give animals an escape route.[21]

Hedgerow maintenance is best undertaken on warm days (not early mornings or late evenings) in September when individuals are still active and can move from under the hedges.

4.6 Dormice

In 2012, a short, one season survey for dormice, using 150 nest tubes and six survey visits was undertaken in Tilley's Copse and The Wilderness and no dormice activity was recorded. Dormice tend to prefer large woodlands with a structurally diverse understorey and thick, structurally diverse hedgerows that include hazel, honeysuckle and bramble for forage and shelter. They are notoriously difficult to record and well-managed ancient woodland can be ideal habitat. So, although the likely presence of dormice in Hurst Meadows is very low, a suitable survey has not been carried out and a remnant population cannot be entirely dismissed, so they are included here.

Hazel dormice (*Muscardinus avellanarius*) typically inhabit broad-leaved woodland, scrub and native hedgerows. They usually live in woodlands and thick hedgerows, with continuous small trees and shrubs that allows them to move around freely and safely above-ground. They also need a good food supply of flowers, insects, nuts, seeds and berries when they are active from April to September, dense foliage or nest holes in which to breed and undisturbed places to hibernate at ground level.

Dormice, their breeding sites and resting places are protected under the Habitats Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended). Surveys must be carried out by a suitably qualified (and licenced) individual, at the appropriate time of year, and if dormice are present suitable mitigation and licencing will be required prior to any work commencing.[22]

[21] Herpetofauna Workers' Manual (2003) (jncc.gov.uk) Gent, A.H., & Gibson, S.D. (eds)(1998). Herpetofauna workers' manual. Peterborough, JNCC.

[22] EN DORMOUSE HANDBOOK (4663) (cieem.net), Bright, P., Morris, P. & Mitchell-Jones, A. (2006) The dormouse conservation handbook, 2nd ed. English Nature

5. Vision and Objectives

5.1 Ancient Woodlands

The vision for the ancient woodlands in Hurst Meadows is restoring the woodlands' character, by improving the extent and age structure of desirable tree species and conserving and enhancing the woodland biodiversity while balancing community engagement and public access. Where possible, landscape connectivity with other woodland will be improved.

Objectives:

1. Restore the ancient woodland character, including improving the age structure of the trees, encouraging the spread of the desirable ancient woodland ground flora and conserving the woodland archaeology.
2. Conserve and enhance the woodland biodiversity by improving the variety, extent and quality of wildlife habitat, including retaining deadwood where it is safe to do so.
3. Manage public access to limit wildlife disturbance and other detrimental impacts on the woodland biodiversity.
4. Improve local landscape connectivity.
5. Monitor progress by regularly surveying and recording indicator species and habitats.
6. Encourage community engagement in survey, monitoring and conservation management of the woods.

5.2 Grasslands

The vision is to create a peaceful space for nature, where wildlife is given a home by enhancing structural and biological diversity, whilst balancing public access and maximising community engagement.

Objectives:

1. Enhance the grassland biodiversity by creating greater structural diversity, encouraging greater plant diversity and improving habitat heterogeneity.
2. Maintaining and enhancing the quality, longevity and connectivity of the hedgerows and increasing their extent.
3. Improve landscape character by diffusing views into Bramble Park and retaining views across the Low Weald.
4. Balancing community access and enjoyment with wildlife protection and enhancement.
5. Monitor progress by regularly surveying and recording indicator species and habitats.
6. Encourage community engagement through wildlife surveying, monitoring and conservation management.

5.3 Orchard

The vision is to create a heritage orchard, conserving Sussex apple varieties and their genetic resources now and for the future, whilst engaging the community in orchard management, apple production, preserving old traditions and creating new ones.

Objectives:

1. Conserve as many Sussex apple varieties as possible, within the space and resources available.
2. Appropriately manage the fruit trees to ensure they successfully establish, mature and bear fruit.
3. Encourage community engagement through orchard management and event participation.

5.4 Public awareness, engagement and access

The vision is to engage the local community by effective and regular communication, raising awareness, promoting a connection with nature and providing access and enjoyment in balance with wildlife protection and enhancement.

Objectives:

1. Enabling inclusive access for all.
2. Enable connections with nature and other members of the community, by organising guided walks that among other things, foster a connection with nature, communicate management objectives, introduce species identification skills and an understanding of habitat management.
3. Encourage community engagement, ownership and understanding through monitoring surveys and conservation management tasks.
4. Connect with local nurseries and schools to provide a space for outside learning, whilst balancing the needs of the wildlife and providing a peaceful environment.
5. Raising awareness of detrimental impacts on wildlife and encourage ways to minimise these through ownership and understanding.

6. Management Action Plan

Below is listed management principles for all area of Hurst Meadows, except Tilley's Copse, The Wilderness and the woodland shaw between them, which are in a separate Woodland Management Plan (Petra Billings, 2020).

Management principles are given for each aspect of Hurst Meadows (e.g. specific hedgerows, grassland area etc.) to provide details for management to achieve the vision for the Meadows in the 2020-2025 time-period. This may include no action for the moment. The schedule of work details the actions that need to be taken and when.

All management should be undertaken at an appropriate time of year using equipment and working methods that cause the minimum disturbance to wildlife and take into consideration any surveying, mitigation or licensing requirements for protected species (information is included but not limited to that detailed in section 4).

The field boundaries and habitat areas abbreviations are marked on Figure 3.

6.1 Grants, funding and management planning

Location/Element	Description	Frequency	Timing	Notes/Target
Grant applications				
Countryside Stewardship scheme application		n/a	A.s.a.p.	Led by the Parish Office
Woodland Trust grant funds for any additional tree planting		n/a	As required	Led by the Parish Office
External Funding	Investigate grant funding opportunities	n/a	A.s.a.p.	Led by the Parish Office
Reports				
Hydrology Assessment & Ditch management plan	To be undertaken. To condition assess the drainage ditches around Hurst Meadows, explore water storage solutions and provide management recommendations.	n/a	A.s.a.p.	Led by the Parish Office
Grassland management schedule and maps	Plan for whole site, with maps, to detail specifically grassland areas and their mowing regimes and management.	n/a	A.s.a.p.	Led by the Parish Office

6.4 Site inspection monitoring and reporting

Location/Element	Description	Frequency	Timing	Notes/Target
Whole site inspection and reporting				
General status inspection	Ensure objectives set out in Management Plan are being achieved.	Every 6 months	Spring/Autumn	Identify remedial work and action.
All fencing, gates, site furniture and signage inspection	Ensure secure, safe, legible and identify vandalism issues. Ensure fence around orchard is rabbit proof	6x per year (minimum)	Every 2 months	Report graffiti, physical damage, fly-tipping, unauthorized access by dogs and people
Hardstand path inspection	Condition assess all hardstand paths	Annually	Late winter/Early spring	Assess over the winter for remedial works to be carried out during drier months.

Location/Element	Description	Frequency	Timing	Notes/Target
Tree safety inspection	Condition & safety assessment to identify any trees that may be or become hazardous to people or property.	Annually	Spring/Autumn and after extreme weather	Status of all trees inspected by suitably qualified individual. Action any tree work requirements.
Trees under powerlines safety inspection	Ensure trees under powerlines are a safe distance	Annually	Late summer	Timely inspection undertaken for tree work to be carried out in autumn.
Ash die-back management	Establish location of ash trees and potentially produce a short plan to detail extent of dieback and appropriate management.	Once	As required	Led by Parish Council Office
Ditch inspection	Check ditches are functioning as expected.	Every 6 months	Spring/Autumn	Not blocked or overflowing. Southern Water has a right of access to the ditch on the Bellow's Nose northern boundary to check it is clear and access the headwall and culvert in this location.
Invasive non-native plants inspection	Regular walkover surveys to check for invasive non-native plants	Annually	Spring/summer	
Bat and bird boxes inspection	None on site yet. However, if erected, check state of repair and status	Annually	Autumn	Bat boxes to be inspected by licenced individual.

6.5 Whole site management

Location/Element	Description	Frequency	Timing	Notes/Target
Whole site management				
Hardstand path maintenance	Following the path condition assessment in late winter, action any remedial works.	As required	Drier months	
Litter and dog waste bins	Empty and take arisings off-site. Clean and disinfect periodically	At least weekly	Throughout the year	
Litter management and fly tipping	Collect and remove from site	As necessary	As necessary	
Fencing, gates, site furniture, signs etc.	Repair/replace as necessary. Ensure signage legibility	As necessary	Any time (although see notes)	If bramble needs removing to access gates, signs etc. do not carry out until after the bird nesting season, which is Mar-Aug inclusive. Inspection for nests can be carried out for small scale work during nesting season by suitably qualified ecologist.
Tree safety work	Following the tree safety assessment, ash-dieback assessment and any associated protected species surveys, action any tree work required.	Periodically	Throughout the year, as necessary	Carried out by a qualified contractor approved by the Aboricultural Association and undertaken following any protected species assessments.
Bat surveys in relation to tree work (also see Biol. Monitoring above).	Inspections for bat roosts and/or bat emergence surveys prior to any tree work	As required	a.s.a.p.	Survey carried out by a licenced ecologist. Tree work where mitigation for bats is required is best carried out in September.

Location/Element	Description	Frequency	Timing	Notes/Target
Non-native species	Remove any non-native invasive plants. None known to date.	As necessary	As soon as possible	Some invasive species (such as Japanese knotweed) need treating with glyphosate. Arisings are classified as controlled waste and must be disposed of accordingly.
Path and signage maintenance – encroachment by trees and scrub	Cut back scrub encroachment around signs and along paths using hand power tools.	As necessary	Not during bird nesting season March - July	Keeping paths and signage clear requires sensitive management to ensure cutting is either not required or minimal from March – August and only undertaken following checks for nesting birds that confirm their absence.

6.2 Biodiversity monitoring

Location/Element	Description	Frequency	Timing	Notes/Target
Biodiversity Monitoring				
Sussex Biodiversity Record Centre searches	Discuss a service level agreement with SxBRC for a regular data search of Hurst Meadows			
Static point photography	Sequential photos taken at permanent static points across the site for comparison between years	Biannually	March/April June/July	Data has been collected since 2019. Data is stored at the Parish Office
Butterfly monitoring (UKBMS)	Two transects set up with volunteer training to record butterflies for the Butterfly Conservation UK Butterfly Monitoring Scheme (BC_UKBMS) to start Spring 2021.	Training – as necessary Survey weekly	April - September	Butterflies can be used as good habitat indicators and monitoring them can help with habitat management. UKBMS carried out by volunteer group - data stored in Butterfly Conservation UKBMS database.
Protected species survey: Bat roost assessment	Walkover survey on the ground to assess trees for their potential for bat roosts.	Once	Winter	Bat roost holes in trees are often easier to see when there are no leaves on the trees
Bat monitoring surveys	Hurst Meadows supports a high proportion of habitat suitable for bats. An understanding of how bats use these habitats will be valuable for understanding the site and any tree work requirements.	Monthly	March-November	Bats use trees as day, maternity and hibernation roost and woodlands and grasslands to forage for invertebrates. Bats and their habitat are protected under the Habitats Regulations 2010 (as amended). To be carried out a licenced surveyor or agent.
Protected species survey: Great crested newt survey	Pond survey for GCN in the Wilderness	Twice	Feb-Jun	To be carried out by a licenced surveyor or agent.
Protected species survey: Dormouse habitat suitability assessment	Walkover survey to assess the habitat suitability for dormice.	Once	Spring	To be carried out by a licenced surveyor or agent.
Botanical monitoring	'Rapid' assessment to provide snap-shot condition assessments on positive and negative plant indicator species.			Data is quantitative and can be used to assess grassland management success.
Brown Hairstreak monitoring	Annual search for brown hairstreak eggs on young blackthorn growth	Annually	Winter	Brown hairstreak eggs can be found in twig forks in winter (when there are no leaves).

