

Green Hill Farm Biodiversity Report 2023

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Photo: Red Kite hunting over the northern conservation field at Green Hill Farm on 25 Mar 2023

Executive Summary

- This 2023 Biodiversity Report for Green Hill Farm (Landford) provides an overview of ecological survey work conducted in 2023, and forms part of a long-term Biodiversity Enhancement Plan for the site.
- The report focusses on an area called the 'conservation fields' that are primarily managed to deliver Biodiversity Net Gain; these fields cover nearly 11 ha, which is about one-third of the overall site area.
- A total of 82 hours of survey effort was delivered in 2023, including walkover surveys, trail camera deployments, nocturnal moth surveys, and acoustic bat surveys.
- A total of 724 species was recorded on site using all survey methods, including 40 priority species of high conservation interest. A total of 489 species was recorded from the conservation fields alone, including 30 priority species. Of the overall species totals, roughly half were invertebrates and one-third were plants and fungi.
- A site-wide breeding bird survey recorded 42 bird species with breeding evidence obtained for 31 species. Of the estimated total of 119 occupied breeding territories, about one-third relate to the two commonest species: Robin and Wren.
- The recent cessation of cutting and grazing in the conservation fields has resulted in increased sward length and structural diversity, which is already attracting priority species such as Noctule, Barn Owl, Nightjar, Stonechat, Grass Snake, Common Lizard, Common Toad, Hornet Robberfly, and three species of nationally scarce moth.
- A moth survey on 06 Sept produced a specimen of Portland Ribbon Wave, a rare but increasing Red Data Book species; this record is probably only the second for Wiltshire.
- Away from the conservation fields, a trail camera located in the main woodland block recorded Badger, Fox, Otter, Polecat, and Stoat, as well as three species of deer (Fallow, Muntjac, and Roe); Fallow Deer sightings peaked in July, when several does with young fawns were using the woodland as a nursery area.
- Woodland and hedgerow habitats on the wider site have attracted additional priority species including Barbastelle, Marsh Tit, Woodland Grasshopper, and Wood Cricket.
- Most management activity will commence in 2025 based upon the biodiversity baseline data collected in 2023-24. However, there will be some targeted cutting in the conservation fields in 2024 to create/maintain pathways, restrict the spread of an emergent block of Creeping Thistle, and address incursions of invasive non-native plant species.

1. Introduction

This 2023 Biodiversity Report for Green Hill Farm forms part of a Biodiversity Enhancement Plan (BEP) for the site, which is being delivered by Wild New Forest CIC with oversight from New Forest National Park Authority. The BEP outlines management actions to deliver Biodiversity Net Gain (BNG) with a focus on an area of the site referred to here as the 'conservation fields', together with requirements for ecological monitoring and reporting. Further details of the BEP are provided in Appendix 3.

This report outlines details of the methodology used in 2023, the results of the biodiversity baseline survey, and an update on BNG and management measures in the BEP. In most cases, only the common names of species are used for accessibility, but both common and scientific names are provided in the full species lists in Appendix 1.



Fig. 1: Map of Green Hill Farm showing the survey site outline (solid white line) and the outlines of the three conservation fields (dashed white lines, labelled southern, central, and northern). Numbered circles represent trail camera deployment locations as outlined in Section 3.3. and the white star represents the nocturnal moth survey location as outlined in Section 3.4.

2. Survey site

The Green Hill Farm site is approximately 31 ha in area, with the conservation fields covering about one-third (nearly 11 ha). These fields mostly comprise neutral modified grassland, bounded by mature hedgerows and mixed scrub containing a variety of native tree and scrub species (Fig. 1). The remainder of the site comprises holiday lodges and associated infrastructure, surrounded by a mosaic of modified grassland, broadleaf woodland, riparian woodland bordering a stream, man-made ponds, and mature hedgerows (Fig. 1).

The future long-term management regime for the conservation fields, as outlined in the BEP (Appendix 3), will likely involve a combination of mechanical mowing and livestock grazing, informed by the biodiversity monitoring programme as part of an iterative process. Although the conservation fields will mostly be maintained as grassland, delivery of BNG will be achieved through development of a heterogeneous mosaic of habitat blocks that vary in terms of sward length, together with development of scrubby blocks and margins through natural regeneration.

The survey site lies within Wiltshire and is immediately adjacent to the New Forest SSSI, SAC, SPA, and RAMSAR site (to the east), the Landford Heath SSSI (to the south), while the Landford Bog SAC and SSSI is a few hundred metres away (to the west). These sites host a variety of protected species such as Dartford Warbler and Nightjar that could utilise the survey site in future years as the habitat develops.

3. Survey methods

A total of 82 hours of survey effort was delivered in 2023, and a summary of survey activity is provided in Table 1 below.

Date (2023)	Survey type
03 Mar	Trail camera deployment
17 Mar	Trail camera check
25 Mar	Walkover survey (entire site) including BBS
01 Apr	Walkover survey (conservation fields only)
08 Apr	Walkover survey (conservation fields only)
28 Apr	Walkover survey (entire site) including BBS
02 Jun	Walkover survey (entire site) including BBS
07 July	Nocturnal moth survey
08 July	Walkover survey (conservation fields only)
04 Aug	Walkover survey (conservation fields only)
17 Aug	Nocturnal moth survey
06 Sep	Nocturnal moth survey
08 Sep	Nocturnal bat survey
22 Sep	Walkover survey (entire site)
09 Nov	Walkover survey (entire site) and trail camera recovered

Table 1: Summary of ecological survey activity conducted at Green Hill Farm in 2023. BBS = Breeding Bird Survey.

The walkover surveys and trail camera deployments were mostly delivered as planned, and a whole-site breeding bird survey was successfully completed, but nocturnal surveys (primarily for bats and moths) were disrupted by prolonged periods of poor weather in spring and summer. Descriptions of each survey type are provided below.

3.1. Walkover surveys

A total of nine walkover surveys were conducted, approximately monthly, between March and November (Table 1). Walkover surveys were primarily focussed on the conservation fields, although surveys of the whole site were conducted at least once per quarter (in March, April, June, September, and November). Surveys aimed to target all the main habitats on site, and all animals, plants, and fungi were recorded and identified to species level where possible (noting that bryophytes, lichens, and microscopic species were out of scope).

3.2. Breeding bird survey

A breeding bird survey (BBS) of the entire site was conducted on three dates in the March to June period (Table 1). The survey aimed to access all areas of the site to within at least 50 m. All bird species were recorded together with information on breeding behaviour, which helped to determine occupied territories (defined here as a singing male in suitable habitat, and/or direct evidence of breeding such as nest-building and chick-feeding).

3.3. Trail cameras

Infrared trail cameras were deployed on site from 03 Mar to 31 Oct, totalling 333 deployment days, primarily to capture information on the mammal assemblage (diurnal and nocturnal). Cameras were set to record still images, and associated metadata include date, time, air temperature, species, number of animals, and any notes on sex and behaviour.

Two cameras were temporarily deployed around the margins of the conservation fields in March (Sites 1 and 2; Fig. 1), but a lack of safe and suitable attachment points meant it was not possible to leave these cameras *in situ* over the spring and summer. One camera was subsequently deployed through April and May at a damp woodland location near the northern site boundary (Site 3; Fig. 1). The other camera was deployed at a woodland location near the southern site boundary (Site 4; Fig. 1), and remained *in situ* from 01 Apr to 31 Oct inclusive, a total of 214 deployment days. These camera deployments are summarised in Table 2 below.

Camera number	Dates	Days
1	03/03/23 to 01/04/23	30
2	03/03/23 to 25/03/23	23
3	25/03/23 to 29/05/23	66
4	01/04/23 to 31/10/23	214
Total		333

Table 2: Summary of trail camera deployments including deployment dates and number of days deployed. For locations of cameras see Figure 1.

Data collected from Site 4 during April to October were used for quantitative analysis, particularly to assess temporal variations in deer activity on site. These data were effort-

corrected, in that records were converted to number of sightings per deployment date. All observations of all species were recorded, except for Grey Squirrel where only the first observation each day was recorded. Observations were only deemed to be individual sightings if they were separated by more than one hour, to avoid repeat-counting of lingering animals.

3.4. Nocturnal moth surveys

Nocturnal moth surveys were conducted in the central conservation field (Fig. 1) on three nights in summer and autumn (Table 1) and were based around non-destructive light trapping using a 125-Watt mercury vapour (MV) bulb over a white sheet powered by a mobile generator (Fig. 2). Surveys commenced at dusk and continued for up to four hours, and were conducted in optimal conditions for moth activity, i.e. still, warm evenings with cloud cover. All moths and other invertebrates attracted to light were identified to species (or species aggregate) level.



Fig. 2: Image showing the set-up used for nocturnal moth surveys at Green Hill Farm.

3.5. Nocturnal bat survey

An acoustic bat survey of the entire site was conducted on the night of 08 Sep from 2000-2200 hrs, with the survey route aiming to access all areas of the site to within at least 50 m. The survey was conducted using a handheld acoustic recorder (Echo Meter Touch 2 connected to an iPhone 11). Individual bat acoustic detections were classified to species level using auto-identification software connected to the acoustic recorder and were also checked

manually. Selected records were run through the BTO Acoustic Pipeline for further validation. All detections were subsequently mapped onto the transect route.

4. Survey results

A total of **724** species was recorded on site using all survey methods, comprising 86 vertebrates (mammals, birds, reptiles, amphibians), 351 invertebrates (two-thirds of which were butterflies and moths), 182 plants, and 105 fungi. A total of **489** species was recorded from the conservation fields, representing just over two-thirds of the site total; over half of these were invertebrates, and one-third were plants and fungi. A full species list is provided in Appendix 1 and selected images are provided in Appendix 2 (Figs A1-A40). Additional images are available in illustrated blogs featuring wildlife highlights from each season: [spring 2023](#), [summer 2023](#), and [autumn 2023](#).

It should be noted that, with just ten days of total survey effort in 2024, it is inevitable that only a relatively small proportion of the total species occurring on site will have been recorded. The vertebrate and plant lists are likely to be relatively complete, but the invertebrate and fungi lists will be much less so, in part due to the challenges of recording species whose appearances are often sporadic (and weather-related) and where many species groups present significant identification challenges. The following accounts therefore focus on readily identifiable priority species (nationally or locally notable) and species that are useful habitat indicators.

4.1. Walkover surveys

4.1.1. Vertebrates (mammals, birds, reptiles, amphibians)

Most mammal records were recorded during dedicated trail camera deployments (Section 4.3) or acoustic bat surveys (Section 4.5). However, walkover surveys confirmed the presence of Field Voles nesting beneath a corrugated iron sheet in the southern conservation field; the same sheet also produced records of Common Toad (Fig. A1) and Grass Snake (Fig. A3), while Common Lizards were confirmed to be breeding nearby with several adults and juveniles observed (Fig. A2).

In addition to the breeding bird survey (Section 4.2), walkover surveys produced sightings of several notable non-breeding species. A Nightjar was seen hawking at dusk over the southern conservation field on 08 Sept 2023 - this species is a feature of the adjacent New Forest SPA and several pairs nest on Plaitford Common, so this was most likely a local bird on a foraging trip. A Barn Owl was seen hunting over the same field on the same evening, and what was probably the same bird was flushed from a small barn in the northern conservation field two months later - the presence of numerous pellets indicated it had been in residence for some time (Fig. A4).