6.3 Public Awareness, engagement and access

Location/Element	Description	Frequency	Timing	Notes/Target
Public awareness				
Walks and talks	Organise regular walks and talks to raise public awareness of general and specific aspects of life in Hurst Meadows.			
Volunteering				
Friends of Hurst Meadows group	Establish a conservation volunteer group to help with conservation management tasks and biological monitoring. Include work party procedures and public liability Insurance.		2021	A Friends group helps to reduce on-going management costs and builds community connection and involvement. BTCV have work party procedures and guidelines.
	Develop a volunteer action plan to management volunteers and volunteer tasks.		2021	Parish Council led potentially in partnership with Action in Rural Sussex
Community group use				
Forest school	Identify suitable sites for Forest School activities, carry out necessary risk assessments, draw up a working agreement	n/a	2021	Establishing a Forest School location allows nursery school aged children to enjoy and bond with the site.
Other Community Groups	Identify all groups that wish to use Hurst Meadows and develop working agreements that provide for the community whilst protecting the wildlife interest.	n/a	When required	Develop a co-ordinated approach to avoid environmental degradation.
Access				
Paths	New hard-stand path requirements		When required	If new hard stand paths are considered in any area, ensure hedgerow thickening has been taken into account before deciding the final location.
Cycle path route	There are plans for cycle paths through the village with connections that may include areas of Hurst Meadows .	As necessary	On-going	Externally led targets

6.6 Hedgerow and tree management

Location/Element	Description	Frequency	Timing	Notes/Target
Established hedgerows				
Hovel Field south - Western boundary (H2)	Tree line – trim trees to maintain access to track when required. Allow hedge to thicken on field side.	Annually or as required	Oct-Feb	
Hovel Field south - Eastern boundary (H4)	If required, manage blackthorn encroachment on east boundary in blocks (not linearly) to rotate cutting young growth. Leave (some) cuttings in habitat piles in sunny location near the hedge. Remove excess from site.	Section rotation –- as required	Oct or Feb	Blackthorn is the food plant of the Brown Hairstreak butterfly. Managing in blocks ensures constant young suckers are present. Leave habitat pile for hatching caterpillars and reptiles.

Location/Element	Description	Frequency	Timing	Notes/Target
Hovel Field south/Edgerley Meadow H4	Check elm for Dutch elm disease and if possible, cut out diseased wood and monitor regrowth. Diseased wood should be removed from site. Manage elm in coppice rotation of 15-20 years to maintain young shoots.	Once – then monitor 15-20 years	Winter	Dutch elm disease affects older trees, if trees can be managed to maintain young shoots the disease may be kept at bay.
Edgerley Meadow – Western boundary (H4 & H5)	Allow hedgerows to thicken and take natural form. Trim as required.	As required	Oct or Feb	Allowing the blackthorn in H5 to thicken will make some fruit inaccessible to humans, leaving it for the wildlife and provide a deeper buffer from Bramble Park.
Edgerley Meadow – Eastern boundary (H6)	Allow beech hedge (that is not in Hurst Meadows boundary) to thicken through fence. Manage encroachment into grassland as required.	As required	Oct or Feb	Allowing the hedgerow to thicken here will create a boundary feature with Hurst Meadows, improving structural diversity.
Edgerley Meadow – Southern boundary (H7 – north side)	Allow bramble hedge to thicken if site drainage allows.	-	-	This hedgerow will eventually benefit from being replanted with a species-rich hedge, once site drainage issues are resolved and bramble patches are fully established in sunny locations in other areas of Hurst Meadows.
Fifteen Acre – Northern boundary west (H7 – south side)	Manage bramble encroachment onto PRoW to maintain Mr. Houghton's access.	Annually	September	Vehicular access PRoW to be maintained
Fifteen Acre – Northern boundary east (H8 & H9)	PRoW not in Parish Council ownership to 6m from site boundary. However, Parish Council cut bramble back to hedge line (as above) and maintain short grass (see below).	Annually	September	Vehicular access to PRoW to be maintained
St George's Lane/Latchett Lane i.e. Fifteen Acre – Eastern boundary (H10) and Bellow's Nose western boundary (H16)	Check mature trees on St George's Lane/Latchett's Lane for safety and health. Consider light coppicing to improve light penetration to ground flora. Maintain deadwood where possible. Monitor ground flora to ensure ancient woodland species persist, adjust management if required. Develop hedge structural diversity in Fifteen Acre and Walnut Tree field. Allow understorey trees to thicken and bramble layer to develop. Allow long grass to develop in front of the brambles and the maintain some short grass if required before paths. Consider removing stock-proof fence this location. Trim scrub if there is any over encroachment.	Periodically, as required Once Annually	Sep-Feb Sep. Sep.	Maintain structural diversity along this boundary from mature trees-understorey-bramble layer-long grass-short grass-bare ground on paths. Stock-proof fence to be removed and scrub management undertaken outside the bird nesting season and while reptiles are still active.

Location/Element	Description	Frequency	Timing	Notes/Target
Fifteen Acre - Southern boundary (H11, H12, H13)	North of hornbeam hedge in St George's Green (H11) and Millennium Gardens boundary (H12 & H13) - Develop structural diversity. Allow understorey trees to thicken and bramble layer to develop. Allow long grass to develop in front of the brambles and the maintain some short grass if required before paths. Trim scrub if there is any over encroachment.	As required	Sep-Feb	Manage for structural diversity as above.
Fifteen Acre – Western boundary (H15)	Not in Parish Council ownership (approx. 3m from site boundary). Trees are the landowner's responsibility (PRoW cut by Parish Council).	-	-	Mow in late May to manage for broad-leaved dock. If possible, remove arisings.
Bellows Nose – Eastern boundary / Buckwilly – Western boundary (H17) Buckwilly – Northern boundary (H18)	Allow these mature hazel hedges to maintain their natural form, but retain thickness. If trimming is required maintain an A-shaped form. Trees will require, selective thinning or sensitive coppicing to allow rejuvenation. The regrow could be laid. Management of bramble and hawthorn in north-east corner to be decided.	As required	Sep	These hedges are old laid hazel hedges that have grown out to trees. They have some ancient woodland ground flora associated with them that flowers in spring. To avoid damaging this flora, any management should be undertaken in autumn.
Buckwilly – Eastern boundary (H19).	Garden boundary -not in Parish Council ownership. Remove any non-native garden plants encroaching from the gardens on College Lane (Pyracantha etc).	As required		
Buckwilly – Eastern boundary (H20).	Beech/hornbeam hedge not in Parish Council ownership. Allow beech to thicken into Buckwilly. Manage to improve structural diversity along this boundary where possible, although perhaps not to the extent of elsewhere if managing for wildflowers.	-	-	The beech/hornbeam hedge along this boundary (H20) is managed by the owner, Mr. Sayers. The buddleia by this hedge is good habitat for butterflies in summer.
Buckwilly – Eastern boundary (H21).	Maintain as a bramble bank or allow to develop into a narrow woodland shaw/hedge. Manage edge for structural diversity allowing a narrow strip of long grass (cut every two years) into short grass (cut annually).	As required	Sep	Manage bramble in September and cut grass once every two years in late summer.
Buckwilly – Southern boundary (H22)	Mature trees on St George's twitten to Highfield Drive are outside Parish Council ownership. Develop boundary structural diversity. Allow understorey trees to thicken and bramble layer to develop. Maintain areas of long and short grass. Trim bramble if it encroaches significantly into grassland areas.	As required	Sep-Feb	Maintain structural diversity along this boundary from mature trees-understorey-bramble layer-long grass-short grass-bare ground on paths.
St George's Green (H25)	Treeline on eastern boundary in WSCC ownership, but managed by PC. Manage tree health and safety and trim when necessary.	Annually	Sep-Feb	
Established trees				
St George's Green (H25)	Manage tree health and safety and trim when necessary.	Annually	Sep-Feb	

Location/Element	Description	Frequency	Timing	Notes/Target
The Millennium Garden - Tree safety assessment (included in whole site survey)	Trees will be trimmed where necessary to ensure public safety. Deadwood will be maintained when not causing a risk to welfare and safety	As necessary	Oct-Mar	If emergency tree work is required consideration should be given to bats all year and nesting birds from Mar-Aug. Consult a suitably qualified ecologist prior to work being carried out.
The Millennium Garden - Leaf management	Rake leaves from path	As required	October/ November	Mr Sayers walks through with his leaf blower.
The Meillennium Garden- Tree trimming	Trim back laurel to the west to prevent encroachment onto path.	Annually or as required	Oct-Mar	
Trees under power-lines				
Bellows Nose – Tree break under powerlines.	Height to be maintained a safe distance below powerlines by selectively removing tall tree saplings, regularly inspecting remaining shrub height and trimming/coppicing/removing shrubs when necessary.	As necessary	Oct-Mar	When work required, contact UK Power Networks to temporarily switch off power line if required while work is undertaken.
Bellows Nose & Buckwilly western boundary (H17)	Hazel hedge height to be maintained at safe distance below power lines. Maintain an 'A' shaped profile if/when trimmed. See proposed management above.	As necessary	Oct-Mar	As above
Buckwilly Field – northern boundary (H18)	Hazel hedge height to be maintained at safe distance below power lines. Maintain an 'A' shaped profile if/when trimmed. See proposed management above.	As necessary	Oct-Mar	As above
Fifteen Acre Field (H7)	Remove tall tree saplings, regularly inspect shrub height and trim into A shape profile, when necessary.	As necessary	Oct-Mar	As above

Location/Element	Description	Frequency	Timing	Notes/Target
New hedgerow and tree maintenance				
Hovel Field north – Northern boundary (H1) – new hedgerow Buckwilly Field – Western boundary (H23 & 24) – new hedgerow Buckwilly Field – Orchard – eastern boundary – new hedgerow (H25) Buckwilly Field – Field maple planted for screening Hovel Field north – trees planted for new woodland and screening Hovel Field south – Any trees planted as part of Forest School programme Any other new tree or hedge planting e.g. in St George's Green.	Tree/hedgerow maintenance (detailed below)		**For 5 years after planting**	Target of 100% plant establishment and healthy growth
	Ensure trees are growing straight, firm base into ground (avoid over compaction), adjust tree guard, stakes and loosen ties	As necessary		Ensures straight and healthy growth
	Maintain tree guards, stakes & ties. Replace as necessary.	As necessary		Prevents damage by rabbits and ensure straight growth
	Remove weeds from tree guards Remove all weeds within a 500mm radius of each plant (by hand or strimming).	3 times a year for 5 years	Mar - Oct	Weeds compete for water and nutrients, removing them prevents competition and healthy/vigorous growth
	Water thoroughly when dry and/or hot	As necessary – potentially weekly in dry periods	Summer	Encourage deep rooting by drenching plants then leaving a few days between watering
	Maintain deep mulch around base of hedge	Annually, for 2 years	November	Suppresses weeds, retains water and heat, adds nutrients
	If necessary to maintain healthy growth apply slow-release fertiliser to each plant and water.	Annually, for 2 years	Spring	Encourages healthy growth
	Remove dead wood	Annually, as necessary	March	Prevents disease and aid establishment in early stages
	Check tree health – replace dead, diseased, dying plants	Annually	November	For 2 years after planting.
	Remove stakes, ties and guards following successful establishment	3-5 years after planting	Spring	Continued healthy growth
	<u>Hedges to be trimmed or laid</u> Hedge trimming: Shorten longer shoots on top and sides. Develop 'A' shaped profile	 1-2 years after planting 3 years after planting	August or Feb/Mar	Encourages bushy growth habit
	Hedge laying	8 years after planting	Oct-Mar	Contact Sussex Hedge-laying society when the hedge plants are tall enough to lay.
Edgerley Meadow/Fifteen Acre Cycle path screening	If the cycle path route comes across the Meadows, consider new hedge planting to screen route from other Hurst Meadows users.	-	-	
New woodland establishment				
Hovel Field north	Maintain tree maintenance for 3-5 years from 2019-2024 (see maintenance regime above).	See above	See above	Establish new tree planting to start woodland development
	Consider planting new trees using a Woodland Trust grant.	-	Before 2024	The Woodland Trust provide grants for new woodland planting and may be able to supplementary plant the woodland area.
	Ensure development of varied age-structure as woodland develops, perhaps by staggering planting.			

Location/Element	Description	Frequency	Timing	Notes/Target
Wood pasture establishment and maintenance				
Edgerley Meadow	Identify desirable self-seeded sapling trees and use three approaches to protection. •Allow willow patches to develop and natural regeneration – no protection required. •Allow bramble patches to grow around base to naturally protect oak tree. •Stake and protect saplings with tree guards – use maintenance in hedgerow management to assist establishment. •Consider establishing enclosures to exclude deer and allow tree establishment within them (less favourable option).	See above None	See above	Experiment with tree establishment techniques. Choose trees that are widely spaced to ensure spreading growth. Use tree guards/stakes around trees that will screen Bramble Park. Regular grass removal in guards and around trees with guards will be essential in this location. Allow brambles to grow up in other areas around trees in desirable locations.
Woodland shaws development and maintenance				
Edgerley Meadow – northern boundary	Allow natural regeneration and tree establishment in a 8-10m strip along post and wire fence.			Woodland shaws provide screening, wildlife corridors and aid structural diversity. Monitor development and manage as appropriate once the shaw is large enough. Manage shaw edge for structural diversity ensuring some long and short grass. Trim scrub if there is any over encroachment.
Edgerley Meadow – south-west corner	Allow a woodland shaw to develop in the south-west corner. Manage blackthorn encroachment as it becomes an issue.	n/a		
Fifteen Acre – Ladies Walk (H14)	Allow hedgerow to thicken and develop into a woodland shaw with mature trees, thickening the wildlife corridor along Ladies Walk – width to be decided.	n/a		
Walnut Tree Field – north	Leave Walnut Tree field uncut to allow scrub and secondary woodland establishment. Consider tree planting in this area.	n/a		
Buckwilly Field (H21)	Consider allowing the scrub along this boundary to succeed to trees or retain as bramble bank.	n/a		
Heritage Orchard				
Fence maintenance	Maintain fence posts, mesh and wire top until 2024, ensuring there are no holes in or under it. If holes are found fill in as soon as possible. Increasing checks in the winter when damage is most likely to occur. Once trees are fully established fence can be removed.	As necessary Once	As quickly as possible 2024	Rabbits can significantly damage apple trees, as the bark is thin. Stem damage can lead to death to part or all of the tree.
New tree marker posts and labels	Each tree location in the orchard needs posts to mark their proposed locations. There are 21 trees to be planted between 2020 and 2022. Label each tree with name tags and numbers	Once As necessary	2020	11 trees are to be planted in winter 2020/21 and 10 to be planted over the winter in 2021/22.
Replacement and new tree planting	Plant replacement and new trees in appropriately sized hole, fit post & ties to ensure straight growth and install weed mat.	Once	2020	5 new trees available for 2020
General tree care	Winter pruning. Check stakes/posts are straight. Adjust ties/straps if rubbing. Remove and replace weed mats where necessary and fix with pegs. Check name labels in place, replace as necessary.	Annually	Oct-Mar	

Location/Element	Description	Frequency	Timing	Notes/Target
Watering	Ensure bowser is regularly refilled. Water trees from bowser in hot/dry weather	As required	Summer	
Disease control	Check trees regularly for fruit tree diseases and treat appropriately.	As required	Oct-Mar	Martin Sadler is managing tree health.
Weeping birch tree	Leave soil within the root protection zone (3m radius from trunk) of the Willow Tree undisturbed.			
Wildflower planting area	Seed sowing failed due to lack of ground preparation before sowing (ground was too rough). Area requires re-instatement. No sowing within 3m of weeping birch to protect roots.	Annually	May-June	This area requires a rethink. Monitor presence of wildflowers in April-May and if possible, pollinator species and abundance – if pollinator numbers adequate maintain existing wildflower areas. If inadequate consider planting native perennials suited to clay that flower earlier.

6.7 Grassland management

Location/Element	Description	Frequency	Timing	Notes/Target
Grassland areas - paths				
All grassland areas	Create a plan of mown paths Mow paths	ASAP As required		
All grassland areas	Move desire line path away from the edges, particularly in Edgerley Meadow, by mowing a new path.	Once (then monitor)	2021	Desire lines in some areas are currently too close to field boundaries; encourage walkers to move outwards by mowing new path.
Scrub encroachment into grassland areas				
All areas	Tree saplings in undesirable locations to be removed from grassland areas. Sensitively manage bramble encroachment into wildflower/grassland areas where required. Using hand tools and in small amounts (avoid bird nesting season)	Annually Annually At each site visit.	Late summer or outside bird nesting season - -	Bramble is an important habitat as it provides shelter for birds, small mammals, reptiles and invertebrates and provides an important nectar/pollen source. However, it grows quickly and can be difficult to remove from grassland areas once rooted, so requires careful management at appropriate times of year. Undertaken by Friends group or contractors
Edgerley Meadow	Manage bramble encroachment sensitively on field boundaries and centrally. Blackthorn to be managed in blocks (see above). Tree saplings with brambles to be retained in places (see below).	Annually	Late summer	Undertaken by Friends group or contractors
Fifteen Acre Field & Walnut Tree Field	Cut back brambles on field boundary (H7-H9) where encroaching on access track Allow bramble patches to develop on other field boundaries and then manage sensitively as it encroaches into the grassland.	Annually	Late summer, outside bird nesting season	

Location/Element	Description	Frequency	Timing	Notes/Target
Hovel Field north	Manage bramble patch in north-west corner and within field sensitively. Some bramble is manageable, but too much will shade other plants.	Annually	Late summer	
Hovel Field south	Manage bramble encroachment sensitively, removing brambles that are encroaching too far into the grassland, but maintaining a large patch. Monitor creeping thistle and if it becomes dominant cut annually in May and remove cuttings from site.	Annually	Late summer	To reduce the vigour of creeping thistle it should be cut whilst flowering and before seed set (when it has the most resources invested above-ground) and the cuttings removed from site.
Established wildflower grassland				
Wildflower areas: Bellow's Nose (WF1) Buckwilly field (WF2)	Cut very short to a height 5cm, arisings collected and removed from site. Rake off leaf litter by hand.	Annually	Late August	Wildflower areas need cutting and collecting annually to clear leaf litter allowing light to the soil and to reduce soil nutrients. Poss. volunteer task to maintain/enhance this area.
Millennium Gardens – Orchard Green (i.e. central area)	Closely cut using a hand-push lawn mower, rake, collect and pile cuttings on site by hand. Ground scarified following cut and collect.	Annually	Feb-Mar	Patrick Haworth and friends carry out this work on a voluntary basis. Cuttings are put under the trees to the west in various locations.
Millennium Gardens – Orchard Green (i.e. central area)	Cut and cuttings left to dry for 2-3 days to allow seeds to drop. Rake, collect and pile cuttings on site by hand.	Biannually	Jul/Aug & Late Sept/Oct	As above
Millennium Gardens – Western Meadow (under trees)	Cut once seeds have set. Cuttings left to dry for 2-3 days before collection by hand and piled on site.	Annually	Late Sep/Oct	As above
Millennium Gardens – Western Meadow	Rake up leaves and pile on site under trees.	Annually	October/ November	As above
New wildflower grassland				
Buckwilly Field (south)	Cut grass very short and hand rake leaf litter, remove cuttings from site. Consider establishing yellow rattle in this area to weaken the grass and monitor botanical diversity.	Annually	Late Summer	Poss. volunteer task to maintain/enhance this area. Contact Kathy Green.
Possibly Fifteen Acre and Edgerley Meadow	Consider identifying small areas for wildflower establishment, if decided appropriate. Management of these areas will be intensive. Establish a management plan for these areas as they will require careful and well-planned management.	When/if decided appropriate		Only select species suited to higher nutrient conditions and that can compete with more dominate species. The magnificent meadows website offers excellent advice on new wildflower meadow establishment. www.magnificentmeadows.org.uk
Rough/tussocky grassland				
Hovel Field south	Cut grassland area as required (for Forest School). Monitor creeping thistle encroachment and manage if required.	As required	As required	Cuttings could be used as mulch around any newly planted trees.
Edgerley Meadow	Grass to be cut and preferably collected, but otherwise left dependent on budget. Leaving patches for scrub/tree development (see above).	On rotation	Late summer	
Fifteen Acre	Establish cut and collect rotation for grassland areas in the ex-arable fields.	On rotation	Late summer	

Location/Element	Description	Frequency	Timing	Notes/Target
Fifteen Acre	Decide on methods of dominant species management (particularly dock). In 2020, docks were hand strimmed and cuttings removed from site.	Annually	May	To reduce dock vigour plants should be cut as they flower and before they set seed, usually by late May. If creeping thistle is to be managed the same principle applies.
Walnut Tree Field	Cut grassland areas on rotation (see above), leaving some areas long and others short.	Every 3 years	Late summer	
Walnut Tree Field-Fifteen Acre	Cut PRoW along northern boundary from St George's Lane (H9) to the access to the Health Centre (south of H15).	If possible, biannually	Spring & autumn	If possible, cut once in spring and again once wildflowers at hedgerow base have set seed in autumn. If not, once annually.
Buckwilly Field (RG1,2 & RG3)	Three rough grassland areas to be cut and cuttings collected on rotation every three years. Cut and collect RG1 in 2021, RG2 in 2022, RG3 in 2022.	Alternately every 3 years	Late August	This area is to be left for over-wintering invertebrates and to guide walkers away from Layton Fields.
Buckwilly Field	Grassland management between the Orchard and site boundary to be decided. If possible, retain long-grass and mow periodically.	Mow every two-three years?	Late summer	To be decided
Amenity grassland				
Millennium Garden – Church Green (eastern area)	Strim around the wood sculptures	Biannually	March & October	
Millennium Garden – Church Green and next to path	Cut grass with hand mower and cuttings left. All areas except Central & Western Meadows.	Biannually	June & October	Carried out by hand mower
Millennium Garden - Bulb planting	Monitor snowdrop and daffodil establishment	Annually	Spring	
St George's Green	Decide on mowing regime here. Could leave some areas longer than others. Consider not mowing some areas in April-June to encourage wildflowers.	To be decided	On-going	This area is well used by the public and some areas could/should be left short, other areas could be left longer between cuts to allow wildflowers to spread. Not mowing in May-June is recommended, or only mow every one-two months.