The central conservation field hosted wintering flocks of up to 25 Redwing and 50 Meadow Pipit, as well as a peak count of 10 migrant Stonechat (Fig. A5) in September. The southern field attracted over 50 Goldfinch in autumn, feeding on seeds of Creeping Thistle. Raptors included up to three Red Kites regularly seen overhead, frequent sightings of Peregrine, a juvenile Goshawk in autumn that was probably dispersing from a nearby breeding site, and a Sparrowhawk found dead in the southern field. Notable flyover species included Woodlark,

Common Crossbill, and Green Sandpiper (the latter heard calling overhead in the dark during a nocturnal moth survey). Elsewhere on site, the only notable non-breeding bird was a Teal joining the regular geese and ducks on one of the fishing ponds in March.

4.1.2. *Invertebrates*

In the conservation fields, walkover surveys indicate that invertebrate diversity and abundance appears to be highest in areas of greatest structural and floral species diversity, which includes the southern field and the semi-natural damp grassland in the northern field. Areas of longer sward hold a variety of butterflies, crickets, grasshoppers, grass bugs, hoverflies, and soldier beetles, and these in turn are attracting notable invertebrate predators such as Hornet, Hornet Robberfly, Golden-ringed Dragonfly, and Wasp Spider (Figs A6-A9). A total of 15 species of common butterfly were recorded on site, including a colony of Brown Argus in the central conservation field (Fig. A10); the day-flying moths Six-spot Burnet and Narrow-bordered Five-spot Burnet were also recorded in these fields. Areas of bare ground and short sward host Labyrinth Spider and Slender Groundhopper.

Elsewhere on site, both Woodland Grasshopper and Wood Cricket were recorded in hedgerow and woodland edge habitats - these are both classified as Nationally Scarce but are relatively common in the New Forest.

Additional information on moths and other insects recorded during nocturnal surveys can be found in Section 4.4,

4.1.3. *Plants*

The 182 species of trees and plants recorded on site mostly comprise common species, but there are relatively small and scattered patches of existing high-quality habitat that contain a few locally notable species.

The conservation fields are dominated by various common grass species, but the central field also contains some notable wildflowers including a couple of specimens of Corky-fruited Water Dropwort near the eastern corner (this species has its national stronghold in southern England). This field also contains areas of rabbit-grazed short sward or bare damp ground, hosting Blinks, Common Centaury (Fig. A11), Heath Speedwell (Fig. A12), Marsh Cudweed, and Sheep's Sorrel, as well as many common wildflower species.

An area of damp ungrazed semi-natural grassland in the northern conservation field contains an abundance of Southern Marsh Orchids (Fig. A13), as well as smaller numbers of Pyramidal Orchids (Fig. A14) and Common Spotted Orchids; other species of damp grassland such as Cuckooflower, Marsh Bedstraw, Marsh Thistle, and Ragged Robin also occur in this area. The southern conservation field also becomes damp towards its southern margin, but previous management means that rushes and sedges are more dominant in this area (Fig. A15).

Areas of regenerating scrub within and around the margins of the conservation fields dominantly comprise Bracken, Bramble, and Gorse. Wood Sage is common along the hedge separating the southern and central fields. Creeping Thistle has become dominant in the western sector of the southern field, and Common Ragwort is present in all three fields but at

relatively low densities. Bounding hedgerows around these fields contain a variety of tree and shrub species, including Aspen, Grey Willow, Hawthorn, Pedunculate Oak, and Silver Birch, with occasional Alder Buckthorn.

Elsewhere on site, the damp riverine woodland adjacent to the stream that bisects the site hosts occasional Bog Myrtle, Narrow Buckler Fern (Fig. A16), and Royal Fern, and the main woodland block has Butchers Broom; all three species are locally distributed at national level but occur nearby on the open forest.

In terms of non-native invasive species that will require management intervention, Japanese Knotweed was observed at one location adjacent to the stream close to the reception block (this is already being controlled), Himalayan Balsam (Fig. A17) is present along the ditch running along the southern margin, and False Acacia is spreading into the northern corner of the northern conservation field from adjacent land.

4.1.4. Fungi

The 105 recorded species of fungi include several that are nationally scarce and/or rarely recorded in the New Forest National Park (based on records provided to the Fungi Recording Database of Britain and Ireland - FRDBI). Areas of woodchip close to the reception block and along the woodland path hosted the nationally scarce *Gymnopus fuscopurpureus* (Fig. A19) as well as Blue Roundhead (Fig. A20), Redlead Roundhead (Fig. A21), and Common Bird's Nest, all of which have been recorded at less than five sites in the New Forest. The Vinegar Cup (Fig. A22) that was found in the main woodland block has only been recorded once before in the New Forest, as has Spring Brittlestem, although the latter is no doubt under-recorded by mycologists due to the spring fruiting season. Similarly, Scarlet Elf Cup (Fig. A18) has not previously been recorded in the New Forest National Park - it appears to be genuinely rare on the open forest but is found at several sites around the forest fringe, however, it is under-recorded due to the challenge of separating it from the similar-looking Ruby Elf Cup, and the winter/spring fruiting season.

Many of the common species recorded from the conservation fields were found around the margins and are mycorrhizal with Silver Birch; in addition, good numbers of Orange Oak Bolete (Fig. A23) were associated with Aspen in the eastern corner of the southern field. A few common grassland fungi were recorded in areas with a shorter sward, including Blackening and Meadow Waxcap, and the small amounts of deadwood around the margins hosted a variety of saprophytic (wood-rotting) species including Velvet Twiglet.

4.2. Breeding bird survey

A total of 42 bird species was recorded on the three dates of the breeding bird survey, with breeding evidence obtained for 31 species (Table 3). Most of the remaining 11 species (e.g. Buzzard, Kestrel, and Raven) are likely to be breeding at adjacent sites, with only Meadow Pipit and Siskin deemed to be non-breeding visitors. A total of 15 species were recorded as breeding in the conservation fields (Table 3).

Species	March	Total	April	Total	June	Total	Final Total
Blackbird*	10	8	11(8)	8	8(5)	7	8
Blackcap	0	0	(4)	4	(6)	6	6
Blue Tit*	9(3)	8	6(4)	4	9(3)	6	7
Buzzard	0	0	2	0	1	0	0
Canada Goose	6	0	5	0	2	1	1
Carrion Crow	11	1	7	1	7(1)	2	1
Chaffinch*	4(1)	3	(4)	4	4(3)	3	4
Chiffchaff	(6)	6	(4)	4	(4)	4	4
Coal Tit	0	0	0	0	(1)	1	1
Duncock*	6(4)	4	(4)	4	7(5)	6	4
Firecrest	(3)	3	(3)	3	(3)	3	3
Garden Warbler	0	0	0	0	(1)	1	1
Goldcrest*	(2)	2	(1)	1	(2)	2	2
Goldfinch*	10(1)	1	19(4)	4	11(4)	4	4
Great Spot W'pecker	0	0	1	1	0	0	0
Great Tit*	5(1)	4	(4)	4	(3)	3	4
Greenfinch*	5	0	(1)	1	1	1	1
Green Woodpecker	1	1	1	1	2	1	0
House Sparrow	13	0	7	0	6(2)	2	2
Jackdaw	4	0	5	0	1	0	0
Kestrel	1	0	1	1	1	1	0
Linnet	0	0	2	1	2	1	1
Long-tailed Tit	2	1	1	1	0	0	1
Magpie	6	0	0	0	4	1	1
Mallard	7	3	1	1	0	0	1
Meadow Pipit	1	0	0	0	0	0	0
Mistle Thrush	4	2	0	0	0	0	1
Moorhen*	2	2	3	2	0	0	2
Pheasant	0	0	2	0	1	1	1
Pied Wagtail	5	3	1	1	1	1	1
Raven	1	0	1	0	0	0	0
Robin*	(26)	26	13(12)	13	10(8)	9	26
Siskin	1	0	0	0	0	0	0
Song Thrush*	0	0	(2)	2	3	3	2
Starling	3	0	0	0	10	0	0
Stock Dove	0	0	0	0	(1)	1	1
Stonechat*	2(1)	1	1	0	2(1)	1	1
Swallow	0	0	0	0	6	0	0
Treecreeper	0	0	0	0	1	0	0
Whitethroat*	0	0	(1)	1	(2)	2	2
Woodpigeon*	21(4)	5	10(9)	9	11(5)	7	9
Wren*	15(14)	14	(16)	16	(12)	12	16
TOTAL		98		91		93	119

Table 3: List of bird species recorded during monthly breeding bird surveys at Green Hill Farm from March to June 2022. Figures in brackets refer to singing males or equivalent evidence for an occupied territory, e.g. nest-building or chick-feeding. Totals for each month represent estimated number of territories for each species, and final total is the estimate for the maximum number of territories during the survey period. Species shown in grey text are not considered to have bred on site. Species marked with an asterisk were recorded in the conservation fields or their bounding hedgerows.

An estimated total of 119 occupied bird territories was recorded on site (Table 3). Robin and Wren were the most abundant species with 26 and 16 territories, respectively (the combined total of 42 territories of these two species represents over one-third of all territories). Of note were three Firecrest territories in the woodland area - this is a formerly nationally rare breeding bird with a stronghold in the New Forest that has recently undergone a rapid increase.

A Stonechat territory is included in the total as, although the nest site was probably just outside the site boundary, the adult pair (including the singing male) and the fledged juveniles were regularly observed in the conservation fields. This species is mentioned in the New Forest SPA citation and occurs in heathland and rough grassland with scattered scrub (especially Gorse); interestingly, the male was metal-ringed (Fig. A5), and it is possible that it is one of many Stonechat chicks routinely ringed on the open forest, in which case this would be an indication of a priority species dispersing from a protected site onto an adjacent area where the habitat has become suitable.

4.3. Trail cameras

The initial deployment of trail cameras at Sites 1 and 2 around the margins of the conservation fields produced numerous sightings of Badger (Fig. A24), Fallow Deer, Fox, Grey Squirrel, Rabbit, and Wood Mouse, while the deployment at Site 3 added Muntjac Deer and numerous sightings of Roe Deer, with the latter including a pregnant doe carrying an unborn foal that could be seen kicking her in the ribs! This site also produced an image of a Fox taking a female Pheasant at night (Fig. A25).

The longer-term (214 day) deployment at Site 4 in the main woodland block produced regular sightings of Badger, Fox (Fig. A26), Grey Squirrel, and three species of deer (Fallow, Muntjac, and Roe; Figs A27-A30). There were also notable records of Otter on 27 Apr (Fig. A31), Polecat on 18 Oct (Fig. A32), and Stoat on 20 Apr (Fig. A33) - these three mustelid species are thinly distributed across the New Forest but are rarely seen. A Brown Rat was seen on three dates between 03-07 Oct and there were two sightings of Domestic Cat and one sighting of a Domestic Dog. In addition, a total of nine bird species were recorded including a Buzzard (Fig. A34) and a female Mallard with chicks.

Further analysis of the mammal data from Site 4 shows that there were 28 Badger sightings (averaging 0.1 per day) and 129 Fox sightings (averaging 0.6 per day); the latter included a mature cub from 25 June onwards, two mature cubs play-fighting on 30 Aug, and three squabbling on 21 Oct. Grey Squirrels were seen on 78% of dates in the deployment period. There were only eight Roe Deer sightings (Fig. A29), with none in autumn, and 34 Muntjac Deer sightings (Fig. A30), almost all corresponding to one or more does in the July-Oct period.

The commonest mammal was Fallow Deer, with 260 sightings (averaging 1.2 per day). Average monthly sightings rates were relatively low in April (0.33) and May (0.55), before increasing in June (1.1), peaking in July (2.0), and staying at an elevated level in the Aug-Oct period (1.5). The peak count was a herd of at least 15 does and young prickets on 06 Apr. There were regular sightings of pregnant does in May-June period, so it was no surprise to see a young fawn on 01 July (Fig. A27) that appears to have been born on site. The peak monthly sightings rate in July mostly relates to at least four does with fawns, and the woodland

block seems to have been an important nursery area in this period, presumably aided by a lack of disturbance. There were very few sightings of mature bucks, although one was seen on several dates in October during the rutting season (Fig. A28).

4.4. Nocturnal moth surveys

A total of 213 moth species were recorded, the majority during the three nocturnal moth surveys conducted in the conservation fields in the July-Sept period. The highlight was probably only the second Wiltshire record of Portland Ribbon Wave (Fig. A35) on 06 Sept - a rare but increasing Red Data Book species that is rarely seen away from the south coast and was recorded in Wiltshire for the first time in 2022. Other notable macro-moths included Cream-bordered Green Pea, Festoon, Kent Black Arches, and Marsh Oblique-barred, which are all currently classified as local but were formerly nationally scarce.

Four nationally scarce micro-moths were recorded: Gorse Knot-horn *Pempelia genistella*, Large-clouded Knot-horn *Homoeosoma nebulella* (Fig. A36), Pied Grey *Eudonia delunella*, and Waste Grass Veneer *Pediasia contaminella*. Both Gorse Knot-horn (larval foodplant Gorse) and Large-clouded Knot-horn (Spear Thistle) are likely to be first records for the 10km square in which the survey site is located, as are Bulrush Veneer *Calamotropha paludella* (Bulrush), Dark Seedhead Moth *Apodia martinii* (Common Fleabane), Smoky-barred Marble *Lobesia abscisana* (Creeping Thistle), Spindle Ermine *Yponomeuta cagnagella* (Spindle), Thistle Bell *Epiblema scutulana* (Spear/Musk Thistle), Vetch Moth *Aproaerema anthyllidella* (clovers etc), and Whitestrap Sober *Aproaerema larseniella* (Greater Bird's-foot Trefoil).

It is notable that the larval foodplants of many of the nationally or locally scarce species (listed in brackets above) have recently appeared or increased in abundance in the conservation fields since the cessation of grazing, and so likely reflect the ongoing transition of some areas to rough grassland containing thistles, clovers, bird's-foot trefoils, fleabanes, etc.

A small number of migrant and adventive moth species were also recorded, with the former including the micro-moths Rush Veneer *Nomophila noctuella* and Rusty-dot Pearl *Udea ferrugalis*, and the macro-moths Dark Sword-grass, Delicate, Silver-Y, and Vestal. The formerly rare Vagrant Piercer *Cydia amplana* (Fig. A37) was recorded on 06 Sept, a species that appears to be becoming established in our region. Known adventives included Box-tree Moth *Cydalima perspectalis* and the Golden-brown Fern Moth *Musitima nitidalis*.

Other notable insects attracted to light during the nocturnal surveys include the nationally scarce (but increasing) beetle *Diaperis boleti* (Fig. A38) that feeds on bracket fungi, the Lesser Stag Beetle (Fig. A39) that is relatively common in ancient woodland on the adjacent open forest, and the locally distributed mirid bug *Polymerus palustris* (Fig. A40) whose foodplant is Marsh Bedstraw (which occurs on site).

4.5. Nocturnal bat survey

A total of 67 bat passes were acoustically detected and manually validated during the survey on 08 Sep (Fig. 3).

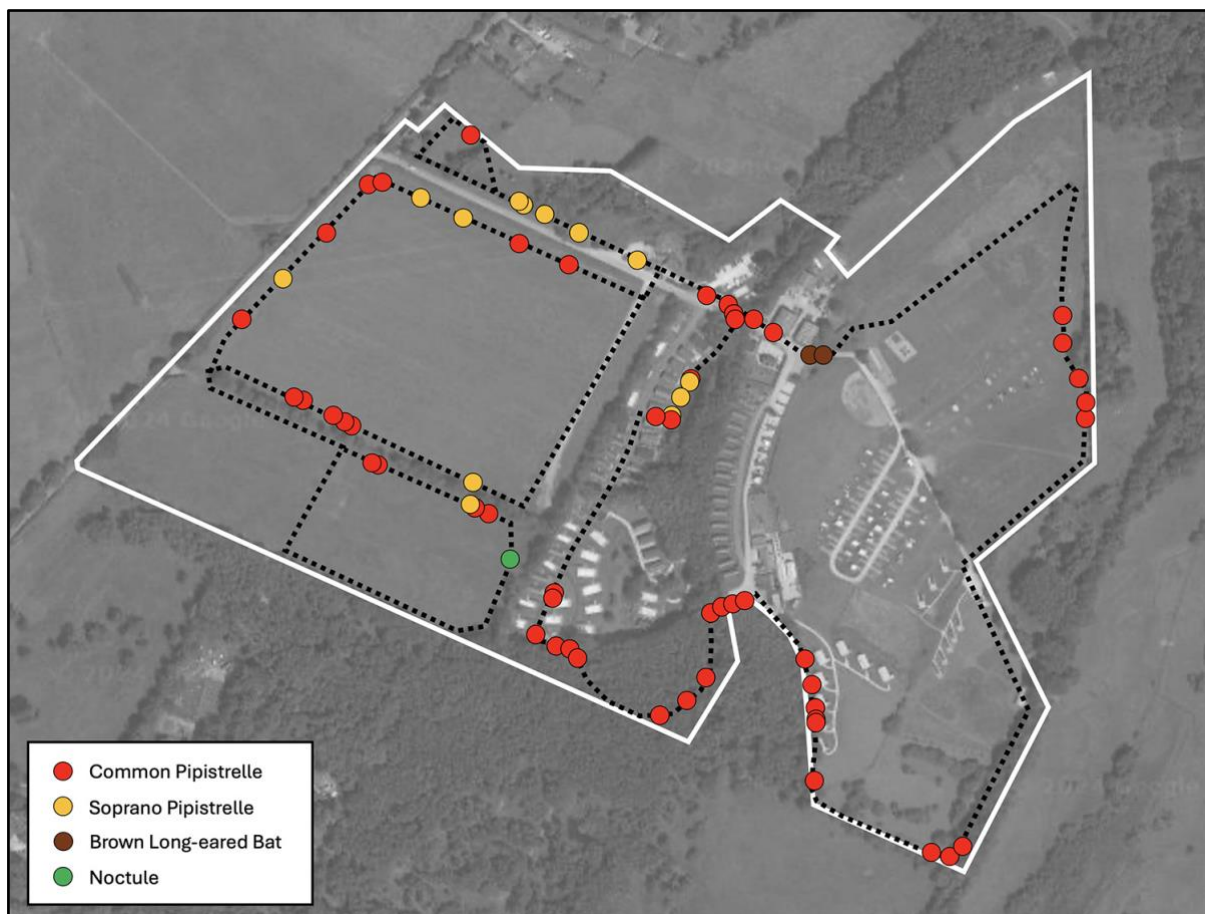


Fig. 3: Map showing the location of bat passes recorded during acoustic survey at Green Hill Farm on 08 Sep 2023. Dashed black line shows the survey route, and solid white line delimits the survey area boundary. Each coloured dot represents a single pass of one of the four recorded species, as shown in the embedded key.

Common Pipistrelle was the most frequently detected species with 52 passes (78% of the total) and was recorded from woodland and hedgerow habitats across the site (Fig. 3). Soprano Pipistrelles (12 passes, 18% of the total) were restricted to margins of the damper sections of the conservation fields, and around the central ponds. A single Noctule pass was detected in the conservation fields, and two Brown Long-eared Bat passes were detected around shrubs bordering the maintenance yard.

In addition to the above records, a Serotine was acoustically recorded during a moth trapping session in the conservation fields on 07 July 2023, as well as numerous detections of Common and Soprano Pipistrelle. Single passes of Barbastelle and a *Myotis* species were detected near the eastern site boundary in summer 2022, but none were detected during the 2023 survey.

5. Management plan for the conservation fields

The Biodiversity Net Gain (BNG) assessment for the site that was conducted by RPS in Sept 2022 identified the central conservation field, mostly comprising modified grassland, to be in

'poor' condition. In addition, the mixed scrub bounding this field was also deemed to be in 'poor' condition, primarily due to an absence of structural diversity. The southern conservation field was deemed to be in 'good' condition for the most part, due to the presence of specific grassland indicator species (plants), varied sward height, limited bracken / bramble cover, an absence of invasive non-native species, limited cover of species indicative of damaging management activities, and more than nine plant species per metre squared. The areas of damper grassland towards the south and east of this field were deemed to be in 'poor' condition. The RPS report indicated that the BEP as outlined in Appendix 3 would see these habitats transition to 'moderate' condition over time, leading to an increase in the 'habitat unit' score of nearly 150%.

The BEP proposed a series of broad management measures for the conservation fields that would achieve the desired BNG (Appendix 3). However, in the short term, it was suggested that active management should cease for a period of up to two years (2023-24) while a biodiversity baseline was developed, and that this would also incorporate the northern conservation field. The results of this baseline survey would then inform the spatial and temporal extent of future management measures.

The baseline survey work conducted in 2023 identified nearly 500 species in the conservation fields (Appendix 1 and 2), including at least 30 'priority' species of animals and fungi that are classified as NERC Section 41 species, and/or designated features of the New Forest SPA, and/or as nationally rare/scarce (based upon the most recent assessments). These species were not considered in the previous BNG assessment, which is primarily based upon habitats and plants, but in many cases their arrival or continued presence on site will be directly linked to habitat condition and plant species. It is therefore proposed that the following management measures for the three conservation fields take account of the BNG habitat indicators *and* the presence of priority species.

5.1. Southern conservation field

This field complex comprises a broad variety of grassland habitats and a developing area of scrub dominated by bracken and gorse (Fig. 4). It supports several priority species that will be benefiting from increased sward length and structural diversity following the cessation of agricultural activity, and the consequent increase in small invertebrate diversity and abundance. Examples include Noctule, Common Lizard, Grass Snake, Common Toad, Barn Owl, Nightjar, and Stonechat, and invertebrates such as Hornet Robberfly. It is considered unlikely that these priority species would have been present under the previous grazing/cutting regime, and it is notable that none of them have been recorded from the central field that has a much shorter and more heterogenous sward.

Walkover surveys have shown marked heterogeneity in habitat type and quality across this field complex, largely relating to past management activity, current deer grazing pressure, and surface wetness. Trail camera data and visual observations indicate that this field complex is regularly used by herds of Fallow Deer. Their main access is from the south, and it is notable that grazing pressure and natural wetness across much of the southern field margin is producing a shorter sward with a dominance of rushes and sedges in this area.