6.8 Ditch and water management

Location/Element	Description	Frequency	Timing	Notes/Target
Ditches				
All blocked ditches (including D1)	Following hydrological assessment to establish best water flow and storage options undertaken ditch management work.	Once	Autumn	Ditch management best undertaken outside bird nesting season and if ditch is wet, before aquatic invertebrates shelter in mud for winter.
	Maintain ditches	Annually	Autumn	As above.
Bellow's Nose field (D1)	Remove stock-proof fence to gain access to ditch.	Once	Autumn – if bramble covered	To avoid bird nesting season
Wetland scrapes				
Hurst Meadows	There are no plans for wetland scrapes at present, however following the planned ditch survey it may be prudent to increase water storage capacity on Hurst Meadows. Wetland scrapes may then be considered as a water storage and wildlife enhancement option.			

7. Schedule of Works

To be completed on approval of the Management Plan by the Parish Council Estates and Facilities Management Committee.

Location	Management Tasks	Freq. Yrs.	2021	2022	2023	2024	2025

Appendix 1: Botanical species lists

Appendix 1a: Ground flora species list for Tilley's Copse and The Wilderness

Survey was undertaken 5 May 2019 and is not comprehensive. P = present

Ground flora		Tilley's Copse	The Wilderness
Adoxa moschatellina	Moschatel		p
Ajuga reptans	Bugle		p
Alliaria petiolata	Garlic Mustard	p	p
Allium ursinum	Ramsoms		p
Anemone nemorosa	Wood anemone	p	p
Angelica sylvetris	Wild Angelica		p
Anthruscus sylvestris	Cow parsley	p	p
Arum maculatum	Lords and Ladies	p	p
Cardamine pratensis	Cuckoo flower	p	p
Chrysosplenium oppositifolium	Opposite-leaved golden saxifrage		p
Circaea lutetiana	Enchanter's nightshade		p
Conopodium majus	Pignut	p	
Equisetum sp. (probably arvense)	Marestail		p
Galium aparine	Cleavers	p	p
Geranium robertianum	Herb Robert		p
Geum urbanum	Wood avens	p	p
Glechoma hederacea	Ground Ivy		p
Hedera helix	Ivy	p	p
Heracleum sphondylium	Hogweed		p
Hippuris vulgaris	Mare's tail		p
Humulus lupulus	Common hop		p
Hyacinthoides non-scripta	Common bluebell	p	p
Iris foetidissima	Stinking Iris		p
Lamiastrum galeobdolon subsp. argentatum	Variegated yellow archangel	p	p
Lonicera periclymenum	Honeysuckle	p	p
Mercurialis perennis	Dog's Mercury	p	p
Oenanthe crocata	Hemlock Water Dropwort		p
Primula vulgaris	Primrose	p	p
Ranunculus auricomus	Goldilocks Buttercup	p	p
Ranunculus ficaria	Lesser Celandine	p	p
Ribes rubrum	Redcurrant		p
Rubus fruticosus	Bramble	p	p
Rumex sanguineus	Wood dock	p	p
Silene dioica	Red campion		p
Stachys sylvatica	Hedge woundwort		p
Stellaria holostea	Greater stitchwort	p	p
Urtica dioica	Stinging nettle		p
Veronica hederifolia	Ivy-leaved speedwell	p	p
Veronica montana	Wood speedwell		p
Vicia sepium	Bush vetch	p	p
Vinca spp.	Periwinkle		p

Pond plants			
Alisma plantago-aquatica	Water plantain		p
Callitriche stagnalis	Water starwort		p
Typha latifolia	Common bulrush		p

Continued overleaf

Grasses		Tilley's Copse	The Wilderness
Brachyopodium sylvatica	Wood false brome		p
Deschampsia cespitosa	Tufted hair-grass		p
Lolium perenne	Perennial ryegrass		p
Melica uniflora	Wood melick		p
Poa trivialis	Rough meadow grass		p
	Unidentified non-native grass		p

Sedges			
Carex pendula	Pendulous sedge		p
Carex remota	Remote sedge		p
Carex sylvatica	Wood sedge		p

Ferns			
Asplenium scolopendrium	Hart's tongue fern		p
Dryopteris dilatata	Broad buckler fern		p
Dryopteris filix-mas	Male fern		p
Polystichum aculeatum	Hard Shield fern		p

Trees in canopy, understorey and saplings			
Acer campestre	Field Maple	p	p
Acer pseudoplatanus	Sycamore	p	p
Aesculus hippocastanum	Horse chestnut		p
Carpinus betulus	Hornbeam	p	p
Corylus avellana	Hazel	p	p
Crataegus laevigata	Midland hawthorn		p
Crataegus monogyna	Hawthorn	p	p
Euonymus europaea	Spindle		p
Fragula alnus	Alder buckthorn	p	p
Fraxinus excelsior	Ash	p	p
Ilex aquifolium	Holly	p	p
Populus tremula	Aspen	p	
Prunus avium	Wild cherry		p
Prunus laurocerasus	Cherry laurel		p
Prunus spinosa	Blackthorn	p	p
Quercus robur	English oak	p	p
Sorbus torminalis	Wild service tree		p
Salix caprea	Goat willow		P
Sambucus nigra	Elder		p
Taxus baccata	Yew	p	p

Appendix 1b: Hovel Field North - tree planting scheme

There were 26 self-seeded oak saplings in total in Hovel Field north prior to the additional tree planting to fulfil the planning condition to screen Bramble Park.

Of these 26 oak saplings 8 remained in situ.
15 were moved to different locations within Hovel Field north.
3 were moved to Hovel Field south

The 57 trees planted were:

8 x Alnus glutinosa – 200 / 250 cm (Alder tree)
4 x Crataegus prunifolia - 180 / 220 cm (Hornbeam)
4 x Sorbus aucuparia (Ash substitute) – 180 / 220 cm (Rowan)
12 x Quercus robur – 180 / 220 cm (Oak)
6 x Salix cinerea – 90 / 120 cm (Grey Willow)
6 x Corylus avellana (Crack Willow substitute) – 40 / 60 cm (Hazel)
4 x Salix vimlnalis – 120 / 150 cm (Basket Willow)
7 x Tilia cordata – 180 / 220 cm (Lime)
6 x Betula pendula – 180 / 220 cm (Silver Birch)

All trees including the oak saplings were provided with a stake, a spiral guard and a mat.

Appendix 1c: Hovel Field North and Heritage Orchard hedge planting and Orchard wildflower planting

Hovel Field and Heritage Orchard hedgerow species mix:

50 % Crataegus monogyna - hawthorn
20 % Prunus spinosa - blackthorn
10 % Acer campestre – field maple
10 % Corylus avellana - hazel
5 % Ilex aquifolium - holly
5% Viburnum opulus - guelder rose

Orchard wildflower area planting:

Achillea millefolium (Yarrow)
Centaurea cyanus (Cornflower)
Matricaria chamomilla (Scented Mayweed)
Papaver rhoeas (Common Poppy)
Ranunculus acris (Meadow Buttercup)

Appendix 1d: Species lists for grassland areas

This species list shows a list of all the species recorded to date on the grassland sites within Hurst Meadows. 1 = presence during a botanical survey carried out in June/July 2020 with 4 members of the River Ouse Project botanical survey team. Where presence isn't indicated this species has been recorded on site, but outside the survey time frame. Where trees are recorded they are saplings within the grassland vegetation.

	Survey dates	02-Jul-20	02-Jul-20	22-Jun-20	08-Jul-20	08-Jul-20	28-Jul-20	28-Jul-20
Latin name	**Common Name**	Fifteen Acre	Walnut Tree	Edgerley Meadow	Bellow's Nose	Buckwilly Field	Mill. Gdns - West Mdw (wd)	Mill. Gdns - Orchard Green
Acer campestre	Field maple							1
Acer pseudoplatanus	Sycamore							1
Achillea millefolium	Yarrow	1	1		1	1		
Aesculus hippocastanum	Horse-chestnut							1
Agrimonia eupatoria	Agrimony		1					
Agrostis canina	Velvet bent	1	1			1		
Agrostis capillaris	Common bent	1	1			1		1
Agrostis stolonifera	Creeping bent	1	1	1	1	1		
Alliaria petiolata	Garlic mustard							
Alopecurus pratensis	Meadow foxtail	1				1		
Anagallis arvensis	Scarlet pimpernel							
Anemone nemorosa	Wood anemone							
Anthoxanthum odoratum	Sweet vernal grass	1		1		1		1
Anthruscus sylvestris	Cow Parsley							
Arrhenatherum elatius	False oat grass	1	1	1	1	1	1	1
Arum maculatum	Lords and ladies						1	
Bellis perennis	Daisy	1			1	1		
Betula pendula	Silver birch				1			1
Bromus hordeaceus	Soft brome	1	1	1			1?	
Buddleja davidii	Buddlea					1		
Calystegia sepium	Hedge bindweed					1	1	
Capsella bursa-pastoris	Shepherd's purse				1			
Cardamine pratensis	Cuckooflower							
Carex panacea	Carnation sedge	1						
Centaurea nigra	Common knapweed	1			1	1		1
Cerastium fontanum	Common mouse-ear	1		1	1			
Chamerion augustifolium	Rosebay willowherb	1						
Cirsium arvense	Creeping thistle	1		1	1	1		1
Cirsium palustre	Marsh thistle							
Clinopodium vulgare	Wild basil						1	
Convolvulus arvensis	Field bindweed			1		1		1
Cornus sanguinea	Dogwood				1			
Corylus avellana	Hazel				1			
Crataegus monogyna	Hawthorn							1
Crepis biennis	Rough hawk's beard	1						
Crepis capillaris	Smooth hawk's beard	1						