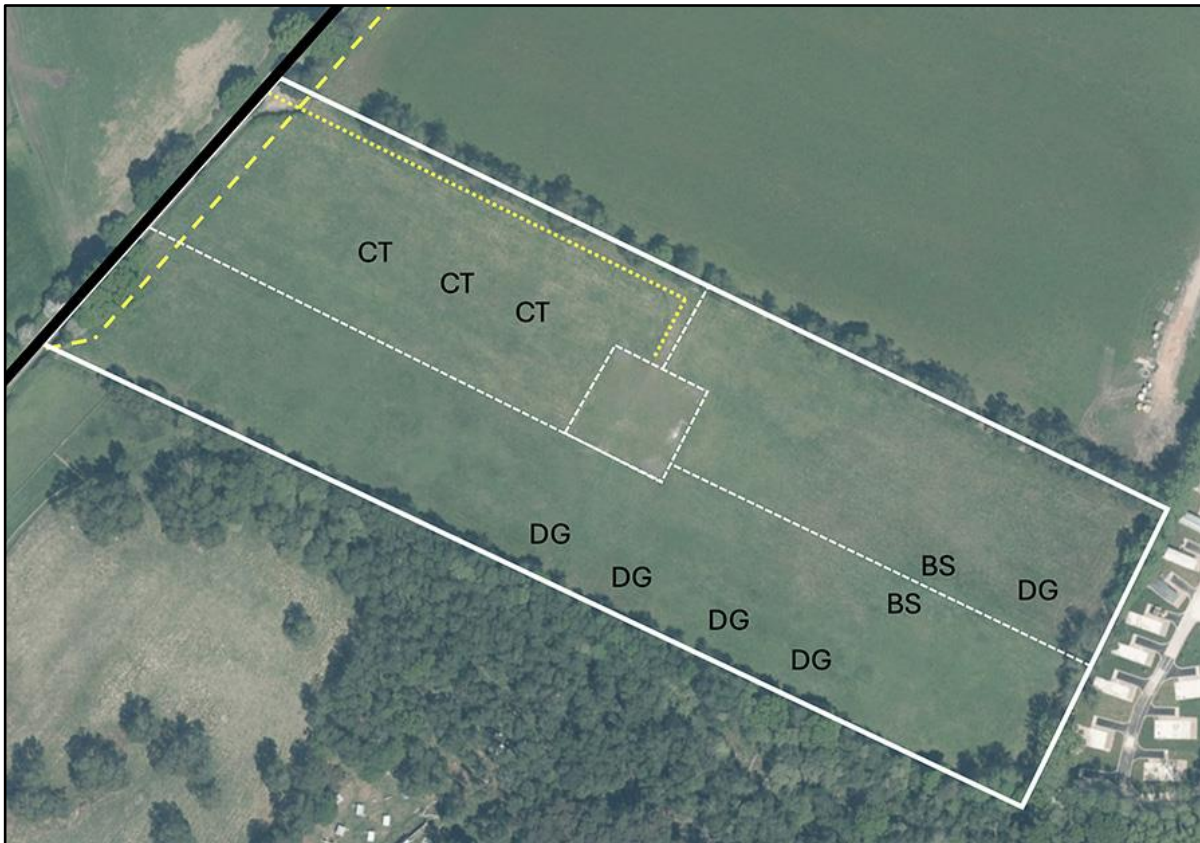


Fig. 4: Aerial image showing the southern conservation field, outlined with bold white line. For overall location see Fig. 1. Thin dashed white lines show existing internal fence lines that may form a basis for delimiting future management sub-units. Yellow dashed line shows location of proposed public bridleway. Yellow dotted line shows access track. Thick black line shows metalled road. CT = Creeping Thistle; DG = Damp Grassland; BS = Bracken Scrub.

In the northern sector a block of dense Creeping Thistle has rapidly developed (Fig. 4), probably due to excessive ground disturbance in the past; this plant species provides shelter for invertebrates and a larval food source for some notable moth species, while the seeds attract large numbers of Goldfinches in autumn. However, it can become dominant over large areas if left unchecked, reducing overall biodiversity.

Taking account of the above factors it is proposed that the following management measures are implemented in this field complex in 2024:

- The densest area of Creeping Thistle (Fig. 4) to be topped twice (in spring and autumn) to restrict further spread, and the process repeated in future years to reduce vigour; this will only be undertaken once the area has been checked for any breeding birds.
- The Himalayan Balsam emanating from the ditch running along the southern margin to be pulled, in line with guidance provided by the New Forest Non-Native Plants project.

- The access track (Fig. 4) to be mowed monthly between spring and autumn to maintain a short sward and facilitate access for machinery.
- Continuation of restricted access to this field complex to reduce human disturbance.
- Leave remaining areas of grassland untouched to allow further assessment of deer grazing pressure and species diversity, and to identify emergent scrub patches.
- The field complex to be divided into sub-units based around existing internal fence lines and scrub patches (Fig. 4), and habitat condition and priority species assessed in these sub-units to inform BNG assessment and future management.

5.2. Central conservation field

This field largely comprises relatively homogeneous species-poor grassland (Fig. 5), although there are a few notable plant species including Corky-fruited Water Dropwort.



Fig. 5: Aerial image showing the central conservation field, outlined with bold white line. For overall location see Fig. 1. Yellow dashed line shows location of proposed public bridleway. Yellow dotted line shows access track. Thick black line shows metalled roads.

The grassland is bordered by narrow hedgerows and linear strips of gorse/bramble scrub. Mown paths around and across the field facilitate guest access. Rabbit grazing pressure is highest near the northern margin, which is the sandiest and driest area of the field; this area of shorter sward holds the larval foodplants of Brown Argus butterflies that have a small colony here. It should be noted that, due to access constraints while work was undertaken on the overhead electricity pylons, work did not commence on the planned public bridleway inside the northwest bounding hedgeline.

Proposed management actions for this field in 2024 are as follows:

- Maintain mown paths in their current configuration around and across the southern half of the field, comprising a central corridor of ~5m width that is mown monthly, bounded by strips that are also of ~5m width that are mown twice (in early spring and autumn). Develop similar mown paths across the northern half of the field (Fig. 5). All cuttings to be removed.
- Develop a mown strip of ~2m width immediately inside the northern margin (Fig. 5) to facilitate access to the bounding hedgerow for maintenance, while retaining the linear strip of emergent gorse scrub along this margin.
- Leave remaining areas of grassland untouched to allow further assessment of rabbit/deer grazing pressure and species diversity.
- Allow the emerging strip of gorse scrub bisecting the field to develop with a view to creating a wildlife corridor and nesting habitat for priority bird species.

5.3. Northern conservation field

This field complex comprises a variety of habitat types, and is sub-divided by fence lines and/or tree lines into a series of small sub-units of different character that are subject to variable grazing pressure and surface wetness (Fig. 6). A local resident has permission to keep a small number of horses on one of the sub-units, and this area has relatively low floral diversity. Areas with no grazing pressure have a longer sward and floral and invertebrate diversity is much higher, including small colonies of Pyramidal and Southern Marsh Orchid. There is a small area of damp woodland containing a pond (Fig. 6), but this is challenging to access.

Proposed management actions for this field complex in 2024 are as follows:

- The False Acacia close to the northern corner (Fig. 6) to be monitored and removed if encroachment into the survey area is observed.
- The isolated small non-native conifers encroaching upon the damp grassland (Fig. 6) to be removed.
- Count the flower spikes of Southern Marsh Orchid in the damp grassland (Fig. 6) at the correct season to determine the current size of the colony.

- The field complex to be divided into sub-units based around existing internal fence lines and scrub patches, and habitat condition is assessed in these sub-units to inform BNG assessment and future management.



Fig. 6: Aerial image showing the northern conservation field, outlined with bold white line. For overall location see Fig. 1. Thin dashed white lines show existing internal fence lines that may form a basis for delimiting future management sub-units. Thick black line shows metalled road. C = Conifer; DG = Damp Grassland; DW = Damp Woodland; FA = False Acacia.

5.4. Future survey and monitoring of the conservation fields

The intention in 2024 is to continue monthly walkover surveys between March and October, repeat the breeding bird survey in spring, repeat the bat transect at least twice in summer, and aim to deliver four nocturnal moth surveys (with at least two in the May-June period to target species that are on the wing earlier in the year). This will help to firm up the biodiversity baseline and will likely identify additional priority species.

The southern and northern fields require more detailed mapping and sub-division to account for significant variations in habitat type and priority species (primarily due to grazing pressure and surface wetness). It is therefore proposed that formal BNG assessment of the conservation fields does not commence until 2025, and that future management measures including cutting, grazing, and potential exclusion fencing, are developed to target specific sub-units in 2025.

6. Management plan for the remainder of the survey site

An additional 235 species were recorded from the wider site (outwith the conservation fields) and an additional ten priority species, including Barbastelle, Otter, Polecat, Marsh Tit, Woodland Grasshopper, and Wood Cricket (Appendix 1 and 2). Most of the priority species were recorded in the woodland areas or associated with bounding hedges around the site margins; these areas also held the highest overall species diversity.

Ongoing development work on the site in 2023 meant that access was restricted to some areas, and installation of new internal hedgerows and additional ponds as outlined in the Landscape Strategy was delayed. Consequently, it is proposed that quantitative assessment of BNG and updated management measures (additional to those in the BEP) commence in 2025 when the various works are completed.

Finally, the author hosted a visit by the NFNPA Ecologist on 10 Aug 2024 to discuss current and future management of the conservation fields and to see some of the priority species already identified; they have been provided with an opportunity to discuss and comment on this report to ensure independent oversight and will be invited to attend a second site visit in May-June 2024.

Appendix 1: List of vertebrate species recorded during ecological surveys at Green Hill Farm from March to November 2023. Species in each category listed in alphabetical order according to common name. Bird status taken from UK Birds of Conservation Concern (Stanbury et al. 2021). S41 = NERC Section 41 species. Species marked with an asterisk have been recorded within the conservation fields.

Common name	Scientific name	UK status	Notes
Mammals			
Badger*	<i>Meles meles</i>	Common	Trail camera
Barbastelle	<i>Barbastella barbastellus</i>	Local	Acoustic detection (2022); S41
Brown Long-eared Bat	<i>Plecotus auritus</i>	Common	Acoustic detection; S41
Common Pipistrelle*	<i>Pipistrellus pipistrellus</i>	Common	Acoustic detection
Fallow Deer*	<i>Dama dama</i>	Common	Visual and trail camera
Field Vole*	<i>Microtus agrestis</i>	Common	Visual
Fox*	<i>Vulpes vulpes</i>	Common	Trail camera
Grey Squirrel*	<i>Sciurus carolinensis</i>	Common	Visual and trail camera
Mole*	<i>Talpa europaea</i>	Common	Molehills observed
Muntjac Deer	<i>Muntiacus reevesi</i>	Common	Trail camera
Noctule*	<i>Nyctalus noctula</i>	Common	Acoustic detection; S41
Otter	<i>Lutra lutra</i>	Common	Trail camera; S41
Polecat	<i>Mustela putorius</i>	Local	Trail camera; S41
Rabbit*	<i>Oryctolagus cuniculus</i>	Common	Visual and trail camera
Roe Deer	<i>Capreolus capreolus</i>	Common	Visual and trail camera
Serotine*	<i>Eptesicus serotinus</i>	Local	Acoustic detection
Soprano Pipistrelle*	<i>Pipistrellus pygmaeus</i>	Common	Acoustic detection; S41
Stoat	<i>Mustela erminea</i>	Common	Trail camera
Wood Mouse*	<i>Apodemus sylvaticus</i>	Common	Trail camera
Birds			
Barn Owl*	<i>Tyto alba</i>	Green	08/09/23 and 09/11/23
Blackbird*	<i>Turdus merula</i>	Green	
Blackcap	<i>Sylvia atricapilla</i>	Green	
Blue Tit*	<i>Cyanistes caeruleus</i>	Green	
Buzzard*	<i>Buteo buteo</i>	Green	
Canada Goose*	<i>Branta canadensis</i>	Non-native	Peak 11 in Mar 2023
Carrion Crow*	<i>Corvus corone</i>	Green	
Chaffinch*	<i>Fringilla coelebs</i>	Green	
Chiffchaff*	<i>Phylloscopus collybita</i>	Green	
Coal Tit	<i>Periparus ater</i>	Green	
Common Crossbill*	<i>Loxia curvirostra</i>	Green	Flyover only
Cormorant*	<i>Phalacrocorax carbo</i>	Green	Flyover only
Dunnock*	<i>Prunella modularis</i>	Amber (S41)	
Fieldfare*	<i>Turdus pilaris</i>	Red	
Firecrest*	<i>Regulus ignicapilla</i>	Green	
Garden Warbler	<i>Sylvia borin</i>	Green	
Goldcrest*	<i>Regulus regulus</i>	Green	
Goldfinch*	<i>Carduelis carduelis</i>	Green	50+ on front fields
Goshawk*	<i>Accipiter gentilis</i>	Green	Juvenile drifting over front fields
Great Spotted Woodpecker	<i>Dendrocopos major</i>	Green	
Great Tit*	<i>Parus major</i>	Green	
Greenfinch*	<i>Chloris chloris</i>	Green	
Green Sandpiper*	<i>Tringa ochropus</i>	Amber	Nocturnal migrant (heard only)