	Survey dates	02-Jul-20	02-Jul-20	22-Jun-20	08-Jul-20	08-Jul-20	28-Jul-20	28-Jul-20
Latin name	**Common Name**	Fifteen Acre	Walnut Tree	Edgerley Meadow	Bellow's Nose	Buckwilly Field	Mill. Gdns - West Mdw (wd)	Mill. Gdns - Orchard Green
Cynosaurus cristata	Crested dog's tail	1		1	1	1		
Dactylis glomerata	Cock's foot	1		1	1	1		1
Daucus carota spp. Carota	Wild carrot	1			1	1		
Elymus repens	Common couch	1		1	1	1		
Epilobium hirsutum	Great willowherb	1		1				
Epilobium montanum	Broad-leaved willowherb	1			1			
Epilobium parviflorum	Hoary willowherb	1						
Epilobium roseum	Pale willowherb							1
Epilobium tetragonum	Square-stalked willowherb							
Equisetum	Horsetail	1						
Euphorbia helioscopia	Sun spurge							
Festuca rubra	Red fescue			1	1	1		1
Filipendula vulgaris	Meadowsweet						1	
Fraxinus excelsior	Ash						1	1
Galium album	Hedge bedstraw				1		1	
Galium aparine	Cleavers							
Galium verum	Lady's bedstraw				1	1	1	
Geranium dissectum	Cut-leaved cranesbill	1		1	1	1		
Geranium molle	Dove's foot cranesbill						1	
Geranium robertianum	Herb robert	1		1	1	1		
Geum urbanum	Wood Avens				1		1	
Glechoma hederacea	Ground Ivy			1			1	1
Hedera helix	Ivy			1	1		1	
Helminthotheca echioides	Bristly oxtongue	1						
Heracleum sphondylium	Hogweed	1		1	1	1	1	1
Hirschfeldia incana	Hoary mustard				1			
Holcus lanatus	Yorkshire fog	1		1	1	1	1	
Hordeum murinum	Wall barley	1						
Hordeum secalinum	Meadow barley	1		1		1		
Hyacinthoides non-scripta	Bluebell							
Hypericum perforatum	Perforated St John's wort						1	
Hypochaeris radicata	Cat's ear	1				1		1
Ilex aquilfolium	Holly				1		1	
Iris foetidissima	Stinking Iris						1	
Jacobaea vulgaris	Common ragwort	1		1	1	1		
Juncus conglomerata	Compact rush			1				
Juncus effusus	Soft rush			1				
Juncus inflexus	Hard rush			1				
Lamium purpureum	Red dead-nettle							
Lathyrus nissolia	Grass vetchling	1		1				
Lathyrus pratense	Meadow vetchling	1		1				
Leontodon hispidus	Rough hawkbit				1	1		
Leontodon saxatilis	Lesser hawkbit			1				
Leucanthemum vulgare	Ox-eye daisy				1	1	1	
Lolium perenne	Perennial rye grass	1		1	1	1		

	Survey dates	02-Jul-20	02-Jul-20	22-Jun-20	08-Jul-20	08-Jul-20	28-Jul-20	28-Jul-20
Latin name	**Common Name**	Fifteen Acre	Walnut Tree	Edgerley Meadow	Bellow's Nose	Buckwilly Field	Mill. Gdns - West Mdw (wd)	Mill. Gdns - Orchard Green
Lotus corniculatus	Bird's foot trefoil	1			1	1	1	1
Lychnis flow-cucli	Ragged robin							
Malus pumila (=domestica)	Apple							1
Malva moschata	Musk mallow				1			
Matricaria chamomilla	Scented mayweed					1		
Medicago lupulina	Black medick	1						
Melica uniflora	Wood melick				1			
Mercurialis perennis	Dog's mercury				1			
Persicaria maculosa	Redshanks							
Phleum bertolonii	Smaller cats tail	1		1	1	1		
Phleum pratense	Timothy	1		1		1		
Picris hieracioides	Hawkweed oxtongue							
Pilosella aurantiaca	Fox-and-cubs					1		
Plantago lanceolata	Ribwort plantain	1			1	1	1	1
Plantago major	Greater plantain	1		1	1	1		
Poa annua	Annual meadow grass	1				1		
Poa trivialis	Rough meadow grass	1		1	1			1
Polygonium arenastrum	Equal-leaved knotgrass	1						
Potentilla reptans	Creeping cinquefoil			1		1		1
Potentilla sterilis	Barren strawberry							
Primula vulgaris	Primrose						1	
Prunella vulgaris	Self-heal	1		1	1	1	1	
Prunus laurocerasus	Cherry laurel							1
Prunus spinosa	Blackthorn			1				
Pteridium aquilinum	Bracken				1			
Pulicaria dysenterica	Fleabane	1		1		1		1
Quercus robur	Oak	1		1	1			
Ranunculus acris	Meadow buttercup	1		1	1	1	1	1
Ranunculus ficaria	Lesser celandine							
Ranunculus repens	Creeping buttercup	1		1	1	1	1	1
Rhinathus minor	Yellow rattle							1
Rosa arvensis	Field rose	1						
Rosa canina	Dog rose	1		1	1		1	
Rubus agg.	Bramble	1	1	1	1	1	1	1
Rumex acetosa	Common sorrel					1		1
Rumex crispus	Curled dock	1		1		1		
Rumex obtusifolius	Broad leaved dock	1		1	1	1	1	
Salix caprea	Goat willow							
Salix cinerea	Grey willow	1		1		1		
Sambucus nigra	Elder							
Scabiosa canescens	Scabious (non-native - garden)						1	
Scrophularia nodosa	Common figwort							
Silene album	White campion							

	Survey dates	02-Jul-20	02-Jul-20	22-Jun-20	08-Jul-20	08-Jul-20	28-Jul-20	28-Jul-20
Latin name	**Common Name**	Fifteen Acre	Walnut Tree	Edgerley Meadow	Bellow's Nose	Buckwilly Field	Mill. Gdns - West Mdw (wd)	Mill. Gdns - Orchard Green
Silene dioica	Red campion				1		1	
Sonchus arvensis	Perennial sow-thistle	1						
Sonchus asper	Prickly sow-thistle							
Sonchus oleraceus	Smooth sow-thistle	1		1				
Stachys officinalis	Betony							1
Stachys sylvatica	Hedge woundwort						1	
Stellaria graminea	Lesser stitchwort							1
Stellaria holostea	Stitchwort							
Stellaria media	Common chickweed							
Symphoricarpos albus	Snowberry							
Taxacum spp.	Dandelion	1		1	1	1		
Trifolium dubium	Lesser trefoil	1		1	1	1		
Trifolium pratense	Red clover				1	1	1	1
Trifolium repens	White clover	1		1	1	1		1
Tripleurospermum inodorum	Scentless mayweed	1			1			
Tussilago farfara	Colts-foot							
Urtica dioca	Nettle	1		1	1	1	1	
Veronica chamaedrys	Germander speedwell						1	
Veronica persica	Common field speedwell							
Veronica serpyllifolia	Thyme leaved spedwell							
Vicia cracca	Tufted vetch							1
Vicia hirsuta	Hairy tare	1				1		
Vicia sativa	Common vetch	1		1	1	1		1
Vicia sepium	Bush vetch	1					1	
Vicia tetrasperma	Smooth tare							

Appendix 1e: Hedgerow species list

Below are the results of a hedgerow survey undertaken in July 2020 by Georgina Judd, Shirley Siems, John Prodger & Frank Bidnall (all members of the River Ouse Project botanical survey team).
The trees in Hovel Field and the Millennium Gardens are yet to be included, as is all flora from St George's Green.

FA = Fifteen Acre, 1 = present, ? = where further confirmation on ID is required.

Latin name	**Common Name**	FA-Ladies Walk to Edgerley (H14 & H15)	FA-Big Edgerley to St Georges Lane (H8 & H9)	FA-St George's Lane to Millennium Gardens (H10 & H11)	FA-Millennium Gardens (H12 & H13)	Edgerley Meadow (H4, H5, H6, H7)	Buckwilly west (H16)	Buckwilly north (H17)	Buckwilly east (H18, H19, H20)	Buckwilly south (H21)	Bellow's nose (Whole wooded area)
Acer campestre	Field maple	1		1		1	1	1		1	
Acer pseudoplatanus	Sycamore	1		1	1	1			1	1	
Aesculus hippocastanum	Horse-chestnut				1						
Betula pendula	Silver birch			1							1
Buddlea davidii	Buddlea								1		
Carpinus betulus	Hornbeam			1					1		1
Castanea sativa	Sweet chestnut	1		1							1
Cornus sanguinea	Dogwood			1							1
Corylus avellana	Hazel	1		1			1	1		1	1
Crataegus monogyna	Hawthorn	1	1		1	1		1		1	
Crataegus persimilis 'prunifolia'	Cocks spur hawthorn				1						
Euonymus europaea	Spindle					1					
Fagus sylvatica	Beech	1			1				1		
Fagus sylvatica f. purpurea	Copper beech		1								
Fraxinus excelsior	Ash	1		1		1	1		1	1	
Hedera helix	Ivy	1						1			
Ilex aquilifolium	Holly	1						1	1		
Malus pumila (=domestica)	Apple										?
Prunus avium	Wild Cherry										1
Prunus cerasifera	Cherry plum					1					
Prunus domestica subsp. insititia	Bullace					?					
Prunus padus	Bird cherry	?		?							
Prunus spinosa	Blackthorn		1	1		1	1		1	1	
Pteridium aquilinum	Bracken						1	1			
Quercus robur	Oak	1	1	1		1		1			1
Rosa arvensis	Wild rose	1									
Rosa canina	Dog rose		1			1		1			1
Rubus agg.	Bramble	1	1	1	1	1	1	1			1
Salix caprea	Goat willow	1		1	1	1					1
Salix cinerea	Grey willow					1					
Sambucus nigra	Elder	1			1						
Ulmus procera	Elm					1					
Taxus baccata	Yew								1		
Tilia x europaea	Lime				1						

Appendix 2: Sussex Bryological Society 2019 survey in The Wilderness

Recorders were Brad Scott, N. Forbes, P. Howarth and G. Judd

Species	NGR	Date	Habitat
Thamnobryum alopecurum	TQ28341676	05/05/2019	Woodland floor; common
Kindbergia praelonga	TQ28341679	05/05/2019	Woodland floor; common
Brachythecium rutabulum	TQ28331680	05/05/2019	Woodland floor; frequent
Metzgeria furcata	TQ28341680	05/05/2019	Epiphyte; frequent
Hypnum cupressiforme var. resupinatum	TQ28341680	05/05/2019	Epiphyte; occasional
Rhynchostegium confertum	TQ28341679	05/05/2019	Concrete; occasional
Fissidens taxifolius var. taxifolius	TQ28341680	05/05/2019	On bank; frequent
Isothecium myosuroides var. myosuroides	TQ28291685	05/05/2019	On Ash; occasional
Mnium hornum	TQ28301685	05/05/2019	Woodland floor; occasional
Orthotrichum affine	TQ28291690	05/05/2019	Willow; common
Cololejeunea minutissima	TQ28291690	05/05/2019	Willow; frequent
Cryphaea heteromalla	TQ28291690	05/05/2019	Willow; frequent, fruiting
Hypnum cupressiforme var. cupressiforme	TQ28291690	05/05/2019	Willow; frequent
Platyhypnidium riparioides	TQ282169	05/05/2019	On stone in stream; occasional
Oxyrrhynchium hians	TQ28271691	05/05/2019	Mud by stream; occasional
Pohlia melanodon	TQ28281693	05/05/2019	On damp bank; occasional
Homalothecium sericeum	TQ28281695	05/05/2019	Epiphyte; occasional
Metzgeria violacea	TQ28321703	05/05/2019	On Ash; frequent
Orthotrichum lyellii	TQ28321703	05/05/2019	On Ash; occasional
Ulota phyllantha	TQ28321703	05/05/2019	On Ash; occasional
Zygodon conoideus var. conoideus	TQ28321703	05/05/2019	On Ash; occasional
Orthotrichum pulchellum	TQ28321707	05/05/2019	On Willow; frequent

Appendix 3: Hurst Meadows butterfly survey July 2020

Date: 12-Jul-20
Start time: 10:55
Finish time: 13:55
Start temp (degC): 20
End temp (degC): 24
Weather conditions: Warm, patchy cloud, with sunny spells, no wind
Recorder(s): Georgina Judd, Simon Judd