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Green Woodpecker*	<i>Picus viridis</i>	Green	
Grey Heron*	<i>Ardea cinerea</i>	Green	
House Martin*	<i>Delichon urbicum</i>	Red	
House Sparrow	<i>Passer domesticus</i>	Red (S41)	
Jackdaw*	<i>Coloeus monedula</i>	Green	
Jay	<i>Garrulus glandarius</i>	Green	Trail camera
Kestrel*	<i>Falco tinnunculus</i>	Amber	
Lesser Redpoll*	<i>Acanthis cabaret</i>	Red (S41)	Flyover only
Linnet*	<i>Linaria cannabina</i>	Red (S41)	
Long-tailed Tit*	<i>Aegithalos caudatus</i>	Green	
Magpie*	<i>Pica pica</i>	Green	
Mallard	<i>Anas platyrhynchos</i>	Amber	
Marsh Tit	<i>Poecile palustris</i>	Red (S41)	
Meadow Pipit*	<i>Anthus pratensis</i>	Amber	Max 50 in Mar 2023
Mistle Thrush*	<i>Turdus viscivorus</i>	Red	
Moorhen*	<i>Gallinula chloropus</i>	Amber	
Nightjar*	<i>Caprimulgus europaeus</i>	Amber (S41)	Hawking on 08/09/23
Nuthatch	<i>Sitta europaea</i>	Green	
Peregrine*	<i>Falco peregrinus</i>	Green	
Pheasant*	<i>Phasianus colchicus</i>	Non-native	
Pied Wagtail*	<i>Motacilla alba</i>	Green	
Raven*	<i>Corvus corax</i>	Green	
Red Kite*	<i>Milvus milvus</i>	Green	Max 3 regularly over front fields
Redwing*	<i>Turdus iliacus</i>	Amber	Max 25 in Mar 2023
Robin*	<i>Erithacus rubecula</i>	Green	
Rook*	<i>Corvus frugilegus</i>	Amber	
Siskin*	<i>Spinus spinus</i>	Green	
Song Thrush*	<i>Turdus philomelus</i>	Amber (S41)	
Sparrowhawk*	<i>Accipiter nisus</i>	Amber	
Starling*	<i>Sturnus vulgaris</i>	Red (S41)	
Stock Dove	<i>Columba oenas</i>	Amber	
Stonechat*	<i>Saxicola torquata</i>	Green	Pair + 3 juveniles; peak 10 in Sep
Swallow*	<i>Hirundo rustica</i>	Green	
Swift*	<i>Apus apus</i>	Red	
Tawny Owl	<i>Strix aluco</i>	Amber	
Teal	<i>Anas crecca</i>	Amber	1 on fishing pond in Mar 2023
Treecreeper	<i>Certhia familiaris</i>	Green	
Whitethroat*	<i>Curruca communis</i>	Amber	
Woodlark*	<i>Lullula arborea</i>	Green (S41)	1N on 18 Oct
Woodpigeon*	<i>Columba palumbus</i>	Amber	
Wren*	<i>Troglodytes troglodytes</i>	Green	
Reptiles			
Common Lizard*	<i>Zootoca vivipara</i>	Common	Adult + 3 juvs; S41
Grass Snake*	<i>Natrix helvetica</i>	Common	S41
Amphibians			
Common Frog	<i>Rana temporaria</i>	Common	
Common Toad*	<i>Bufo bufo</i>	Common	S41

List of invertebrate species recorded during ecological surveys at Green Hill Farm from March to November 2023. Species in each category listed in alphabetical order according to common name. S41 = NERC Section 41 species. Species marked with an asterisk have been recorded within the conservation fields.

Common name	Scientific name	UK status	Notes
Lepidoptera (butterflies)			
Brimstone*	<i>Gonepteryx rhamni</i>	Common	
Brown Argus*	<i>Aricia agestis</i>	Common	
Common Blue*	<i>Polyommatus icarus</i>	Common	
Gatekeeper*	<i>Pyronia tithonus</i>	Common	
Green-veined White*	<i>Pieris napi</i>	Common	
Large Skipper	<i>Ochlodes sylvanus</i>	Common	
Marbled White*	<i>Melanargia galathea</i>	Common	
Meadow Brown*	<i>Maniola jurtina</i>	Common	
Painted Lady*	<i>Vanessa cardui</i>	Common	
Red Admiral*	<i>Vanessa atalanta</i>	Common	
Ringlet*	<i>Aphantopus hyperantus</i>	Common	
Silver-washed Fritillary	<i>Argynnis paphia</i>	Common	
Small Copper*	<i>Lycaena phlaeas</i>	Common	
Small White*	<i>Pieris rapae</i>	Common	
Speckled Wood*	<i>Pararge aegeria</i>	Common	
Lepidoptera (micro moths)			
Ash-bark Knot-horn*	<i>Euzophera pinguis</i>	Common	
Barred Fruit-tree Tortrix	<i>Pandemis cerasana</i>	Common	
Birch Marble*	<i>Apotomis betuletana</i>	Common	
Blue-bordered Carpet*	<i>Plemyria rubiginata</i>	Common	
Box-tree Moth*	<i>Cydalima perspectalis</i>	Adventive	
Bramble Leaf Miner*	<i>Stigmella aurella</i>	Common	
Bramble Shoot Moth*	<i>Notocelia uddmanniana</i>	Common	
Brown China-mark*	<i>Elophila nymphaeata</i>	Common	
Bud Moth*	<i>Spilonota ocellana</i>	Common	
Bulrush Veneer*	<i>Calamotropha paludella</i>	Local	
Chequered Fruit-tree Tortrix*	<i>Pandemis corylana</i>	Common	
Common Birch Bell*	<i>Epinotia immundana</i>	Common	
Common Grass Veneer	<i>Agraphila tristella</i>	Common	
Common Marble*	<i>Celypha lacunana</i>	Common	
Common Purple and Gold*	<i>Pyrausta purpuralis</i>	Common	
Common Yellow Conch*	<i>Agapeta hamana</i>	Common	
Dark Seedhead Moth*	<i>Apodia martinii</i>	Local	
Dark Fruit-tree Tortrix*	<i>Pandemis heparana</i>	Common	
Dingy Dowd*	<i>Blastobasis adustella</i>	Common	
Dotted Ermel*	<i>Ethmia dodecea</i>	Local	
Dotted Oak Knot-horn*	<i>Phycita roborella</i>	Common	
Double-striped Knot-horn*	<i>Cryptoblabes bistriga</i>	Local	
Double-striped Tabby*	<i>Hysopygia glaucinalis</i>	Common	
European Corn-borer*	<i>Ostrinia nubilalis</i>	Local	
Garden Grass Veneer*	<i>Chrysoteuchia culmella</i>	Common	
Golden Argent*	<i>Argyresthia goedartella</i>	Common	
Golden-brown Fern Moth*	<i>Musotima nitidalis</i>	Adventive	
Gorse Knot-horn*	<i>Pempelia genistella</i>	Nat. Scarce	

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Grey Tortrix agg	<i>Cnephasia agg</i>	Common	
Hawthorn Moth*	<i>Scythropia crataegella</i>	Common	
Inlaid Grass Veneer*	<i>Crambus pascuella</i>	Common	
Large Clouded Knot-horn*	<i>Homoeosoma nebulella</i>	Nat. Scarce	
Large Fruit-tree Tortrix*	<i>Archips podana</i>	Common	
Light-brown Apple Moth*	<i>Epiphyas postvittana</i>	Common	
Little Ermine*	<i>Swammerdamia pyrella</i>	Common	
Long-horned Flat-body*	<i>Carcina quercana</i>	Common	
Maple Button*	<i>Acleris forsskaleana</i>	Common	
Marbled Piercer*	<i>Cydia splendana</i>	Common	
Mother of Pearl*	<i>Patania ruralis</i>	Common	
Narrow-winged Grey*	<i>Eudonia angustea</i>	Common	
Olive Pearl	<i>Udea olivalis</i>	Common	
Orange Pine Tortrix*	<i>Lozotaeniodes formosana</i>	Common	
Orange-spotted Shoot*	<i>Rhyacionia pinicolana</i>	Common	
Pale-streak Grass Veneer	<i>Agraphila selasella</i>	Common	
Pied Grey*	<i>Eudonia delunella</i>	Nat. Scarce	
Plain Gold	<i>Micropterix calthella</i>	Common	
Red-barred Tortrix*	<i>Ditula angustiorana</i>	Common	
Ringed China Mark*	<i>Parapoynx stratiotata</i>	Common	
Rosy Tabby*	<i>Endotricha flammealis</i>	Common	
Rush Marble	<i>Bactra lancealana</i>	Common	
Rush Veneer*	<i>Nomophila noctuella</i>	Migrant	
Rusty-dot Pearl*	<i>Udea ferrugalis</i>	Migrant	
Satin Grass Veneer*	<i>Crambus perlella</i>	Common	
Small China Mark*	<i>Cataclysta lemnata</i>	Common	
Small Magpie	<i>Anania hortulata</i>	Common	
Smoky-barred Marble*	<i>Lobesia abscisana</i>	Common	
Speckled Fanner	<i>Glyphipterix thrasonella</i>	Common	
Spindle Ermine*	<i>Yponomeuta cagnagella</i>	Common	
Straw Grass Veneer*	<i>Agriphila straminella</i>	Common	
Thistle Bell	<i>Epiblema scutulana</i>	Common	
Triple-blotched Bell	<i>Notocelia trimaculana</i>	Common	
Twin-barred Knot Horn	<i>Homoeosoma sinuella</i>	Common	
Vagrant Piercer*	<i>Cydia amplana</i>	Migrant?	
Vetch Sober*	<i>Aproaerema anthyllidella</i>	Local	
Viburnum Button*	<i>Acleris schalleriana</i>	Common	
Wainscot Smudge*	<i>Ypsolopha scabrella</i>	Common	
Waste Grass Veneer*	<i>Pediasia contaminella</i>	Nat. Scarce	
Water Veneer*	<i>Acentria ephemerella</i>	Common	
White Plume Moth*	<i>Pterophorus pentadactyla</i>	Common	
White-strap Sober*	<i>Apoaerema larseniella</i>	Local	
Lepidoptera (macro moths)			
Angle Shades*	<i>Phlogophora meticulosa</i>	Common	
Autumnal Rustic*	<i>Eugnorisma glareosa</i>	Common	S41
Barred Hook-tip*	<i>Watsonalla cultraria</i>	Local	
Beautiful Hook-tip*	<i>Laspeyria flexula</i>	Local	
Black Arches*	<i>Lymantria monacha</i>	Local	
Blood Vein*	<i>Timandra comae</i>	Common	S41
Blotched Emerald	<i>Comibaena bajularia</i>	Common	
Brimstone*	<i>Opisthograptis luteolata</i>	Common	
Broad-bordered Yellow Underwing*	<i>Noctua fimbriata</i>	Common	

Brown Silver-line	<i>Petrophora chlorosata</i>	Common	
Brown-tail*	<i>Euprocis chrysorrhoea</i>	Local	
Brussels Lace*	<i>Cleorodes lichenaria</i>	Local	
Buff Arches*	<i>Habrosyne pyritoides</i>	Common	
Buff Ermine*	<i>Spilosoma luteum</i>	Common	S41
Canary-shouldered Thorn*	<i>Ennomos alniaria</i>	Common	
Centre-barred Sallow*	<i>Atethmia centrago</i>	Common	S41
Cinnabar Moth*	<i>Tyria jacobaeae</i>	Common	S41
Clay*	<i>Mythimna ferrago</i>	Common	
Cloaked Minor*	<i>Mesoligia furuncula</i>	Common	
Clouded Border*	<i>Lomaspilis marginata</i>	Common	
Common Carpet*	<i>Epirrhoe alternata</i>	Common	
Common Footman*	<i>Eilema lurideola</i>	Common	
Common Lutestring	<i>Ochropacha duplaris</i>	Common	
Common Marbled Carpet*	<i>Chloroclysta truncata</i>	Common	
Common Pug	<i>Eupithecia vulgata</i>	Common	
Common Rustic agg*	<i>Mesapamea agg.</i>	Common	
Common Wainscot*	<i>Mythimna pallens</i>	Common	
Copper Underwing agg*	<i>Ampiphysa agg.</i>	Common	
Coronet*	<i>Craniophora ligustri</i>	Common	
Cream-bordered Green Pea	<i>Earias clorana</i>	Local	
Dark Arches*	<i>Apamea monoglypha</i>	Common	
Dark Spectacle*	<i>Abrostola triplasia</i>	Common	
Dark Sword-grass*	<i>Agrotis ipsilon</i>	Migrant	
Delicate*	<i>Mythimna vitellina</i>	Migrant	
Dingy Footman*	<i>Eilema griseola</i>	Common	
Dot Moth*	<i>Melanchra persicariae</i>	Common	S41
Double-striped Pug*	<i>Gymnoscelis rufifasciata</i>	Common	
Dun-bar*	<i>Cosmia trapezina</i>	Common	
Dusky Sallow*	<i>Eremobia ochroleuca</i>	Common	
Dwarf Cream Wave*	<i>Idaea fuscovenosa</i>	Common	
Ear Moth agg*	<i>Amphipoea agg.</i>	Common	S41
Elephant Hawk Moth*	<i>Deilephila elpenor</i>	Common	
Fan-foot*	<i>Herminia tarsipennalis</i>	Common	
Feathered Gothic*	<i>Tholera decimalis</i>	Common	S41
Festoon*	<i>Apoda limacodes</i>	Local	
Flame Shoulder*	<i>Ochropleura plecta</i>	Common	
Green Carpet*	<i>Colostygia pectinataria</i>	Common	
Green Pug*	<i>Pasiphila rectangulata</i>	Common	
Grey Arches*	<i>Polia nebulosa</i>	Common	
Heart-and-Club	<i>Agrotis clavis</i>	Common	
Heart-and-Dart*	<i>Agrotis exclamationis</i>	Common	
Hedge Rustic*	<i>Tholera cespitis</i>	Common	S41
Iron Prominent*	<i>Notodonta dromedarius</i>	Common	
Jersey Tiger*	<i>Euplagia quadripunctaria</i>	Local	
Kent Black Arches*	<i>Meganola albula</i>	Local	
Knot Grass*	<i>Acronicta rumicis</i>	Common	Larva; S41
Large Emerald*	<i>Geometra papilionaria</i>	Common	
Large Yellow Underwing*	<i>Noctua pronuba</i>	Common	
Least Yellow Underwing*	<i>Nocuta interjecta</i>	Common	
Leopard Moth*	<i>Zeuzera pyrina</i>	Common	
Lesser BB Yellow Underwing*	<i>Noctua janthe</i>	Common	
Lesser Cream Wave*	<i>Scopula immutata</i>	Local	

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Lesser Swallow Prominent*	<i>Pheosia gnoma</i>	Common	
Lesser Yellow Underwing*	<i>Noctua comes</i>	Common	
Light Emerald*	<i>Campaea margaritata</i>	Common	
Marbled Minor agg.	<i>Oligia strigilis</i> agg.	Common	
Marbled White Spot*	<i>Protodeltote pygarga</i>	Common	
Marsh Oblique-barred*	<i>Hypenodes humidalis</i>	Local	
May Highflyer	<i>Hydriomena impluviata</i>	Common	
Middle-barred Minor	<i>Oligia fasciuncula</i>	Common	
Mottled Beauty	<i>Alcis repandata</i>	Common	
Narrow-bordered Five-spot Burnet*	<i>Zygaena lonicerae</i>	Common	
Oak Hook-tip*	<i>Watsonalla binaria</i>	Common	S41
Old Lady*	<i>Mormo maura</i>	Local	
Orange Footman	<i>Eilema sororcula</i>	Local	
Pale Mottled Willow*	<i>Caradrina clavipalpis</i>	Common	
Peach Blossom*	<i>Thyatira batis</i>	Common	
Peacock Moth*	<i>Macaria notata</i>	Local	
Pebble Hook-tip*	<i>Drepana falcataria</i>	Common	
Peppered Moth*	<i>Biston betularia</i>	Common	
Pine Hawk Moth*	<i>Hyloicus pinastri</i>	Common	
Portland Ribbon Wave*	<i>Idaea degeneraria</i>	Migrant	2nd Wiltshire record
Privet Hawk Moth	<i>Sphinx ligustri</i>	Common	
Riband Wave*	<i>Idaea aversata</i>	Common	
Rosy Footman*	<i>Miltochrista miniata</i>	Common	
Round-winged Muslin*	<i>Thumatha senex</i>	Local	
Ruby Tiger*	<i>Phragmatobia fuliginosa</i>	Common	
Rustic*	<i>Hoplodrina blanda</i>	Common	
Satin Beauty	<i>Deileptenia ribeata</i>	Common	
Satin Wave*	<i>Idaea subsericeata</i>	Common	
Scarce Footman*	<i>Eilema complana</i>	Common	
Scorched Wing	<i>Plagodis dolabraria</i>	Common	
Setaceous Hebrew Character*	<i>Xestia c-nigrum</i>	Common	
Sharp-angled Carpet*	<i>Euphyia unangulata</i>	Local	
Sharp-angled Peacock	<i>Macaria alternata</i>	Common	
Shoulder-striped Wainscot	<i>Mythimna comma</i>	Common	S41
Shuttle-shaped Dart*	<i>Agrotis puta</i>	Common	
Silver-Y*	<i>Autographa gamma</i>	Migrant	
Single-dotted Wave*	<i>Idaea dimidata</i>	Common	
Six-spot Burnet*	<i>Zygaena filipendulae</i>	Common	
Six-striped Rustic*	<i>Xestia sexstrigata</i>	Common	
Small Angle Shades*	<i>Euplexia lucipara</i>	Common	
Small Dotted Buff*	<i>Photodes minima</i>	Common	
Small Rivulet*	<i>Perizoma alchemillata</i>	Common	
Small Rufous*	<i>Coenobia rufa</i>	Common	
Small Seraphim*	<i>Pterapherapteryx sexalata</i>	Common	
Small Square Spot*	<i>Diarsia rubi</i>	Common	S41
Small Yellow Wave*	<i>Hydrelia flammeolaria</i>	Common	
Smoky Wainscot*	<i>Mythimna impura</i>	Common	
Snout*	<i>Hypena proboscidalis</i>	Common	
Spectacle*	<i>Abrastola tripartita</i>	Common	
Square-spot Rustic*	<i>Xestia xanthographa</i>	Common	
Straw Dot*	<i>Rivula sericealis</i>	Common	
Swallow Prominent*	<i>Pheosia tremula</i>	Common	
Swallow-tailed Moth*	<i>Ourapteryx sambucaria</i>	Common	

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Tawny-barred Angle*	<i>Macaria liturata</i>	Common	
Vestal*	<i>Rhodometra sacraria</i>	Migrant	
Vine's Rustic*	<i>Hoplodrina ambigua</i>	Common	
White-spotted Pug*	<i>Eupithecia tripunctaria</i>	Local	
White Point*	<i>Mythimna albipuncta</i>	Local	
Willow Beauty*	<i>Peribatodes rhomboidaria</i>	Common	
Yellow-barred Brindle*	<i>Acasis viretata</i>	Local	
Yellow Shell*	<i>Campptogramma bilineata</i>	Common	
Odonata (dragonflies, damselflies)			
Common Darter*	<i>Sympetrum striolatum</i>	Common	
Emperor Dragonfly*	<i>Anax imperator</i>	Common	
Golden-ringed Dragonfly*	<i>Cordulegaster boltonii</i>	Common	
Dermeptera (earwigs)			
Common Earwig	<i>Forficula auricularia</i>	Common	
Orthoptera (crickets, grasshoppers)			
Dark Bush-cricket*	<i>Pholidoptera griseoptera</i>	Common	
Field Grasshopper*	<i>Chorthippus brunneus</i>	Common	
Lesser Marsh Grasshopper*	<i>Chorthippus albomarginatus</i>	Common	
Long-winged Conehead*	<i>Conocephalus fuscus</i>	Common	
Meadow Grasshopper*	<i>Chorthippus parallelus</i>	Common	
Oak Bush-cricket*	<i>Meconema thalassinum</i>	Common	
Roesel's Bush Cricket*	<i>Roeseliana roeselii</i>	Common	
Slender Groundhopper*	<i>Tetrix subulata</i>	Common	
Speckled Bush-cricket	<i>Leptophyes punctatissima</i>	Common	
Woodland Grasshopper	<i>Omocestus rufipes</i>	Nat. Scarce	
Wood Cricket	<i>Nemobius sylvestris</i>	Nat. Scarce	
Hemiptera (bugs)			
Common Grass Bug*	<i>Stenodema laevigata</i>	Common	
Common Green Capsid*	<i>Lygocoris pabulinus</i>	Common	
Nettle Plant Bug*	<i>Liocoris tripustulatus</i>	Common	
Eared Leafhopper*	<i>Iassus lanius</i>	Common	
Gorse Shieldbug*	<i>Piezodorus lituratus</i>	Common	
Knapweed Plant Bug*	<i>Oncotylus viridiflavus</i>	Common	
Lesser Water Boatman*	<i>Corixa sp.</i>	Common	
Long-legged Plant Bug*	<i>Phytocoris sp.</i>	Common	
Mirid Bug*	<i>Polymerus palustris</i>	Local	
Red-legged Shieldbug*	<i>Pentatoma rufipes</i>	Common	
Rhododendron Leafhopper	<i>Graphocephala fennahi</i>	Common	
Common Pondskater	<i>Gerris lacustris</i>	Common	
Tunic Plant Bug*	<i>Pantilius tunicatus</i>	Common	
Trichoptera (caddisflies)			
Caddis Fly*	<i>Athripsodes bilineatus</i>	Common	
Cinnamon Sedge*	<i>Limnephilus lunatus</i>	Common	
Grouse Wing*	<i>Mystacides longicornis</i>	Common	
Mottled Sedge	<i>Glyptotaelius pellucidus</i>	Common	
Neuroptera (lacewings)			
Green Lacewing*	<i>Chrysoperla carnea agg.</i>	Common	