	Buckwilly	Bellow's Nose	Fifteen Acre	Edgerley Meadow	Hovel Field	Millennium Gardens	St George's Green
Brimstone							
Orange-tip							
Large white	8			9	4		
Small white	1	2			1		1
Green-veined white							
White spp.	1	3	10				
Large skipper							
Small skipper	2	1	1	2	1		
Essex skipper	1		1	2			
SS or ES	6	1		4	5		
Gatekeeper	21	1	6	55	4		
Marbled white	1		2	10			
Meadow brown	32	7	28	43	9	2	
Ringlet				1		1	
Small heath							
Speckled wood		2		1			2
Common blue			1				
Holly blue	3		1	3			
Small copper	1			2			
Comma						1	
Painted lady							
Peacock	10			3	1		
Red admiral	2			1			
Small tortoiseshell							
White admiral							
Cinnabar							
Mother shipton							
Silver Y						1	
Burnet (5 or 6 spot)	1						

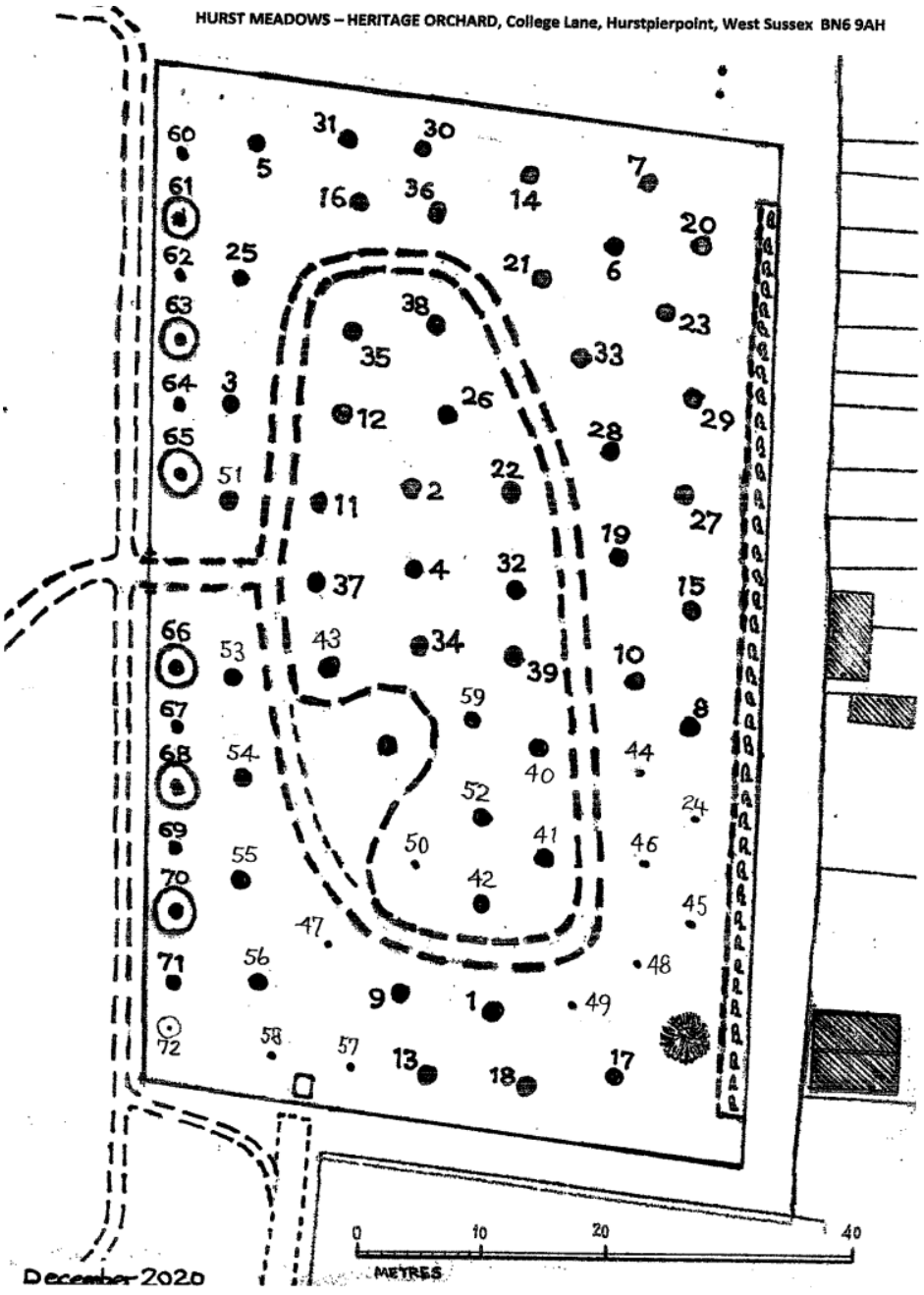
Appendix 4: Hurst Meadows Heritage Apple Orchard

Appendix 4a: Wildflower area seed mix sown in 2019

Achillea millefolium (Yarrow)
Centaurea cyanus (Cornflower)
Matricaria chamomilla (Scented mayweed)
Papaver rhoeas (Common poppy)
Ranunculus acris (Meadow buttercup)

Appendix 4b: Heritage Orchard Apple Schedule and layout plan

Numbers in the layout plan refer to the apples shown in the schedule below.
All data is correct as of January 2021 and provided by Martin Sadler.



4b: Apple Schedule in the Heritage Orchard (January 2021)

Numbers in the schedule below refer to the position in the layout plan above.

All apple trees have a Sussex origin except nos: 45, 53-56 and 59, which are all connected to Sussex (see section 3.4.2.1).

Planted before December 2020

Apples

1 ALDWICK BEAUTY	Aldwick, Bognor Regis	1969
2 ALFRISTON	Uckfield	1780
3 ASHDOWN SEEDLING	Horsted Keynes	1930
4 BLACKJACK	Shermanbury,Henfield	1818
5 BOSSOM	Petworth	1820
6 CAPPER'S PEARMAIN	Sussex via Tasmania	1826
7 COCKLE'S PIPPIN	Godstone/Felbridge	1800
8 CORONATION	Buxted	1900
9 CRAWLEY BEAUTY	Tilgate,Crawley	1912
10 CRAWLEY REINETTE	Crawley	1902
11 DALICE	Hastings	1933
12 DOCTOR HOGG	Leonardslee, Horsham	1878
13 DUCK'S BILL	Petworth	1937
14 EASTBOURNE PIPPIN	Eastbourne	1930
15 EDMUND JUPP	Horsham	1862
16 EGREMONT RUSSET	Petworth	1820
17 FIRST AND LAST	Horsham	1860
18 FORGE	East Grinstead	1830
19 GOLDEN BOUNTY	Hastings	1940
20 GOLDEN PIPPIN	Parham Park, Storrington	1629
21 GREEN CUSTARD	Crawley	1941
22 HAWKRIDGE	Hellingly	1850
23 KATH'S HANOVER HERITAGE	Hanover Sq, Brighton	1800
25 KNOBBY RUSSET	Midhurst	1820
26 LADY HOPETOWN	Bexhill	1950
27 LADY SUDELEY	Petworth	1849
28 MANNINGTON'S PEARMAIN	Uckfield	1770
29 MAREDA	Hastings	1926
30 MIKE ROWNEY	Litlington,Alfriston	1980
31 NANNY	Aldsworth, Chichester	1842
32 SALTCOTE PIPPIN	Rye	1918
33 STANMER PIPPIN	Stanmer, Brighton	1960
34 SUSSEX MOTHER	Heathfield	1884
35 TINSLEY QUINCE	Crawley	1942
36 WADHURST PIPPIN	Wadhurst	1820
37 WAX APPLE	Sussex	1826
38 ST. CECILIA	Wales/Crawley/Leicester	1900
39 CRAWLEY BEAUTY (sp)	Tilgate, Crawley	1912

Damsons

60 DAMSON MERRYWEATHER	Nottinghamshire
61 DAMSON DELMA'S	Hampshire
62 DAMSON MERRYWEATHER	Nottinghamshire
63 DAMSON FARLEIGH	Kent
64 DAMSON MERRYWEATHER	Nottinghamshire
65 DAMSON SHROPSHIRE PRUNE	Shropshire
66 DAMSON AYLESBURY PRUNE	Buckinghamshire
67 DAMSON MERRYWEATHER	Nottinghamshire
68 DAMSON DELMA'S	Hampshire
69 DAMSON MERRYWEATHER	Nottinghamshire
70 DAMSON FARLEIGH	Kent
71 DAMSON MERRYWEATHER	Nottinghamshire
72 DAMSON HURSTPIERPOINT	Hurstpierpoint, Sussex

To be planted: Winter 2020

40 KNOBBY RUSSET (sp)	Midhurst	1820
41 EGREMONT RUSSET (sp)	Petworth	1820
42 NEWTIMBER PIPPIN	Newtimber	1970
43 AMANDA GEEL	Hurstpierpoint	1930
51 CRAWLEY BEAUTY (sp)	Tilgate, Crawley	1912
52 HAWKRIDGE (sp)	Hellingly	1850
53 HEREFORDSHIRE RUSSET	Kent / East Sussex	2003
54 NUVAR GOLDEN HILLS	Kent / East Sussex	1979
55 NUVAR FRECKLES	Kent / East Sussex	1979
56 COBRA	Kent / East Sussex	2007
59 FEUILLE MORTE	Meaux, France	1948

To be planted: Winter 2021

24 KEED'S COTTAGE	Pulborough	1947
44 HURSTPIERPOINT PIPPIN	Hurstpierpoint	1975
45 BRAMSHOTT RECTORY	Liphook, Hampshire	1938
46 BRIDGEWATER PIPPIN of Cheal	Somerset/Crawley	1943
47 NEWTIMBER PIPPIN 2	Newtimber	1970
48 YELLOW DRAGON	Hurstpierpoint	2018
49 AMANDA GEEL 2	Hurstpierpoint	1930
50 ROUGEMONT	Lowfield Heath, Crawley	1888
57 MALUS SIEVERSII	Zhongar-Alatau	2020
58 MALUS SIEVERSII	-Kazakhstan	2020