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Coleoptera (beetles)			
7-spot Ladybird*	<i>Coccinella septempunctata</i>	Common	
14-spot ladybird	<i>P. quatuordecimpunctata</i>	Common	
16-spot Ladybird*	<i>Tytthaspis sedecimpunctata</i>	Common	
Alder Leaf Beetle	<i>Agelastica alni</i>	Common	
Banks's Leaf Beetle	<i>Chrysolina banksii</i>	Common	
Brown Chafer*	<i>Serica brunnea</i>	Common	
Coastal Paederus*	<i>Paederus littoralis</i>	Common	
Common Red Soldier Beetle*	<i>Rhagonycha fulva</i>	Common	
Common Staphylinus	<i>Staphylinus dimidiaticornis</i>	Common	
Cream-spot Ladybird	<i>Calvia quatuordecimguttata</i>	Common	
Darkling Beetle*	<i>Diaperis boleti</i>	Nat. Scarce	
Devil's Coach-horse*	<i>Ocypus olens</i>	Common	
False Ladybird*	<i>Endomychus coccineus</i>	Common	
Golden-bloomed Grey Longhorn	<i>Agapanthia villosviridescens</i>	Local	
Harlequin Ladybird*	<i>Harmonia axyridis</i>	Common	
Lesser Stag Beetle*	<i>Dorcus parallelipedus</i>	Common	
Mud Dweller*	<i>Ilybius ater</i>	Common	
Rough-haired Darkling Beetle*	<i>Lagria hirta</i>	Common	
Rustic Sailor Beetle	<i>Cantharis rustica</i>	Common	
Soldier Beetle	<i>Cantharis flavilabris</i>	Common	
Soldier Beetle	<i>Cantharis rufa</i>	Common	
Strawberry Seed Beetle	<i>Harpalus rufipes</i>	Common	
Summer Chafer*	<i>Amphimallon solstitiale</i>	Common	
Swollen-thighed Beetle*	<i>Oedemera nobilis</i>	Common	
Violet Ground Beetle*	<i>Carabus violaceus</i>	Common	
Diptera (flies)			
Black Snipefly	<i>Chrysopilus cristatus</i>	Common	
Broad Centurion	<i>Chloromyia formosa</i>	Common	
Bumblebee Hoverfly	<i>Volucella bombylans</i>	Common	
Common Drone Fly*	<i>Eristalis tenax</i>	Common	
Common Greenbottle*	<i>Lucilia sericata</i>	Common	
Common Spotted Field Syrph*	<i>Eupeodes luniger</i>	Common	
Cranefly*	<i>Tipula fascipennis</i>	Common	
Cranefly*	<i>Tipula oleracea</i>	Common	
Cranefly*	<i>Tipula paludosa</i>	Common	
Cranefly	<i>Tipula vittata</i>	Common	
Dark-edged Bee Fly	<i>Bombylius major</i>	Common	
Flesh Fly sp.*	<i>Sarcophaga sp.</i>	Common	
Furry Dronefly	<i>Eristalis intricaria</i>	Common	
Great Pied Hoverfly	<i>Volucella pellucens</i>	Common	
Greater Spring Blacklet*	<i>Cheilosia grossa</i>	Common	
Holly Leaf Miner	<i>Phytomyza ilicis</i>	Common	
Hornet Robberfly*	<i>Asilus crabroniformis</i>	Local (S41)	
Kite-tailed Robberfly*	<i>Tolmerus atricapillus</i>	Common	
Long Hoverfly*	<i>Sphaerophoria scripta</i>	Common	
Marsh Snipefly*	<i>Rhagio tringarius</i>	Common	
Migrant Field Syrph	<i>Eupeodes corollae</i>	Common	
Noon Fly*	<i>Mesembrina meridiana</i>	Common	
Tiger Hoverfly*	<i>Helophilus pendulus</i>	Common	
Two-banded Wasp Hoverfly*	<i>Chrysotoxum bicinctum</i>	Common	

Yellow Dung Fly*	<i>Scathophaga stercoraria</i>	Common	
Hymenoptera (bees, wasps etc)			
Black Ant sp.*	<i>Lasius sp.</i>		
Buff-tailed Bumblebee*	<i>Bombus terrestris</i>	Common	
Clarke's Mining Bee*	<i>Andrena clarkella</i>	Common	
Common Clover Sawfly agg*	<i>Tenthredo arcuata agg.</i>	Common	
Common Wasp*	<i>Vespula vulgaris</i>	Common	
German Wasp*	<i>Vespula germanica</i>	Common	
Honeybee*	<i>Apis mellifera</i>	Common	
Hornet*	<i>Vespa crabro</i>	Common	
Ichneumon Wasp*	<i>Opheltes glaucopterus</i>	Common	
Median Wasp*	<i>Dolichovespula media</i>	Nat. Scarce	
Orange-brown Ichneumon Wasp	<i>Ophion scutellaris</i>	Common	
Red-tailed Bumblebee*	<i>Bombus lapidarius</i>	Common	
Yellow-legged Mining Bee*	<i>Andrena flavipes</i>	Common	
Arachnida (spiders etc)			
Alder Gall Mite*	<i>Aceria nalepai</i>	Common	
Cricket-bat Spider*	<i>Mangora acalypha</i>	Common	
Daddy Long-legs Spider*	<i>Pholcus phalangioides</i>	Common	
Deer Tick	<i>Ixodes scapularis</i>	Common	
False Widow Spider	<i>Steatoda nobilis</i>	Common	
Furrow Orbweaver Spider*	<i>Larinioides cornutus</i>	Common	
Garden Spider*	<i>Araneus diadematus</i>	Common	
Green Crab Spider	<i>Diaea dorsata</i>	Common	
Labyrinth Spider*	<i>Agelena labyrinthica</i>	Common	
Large House Spider*	<i>Eratigena atrica agg.</i>	Common	
Nurseryweb Spider*	<i>Pisaura mirabilis</i>	Common	
Orb Weaver Spider	<i>Metellina mengei</i>	Common	
Stretch Spider sp.	<i>Tetragnatha sp.</i>	Common	
Walnut Orb-weaver Spider*	<i>Nuctenea umbratica</i>	Common	
Wandering Crab Spider*	<i>Philodromus aureoles sp.</i>	Common	
Wasp Spider*	<i>Argiope bruennichi</i>	Common	
Wolf Spider sp.*	<i>Pardosa sp.</i>	Common	
Trombidiidae (mites)			
Velvet Mite agg*	<i>Trombidiidae sp.</i>	Common	
Myriapoda (centipedes etc)			
Pill Woodlouse*	<i>Armadillidium vulgare</i>	Common	
Mollusca (slugs, snails etc)			
Balkan Threeband Slug	<i>Ambigolimax nyctelius</i>	Common	
Black Slug agg*	<i>Arion ater agg.</i>	Common	
Brown-lipped Snail	<i>Cepaea nemoralis</i>	Common	
Garden Snail*	<i>Cornu aspersum</i>	Common	
Kentish Snail*	<i>Monacha cantiana</i>	Common	
Leopard Slug	<i>Limax maximus</i>	Common	
Netted Slug	<i>Deroceras reticulatum</i>	Common	
Annelida (worms)			
Common Earthworm*	<i>Lumbricus terrestris</i>	Common	

List of plant species recorded during ecological surveys at Green Hill Farm from March to November 2023. Species in each category listed in alphabetical order according to common name. Species marked with an asterisk have been recorded within the conservation fields.

Common name	Scientific name	UK status
Trees and shrubs (>2m high)		
Alder*	<i>Alnus glutinosa</i>	Common
Alder Buckthorn*	<i>Frangula alnus</i>	Local
Ash*	<i>Fraxinus excelsior</i>	Common
Aspen*	<i>Populus tremula</i>	Common
Beech*	<i>Fagus sylvatica</i>	Common
Blackthorn*	<i>Prunus spinosa</i>	Common
Elder*	<i>Sambucus nigra</i>	Common
False Acacia*	<i>Robinia pseudoacacia</i>	Common
Goat Willow*	<i>Salix caprea</i>	Common
Grey Willow*	<i>Salix cinerea</i>	Common
Guelder Rose*	<i>Viburnum opulus</i>	Common
Hawthorn*	<i>Crataegus monogyna</i>	Common
Holly	<i>Ilex aquifolium</i>	Common
Horse Chestnut	<i>Aesculus hippocastanum</i>	Common
Pedunculate Oak*	<i>Quercus robur</i>	Common
Rowan*	<i>Sorbus aucuparia</i>	Common
Scots Pine*	<i>Pinus sylvestris</i>	Common
Silver Birch*	<i>Betula pendula</i>	Common
Spindle	<i>Euonymus europaeus</i>	Common
Sweet Chestnut*	<i>Castanea sativa</i>	Common
Walnut*	<i>Juglans regia</i>	Common
Wild Cherry	<i>Prunus avium</i>	Common
Flowering and non-flowering plants		
Agrimony*	<i>Agrimonia eupatoria</i>	Common
Annual Meadow Grass*	<i>Poa annua</i>	Common
Barren Brome	<i>Anisantha sterilis</i>	Common
Bird's Foot Trefoil	<i>Lotus corniculatus</i>	Common
Black Bryony	<i>Tamus communis</i>	Common
Black Medick*	<i>Medicago lupulina</i>	Common
Black Nightshade	<i>Solanum nigrum</i>	Common
Blinks*	<i>Montia fontana</i>	Common
Bog Myrtle	<i>Myrica gale</i>	Local
Bracken*	<i>Pteridium aquilinum</i>	Common
Bramble*	<i>Rubus fruticosus agg.</i>	Common
Bristly Oxtongue	<i>Helminthotheca echioides</i>	Common
Broad-leaved Dock*	<i>Rumex obtusifolius</i>	Common
Buck's Horn Plantain*	<i>Plantago coronopus</i>	Common
Butchers Broom	<i>Ruscus aculeatus</i>	Local
Canadian Fleabane*	<i>Erigeron canadensis</i>	Common
Caper Spurge	<i>Euphorbia lathyris</i>	Common
Changing Forgetmenot*	<i>Myosotis discolor</i>	Common
Cleavers	<i>Galium aparine</i>	Common
Cocksfoot*	<i>Dactylis glomerata</i>	Common
Common Centaury*	<i>Centaureum erythraea</i>	Common
Common Dog Violet	<i>Viola riviniana</i>	Common