Figures

Figure 1: Hurst Meadows location and habitat plan with field names

Figure 2: Hurst Meadows woodlands boundary and access features

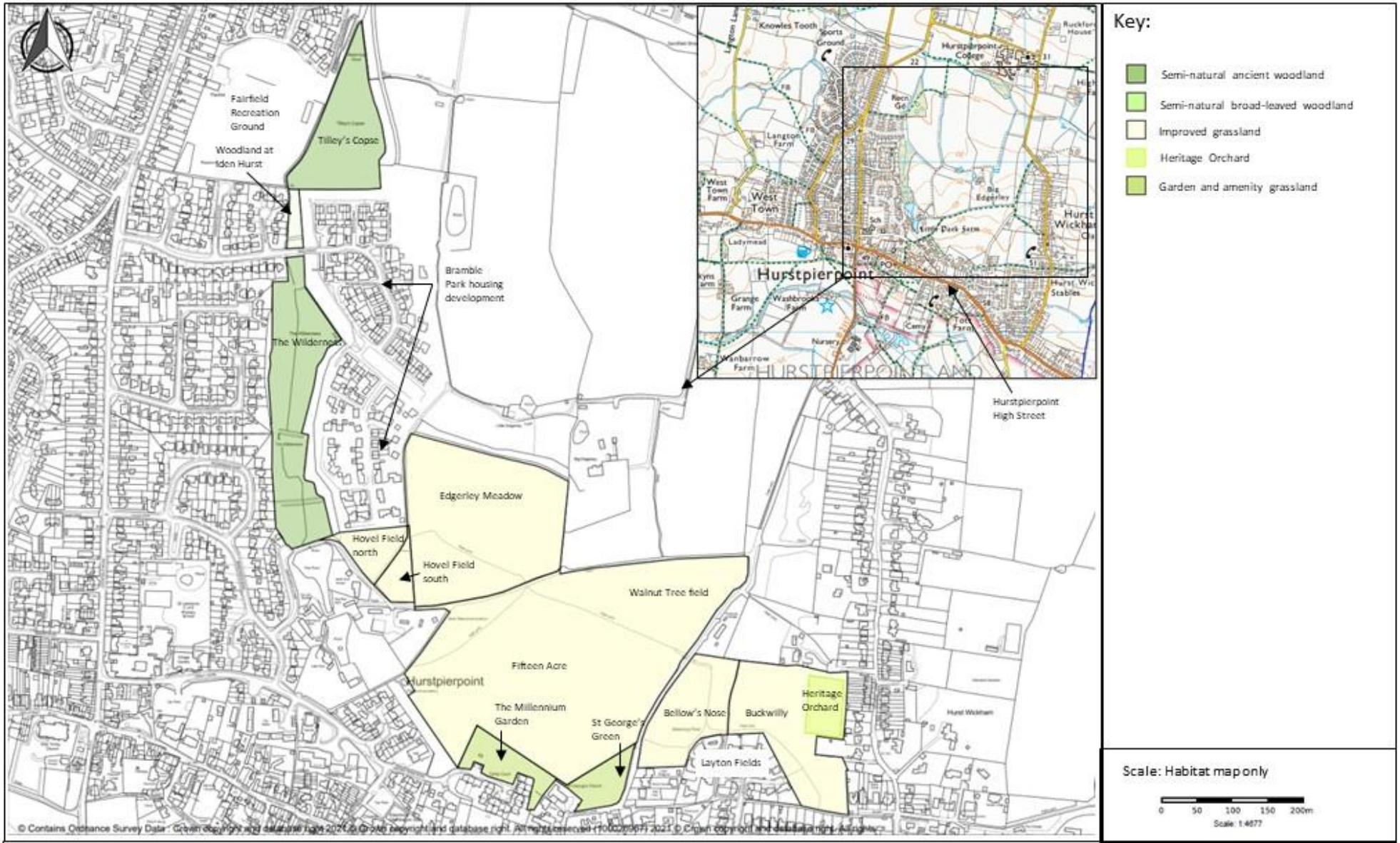
Figure 3: Hurst Meadows grasslands boundary and access features

Figure 4: Fifteen Acre Field cut and collect area 2020

Figure 5a: Hurst Meadows Tree Protection Areas and Tree Protection Orders

Figure 5b: The Millennium Garden Tree Protection Orders

Figure 6: Photos of Hurst Meadows



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HURSTPIERPOINT & SAYERS COMMON PARISH COUNCIL

ParishOnline

Figure 1: Hurst Meadows location and habitat plan

Project: Hurst Meadows, Hurstpierpoint

Title: Hurst Meadows location plan

Date: 23 January 2021

Rev: Drawing no.:

Key:

Boundaries features

Ditches & streams

Access features

PRoW access

Unofficial access

Habitats

Semi-Natural
Ancient Woodland

Semi-Natural
Broadleaved Woodland

Improved grassland

Wetland

Paths

Public Right of Way (PROW)

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Figure 2:
Hurst Meadows woodland habitats, boundaries & access features

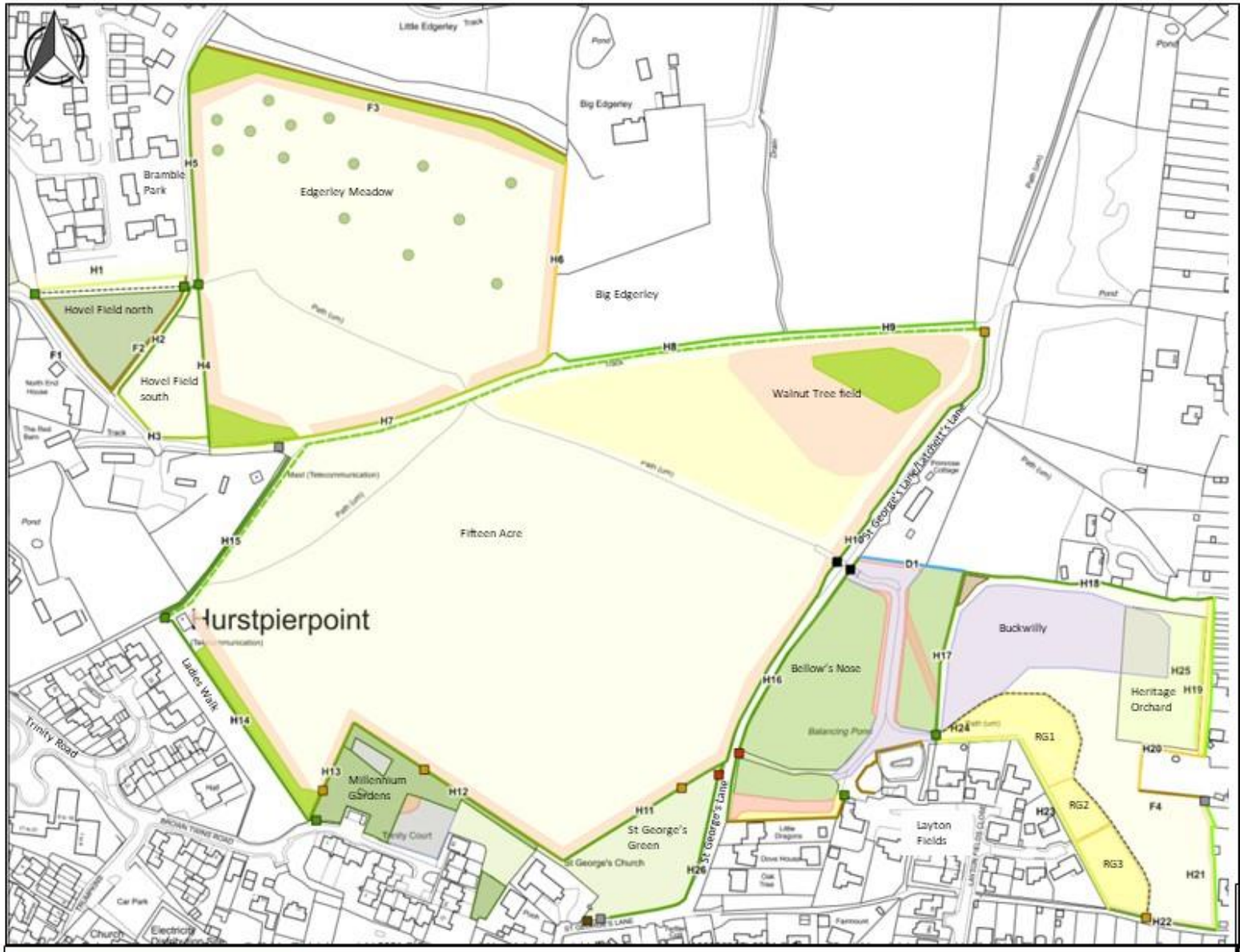
Scale 0 20 40 60 80m
Scale: 1:2339

Project: Hurst Meadows, Hurstpierpoint

Title: Hurst Meadows woodlands

Date: 23 January 2021

Rev: Drawing no:



Key:

Boundaries features

- Native mix species hedge – newly planted
- Garden boundary
- Native beech/hornbeam hedge
- Native mix species hedge
- Bramble hedge with tree standards
- Native tree line
- Mixed species tree line
- Fences
- Drainage ditch boundary feature

Access features

- Kissing gate
- Gate
- Open access
- Steps
- Vehicular access gate
- Vehicular access gate & kissing gate

Paths

- Public Right of Way (PROW)
- Unofficial paths (excluding circular – see text)

Habitats

- Improved grassland
- Orchard
- Garden
- Semi natural Ancient Woodland

Management areas

Existing
- Woodland shaw
- Wildflower areas
- Rough grassland
- Scrub
- Spoil heap
- Woodland

Aspirational
- Scrub
- Woodland shaw
- Rough grassland
- Trees/ Taller vegetation

Boundaries not in Parish Council ownership
H6, H8-H9, H14, H15, H19-H21

Approx. scale: 0 20 40 60 80m
Scale: 1:2339

HURSTPIERPOINT & SAYERS COMMON PARISH COUNCIL

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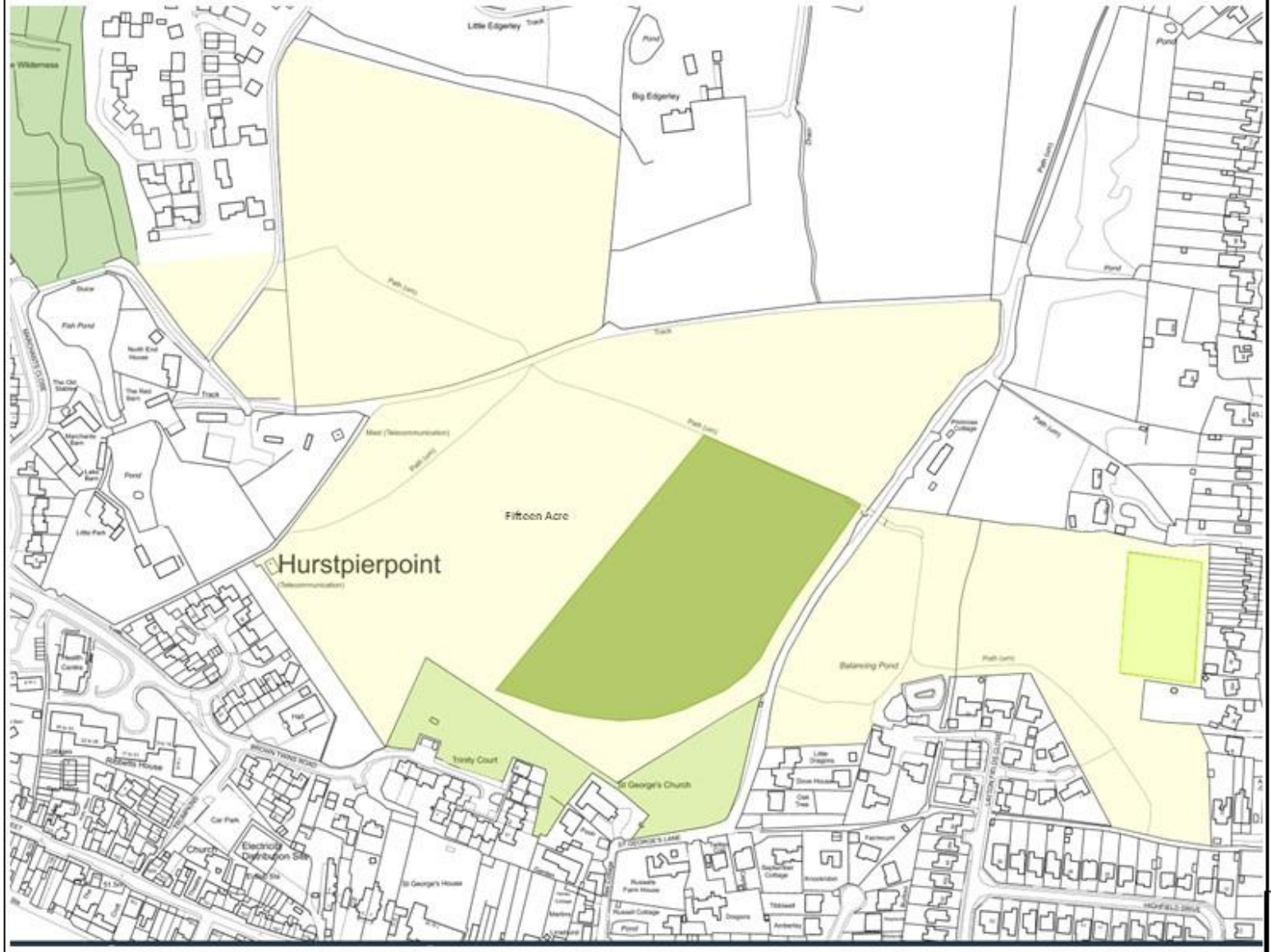
Figure 3:
Hurst Meadows grassland & management areas, boundary & access features

Project: Hurst Meadows, Hurstpierpoint

Title: Hurst Meadows grasslands

Date: 23 January 2021

Rev: Drawing no:



Key:

Habitats

- Semi-natural ancient woodland
- Improved grassland
- Heritage Orchard
- Gardens

Habitat management

- Area cut to 10cm & cuttings collected

Scale:

HURSTPIERPOINT & SAYERS COMMON PARISH COUNCIL

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Figure 4: Area of Fifteen Acre field cut & collected in 2020

Project: Hurst Meadows, Hurstpierpoint

Title: Hurst Meadows cut 2020

Date: 17 December 2020

Rev: Drawing no.:

Figure 5a

Hurst Meadows Tree Preservation Areas and Tree Protection Orders

Hurstpierpoint and Sayers Common CP

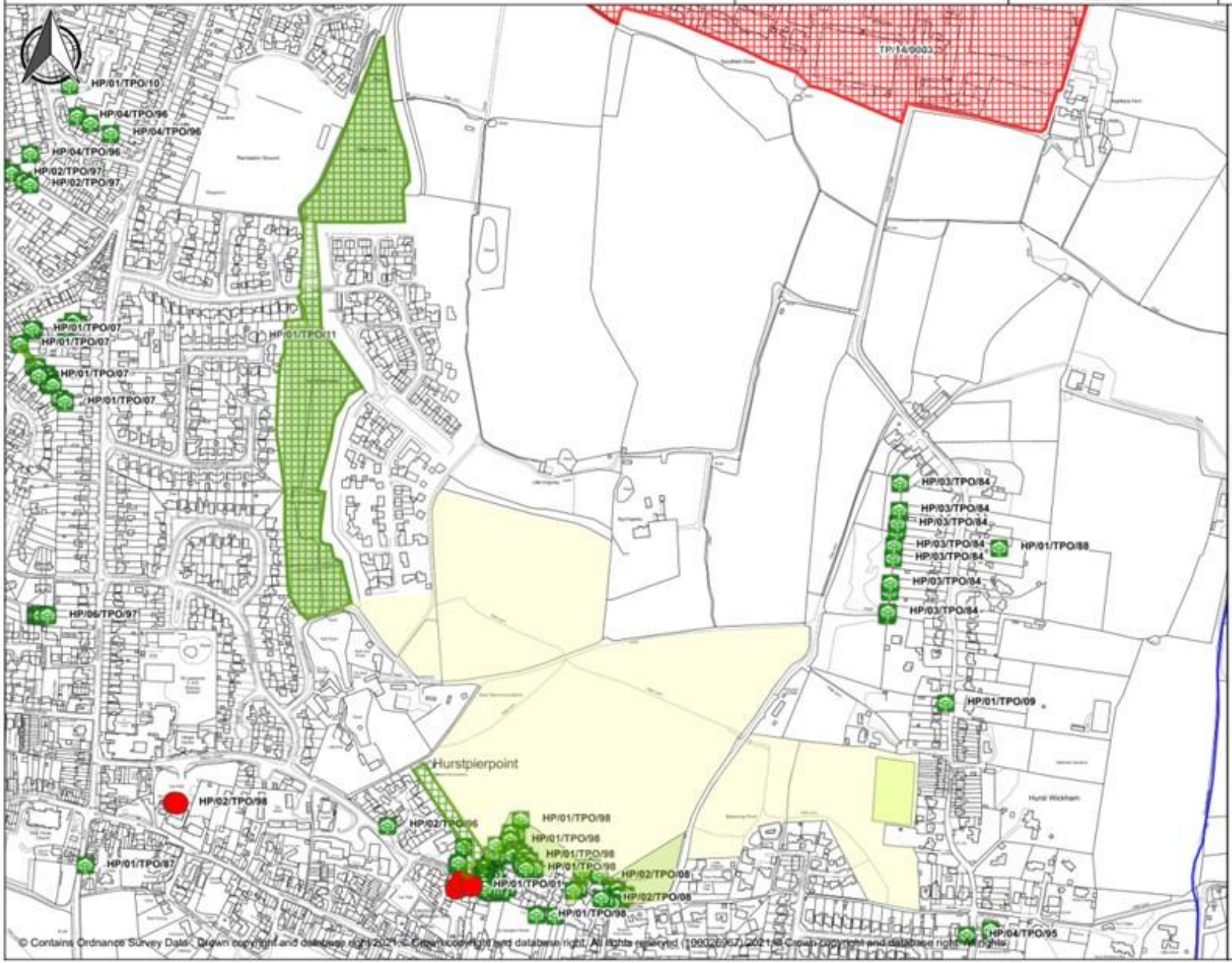
Author: . Master Profile

Date: 23/01/2021

0 50 100 150 200m

Scale: 1:4677

Parish Online



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Hurst Meadows habitats

- Semi - natural ancient woodland
- Broad-leaved woodland
- Improved grassland
- Orchard
- Garden

Tree Preservation Orders - Areas

- Confirmed Order
- Not Confirmed - Committee

Tree Preservation Order - Trees

- Confirmed Order
- Not Confirmed - Committee
- Revoked Order

Parish

Figure 5b

Hurstpierpoint and Sayers Common CP

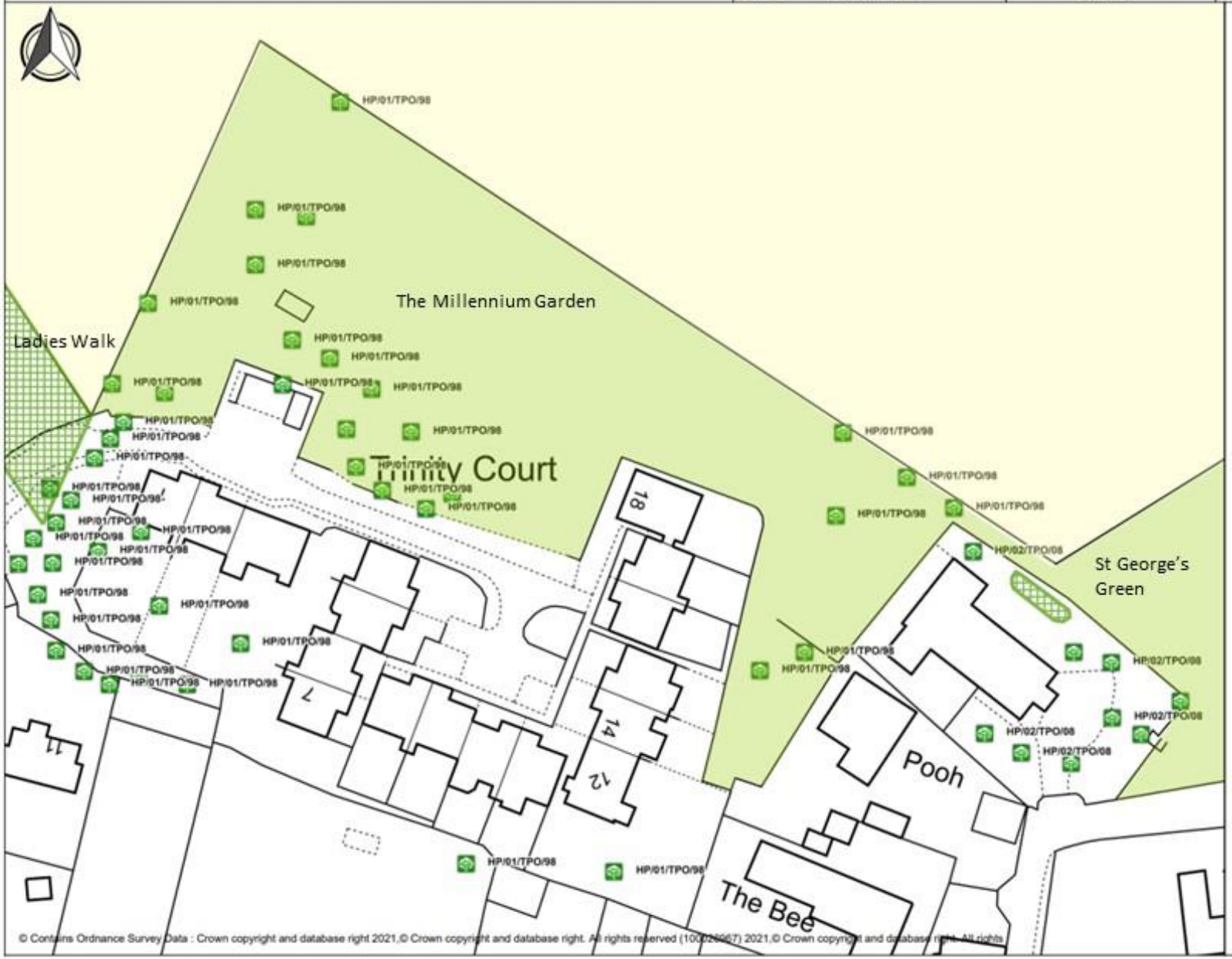
The Millennium Garden Tree Protection Orders

Author: . Master Profile

Date: 23/01/2021

0 5 10 15 20m

Scale: 1:585



Hurst Meadows habitats

- Improved grassland
- Garden

Tree Preservation Orders - Areas

- Confirmed Order

Tree Preservation Order - Trees

- Confirmed Order

Parish

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Figure 6: Hurst Meadows photos

6a: Hovel Field North – central looking south

6b: View of Hovel Field south
from southern tip of Hovel Field north

6c: Edgerley Meadow – Fifteen Acre access point
looking north

6d: Edgerley Meadow north-west looking south-east

6e: Fifteen Acre south looking north

6f: Fifteen Acre south looking north-west

6g: Walnut Tree Field north- east looking south-west

6h: Walnut Tree Field track - north-central looking west

6i: Walnut Tree Field track - north-central looking east

6j: Bellow's Nose Field south-central looking north

6k: Bellow's Nose Field south-central looking east

6l: Buckwilly Field from Heritage Orchard gate panning south-west to north-west

6m: Buckwilly Field north-west corner of orchard looking south-east into the orchard panning south-west.

6n: Buckwilly north-west corner looking
Second photo shows spoil heap in north-west corner.

6o: Millennium Gardens Church Green looking north-west 5p: Millennium Gardens Orchard Green looking south

6q: Millennium Gardens West Green looking south

6r: St George's Green south west looking north-east