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Common Field Speedwell*	<i>Veronica persica</i>	Common
Common Figwort*	<i>Scrophularia nodosa</i>	Common
Common Fleabane*	<i>Pulicaria dysenterica</i>	Common
Common Ragwort*	<i>Jacobaea vulgaris</i>	Common
Common Sedge	<i>Carex nigra</i>	Common
Common Sorrel*	<i>Rumex acetosa</i>	Common
Common Spotted Orchid	<i>Dactylorhiza fuchsii</i>	Common
Common Storksbill*	<i>Erodium cicutarium</i>	Common
Common Toadflax*	<i>Linaria vulgaris</i>	Common
Common Vetch*	<i>Vicia sativa</i>	Common
Compact Rush*	<i>Juncus conglomeratus</i>	Common
Corky-fruited Water Dropwort*	<i>Oenanthe pimpinelloides</i>	Local
Corn Mint*	<i>Mentha arvensis</i>	Common
Creeping Buttercup*	<i>Ranunculus repens</i>	Common
Creeping Cinquefoil	<i>Potentilla reptans</i>	Common
Creeping Thistle*	<i>Cirsium arvense</i>	Common
Cuckooflower	<i>Cardamine pratensis</i>	Common
Curled Dock	<i>Rumex crispus</i>	Common
Cut-leaved Cranesbill	<i>Geranium dissectum</i>	Common
Daffodil	<i>Narcissus sp.</i>	Common
Daisy*	<i>Bellis perennis</i>	Common
Dandelion agg*	<i>Taraxacum officinale</i>	Common
Dog's Mercury*	<i>Mercurialis perennis</i>	Common
Dog Rose*	<i>Rosa canina</i>	Common
Dotted Loosestrife	<i>Lysimachia punctata</i>	Common
Dove's Foot Cranesbill	<i>Geranium molle</i>	Common
Early Dog Violet	<i>Viola reichenbachiana</i>	Common
Enchanter's Nightshade	<i>Circaea lutetiana</i>	Common
False Oat Grass	<i>Arrhenatherum elatius</i>	Common
False Oxlip	<i>Primula vulgaris x veris</i>	Common
Fat Hen*	<i>Chenopodium album</i>	Common
Field Bindweed*	<i>Convolvulus arvensis</i>	Common
Field Forgetmenot*	<i>Myosotis arvensis</i>	Common
Field Horsetail*	<i>Equisetum arvense</i>	Common
Foxglove*	<i>Digitalis pupurea</i>	Common
Garlic Mustard	<i>Alliaria petiolata</i>	Common
Germander Speedwell*	<i>Veronica chamaedrys</i>	Common
Goat's-beard	<i>Tragopogon pratensis</i>	Common
Orse*	<i>Ulex europaeus</i>	Common
Greater Bird's-foot Trefoil*	<i>Lotus pedunculatus</i>	Common
Greater Plantain	<i>Plantago major</i>	Common
Greater Stitchwort	<i>Stellaria holostea</i>	Common
Great Mullein*	<i>Verbascum thapsus</i>	Common
Green Alkanet	<i>Pentaglottis sempervirens</i>	Common
Groundsel*	<i>Senecio vulgaris</i>	Common
Ground Elder	<i>Aegopodium podagraria</i>	Common
Ground Ivy	<i>Glechoma hederacea</i>	Common
Hairy Bittercress*	<i>Cardamine hirsuta</i>	Common
Hairy Sedge	<i>Carex hirta</i>	Common
Hard Fern	<i>Blechnum spicant</i>	Common
Hard Rush*	<i>Juncus inflexus</i>	Common
Hart's Tongue Fern	<i>Asplenium scolopendrium</i>	Common
Heath Speedwell*	<i>Veronica officinalis</i>	Common

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Hedge Bindweed*	<i>Calystegia sepium</i>	Common
Hemlock Water Dropwort*	<i>Oenanthe crocata</i>	Common
Hemp Agrimony	<i>Eupatorium cannabinum</i>	Common
Herb Robert	<i>Geranium robertianum</i>	Common
Himalayan Balsam*	<i>Impatiens glandulifera</i>	Common
Hoary Willowherb*	<i>Epilobium parviflorum</i>	Common
Hogweed*	<i>Heracleum sphondylium</i>	Common
Honeysuckle	<i>Lonicera periclymenum</i>	Common
Ivy*	<i>Hedera helix</i>	Common
Ivy-leaved Speedwell	<i>Veronica hederifolia</i>	Common
Japanese Knotweed	<i>Reynoutria japonica</i>	Common
Lesser Burdock	<i>Arctium minus</i>	Common
Lesser Celandine*	<i>Ficaria verna</i>	Common
Lesser Stitchwort*	<i>Stellaria graminea</i>	Common
Lesser Trefoil*	<i>Trifolium dubium</i>	Common
Lords-and-ladies	<i>Arum maculatum</i>	Common
Lungwort	<i>Pulmonaria officinalis</i>	Common
Marsh Bedstraw*	<i>Galium palustre</i>	Common
Marsh Cudweed*	<i>Gnaphalium uliginosum</i>	Common
Marsh Pennywort	<i>Hydrocotyle vulgaris</i>	Common
Marsh Thistle*	<i>Cirsium palustre</i>	Common
Meadow Buttercup*	<i>Ranunculus acris</i>	Common
Meadow Fescue	<i>Schedonorus pratensis</i>	Common
Meadow Vetchling*	<i>Lathyrus pratensis</i>	Common
Milk Thistle	<i>Silybum marianum</i>	Local
Mugwort*	<i>Artemisia vulgaris</i>	Common
Musk Mallow*	<i>Malva moschata</i>	Common
Narrow Buckler Fern	<i>Dryopteris carthusiana</i>	Common
Oval Sedge*	<i>Carex leporina</i>	Common
Ox-eye Daisy	<i>Leucanthemum vulgare</i>	Common
Pendulous Sedge	<i>Carex pendula</i>	Common
Perforate St John's Wort*	<i>Hypericum perforatum</i>	Common
Primrose*	<i>Primula vulgaris</i>	Common
Procumbent Pearlwort	<i>Sagina procumbens</i>	Common
Purple Toadflax	<i>Linaria purpurea</i>	Common
Pyramidal Orchid*	<i>Anacamptis pyramidalis</i>	Common
Ragged Robin*	<i>Silene flos-cuculi</i>	Common
Red Campion*	<i>Silene dioica</i>	Common
Red Clover*	<i>Trifolium pratense</i>	Common
Red Fescue*	<i>Festuca rubra agg.</i>	Common
Red Dead Nettle*	<i>Lamium purpureum</i>	Common
Ribwort Plantain*	<i>Plantago lanceolata</i>	Common
Rhododendron	<i>Rhododendrum ponticum</i>	Common
Rosebay Willowherb	<i>Chamaenerion angustifolium</i>	Common
Royal Fern	<i>Osmunda regalis</i>	Local
Rye-grass sp.*	<i>Lolium sp.</i>	Common
Scarlet Pimpernel*	<i>Lysimachia arvensis</i>	Common
Scentless Mayweed*	<i>Tripleurospermum inodorum</i>	Common
Self-heal*	<i>Prunella vulgaris</i>	Common
Sheep's Sorrel*	<i>Rumex acetosella</i>	Common
Silverweed*	<i>Potentilla anserina</i>	Common
Smooth Tare*	<i>Ervum tetraspermum</i>	Common
Snowdrop*	<i>Galanthus nivalis</i>	Common

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Soft Brome*	<i>Bromus hordeaceus</i>	Common
Soft Rush*	<i>Juncus effusus</i>	Common
Southern Marsh Orchid*	<i>Dactylorhiza praetermissa</i>	Common
S. Marsh x Common Spotted Orchid*	<i>Dactylorhiza x grandis</i>	Common
Spear Thistle*	<i>Cirsium vulgare</i>	Common
Spotted Medick	<i>Medicago arabica</i>	Common
Square-stalked St John's Wort	<i>Hypericum tetrapterum</i>	Common
Sticky Mouse Ear*	<i>Cerastium glomeratum</i>	Common
Stinging Nettle*	<i>Urtica dioica</i>	Common
Sun Spurge*	<i>Euphorbia helioscopia</i>	Common
Sweet Vernal Grass*	<i>Anthoxanthum odoratum</i>	Common
Teasel*	<i>Dipsacus fullonum</i>	Common
Thyme-leaved Speedwell*	<i>Veronica serpyllifolia</i>	Common
Timothy*	<i>Phleum pratense</i>	Common
Tormentil*	<i>Potentilla erecta</i>	Common
Trailing Tormentil*	<i>Potentilla anglica</i>	Common
Tutsan	<i>Hypericum androsaemum</i>	Common
Water Figwort	<i>Scrophularia auriculata</i>	Common
Water Mint	<i>Mentha aquatica</i>	Common
Water Pepper	<i>Persicaria hydropiper</i>	Common
White Champion*	<i>Silene latifolia</i>	Common
White Clover*	<i>Trifolium repens</i>	Common
White Dead Nettle*	<i>Lamium album</i>	Common
Wild Daffodil*	<i>Narcissus pseudonarcissus</i>	Common
Wintercress*	<i>Barbarea vulgaris</i>	Common
Wood Avens (Herb Bennett)	<i>Geum urbanum</i>	Common
Wood Dock	<i>Rumex sanguineus</i>	Common
Wood Forget-Me-Not	<i>Myosotis sylvatica</i>	Common
Wood Sage*	<i>Teucrium scorodonia</i>	Common
Wood Sorrel	<i>Oxalis acetosella</i>	Common
Woody Nightshade	<i>Solanum dulcamara</i>	Common
Yarrow*	<i>Achillea millefolium</i>	Common

List of fungi species recorded during ecological surveys at Green Hill Farm from March to November 2023. Species in each category listed in alphabetical order according to common name. Rare species are those with <100 records on the Fungi Recording Database of Britain and Ireland (FRDBI), scarce species are those with <250 records on FRDBI, and occasional are those with <500 records on FRDBI. Species marked with an asterisk have been recorded within the conservation fields.

Common name	Scientific name	UK status
Fungi		
Alder Bracket	<i>Mensularia radiata</i>	Common
Amethyst Deceiver*	<i>Laccaria amethystina</i>	Common
Angel's Bonnet	<i>Mycena arcangeliana</i>	Common
Aniseed Funnel	<i>Clitocybe odorata</i>	Common
Bay Bolete*	<i>Imleria badia</i>	Common
Beech (or Common) Tarcrust	<i>Biscogniauxia nummularia</i>	Common
Beech Milkcap*	<i>Lactarius blennius</i>	Common
Birch Brittlelegill	<i>Russula betularum</i>	Common
Birch Knight*	<i>Tricholoma fulvum</i>	Common
Birch Milkcap*	<i>Lactarius tabidus</i>	Common
Birch Polypore*	<i>Fomitopsis betulina</i>	Common
Birch Woodwart	<i>Annulohyphoxylon multiforme</i>	Common
Bitter Oysterling	<i>Panellus stipticus</i>	Common
Blackening Brittlelegill*	<i>Russula nigricans</i>	Common
Blackening Waxcap*	<i>Hygrocybe conica</i>	Common
Blue Roundhead	<i>Stropharia caerulea</i>	Common (4 NF sites)
Blusher*	<i>Amanita rubescens</i>	Common
Blushing Bracket	<i>Daedaleopsis confragosa</i>	Common
Bolete Mould*	<i>Hypomyces chrysospermus</i>	Common
Bracken Map	<i>Rhopoglyphus filicinus</i>	Common
Brown Birch Bolete*	<i>Leccinum scabrum</i>	Common
Brown Mottlegill*	<i>Panaeolina foenicicii</i>	Common
Brown Rollrim*	<i>Paxillus involutus</i>	Common
Burgundydrop Bonnet*	<i>Mycena haematopus</i>	Common
Butter Cap	<i>Rhodocollybia butyracea</i>	Common
Candlesnuff Fungus*	<i>Xylaria hypoxylon</i>	Common
Cavalier sp.	<i>Melanoleuca sp.</i>	Common
Chanterelle	<i>Cantharellis cibarius</i>	Common
Clouded Funnel	<i>Clitocybe nebularis</i>	Common
Clustered Domecap	<i>Lyophyllum decastes</i>	Common
Common Bird's Nest	<i>Crucibulum laeve</i>	Common (4 NF sites)
Common Conecap	<i>Conocybe tenera</i>	Common
Common Earthball*	<i>Scleroderma citrinum</i>	Common
Common Inkcap	<i>Coprinopsis atramentaria</i>	Common
Common Jellyspot	<i>Dacrymyces stillatus</i>	Common
Common Rustgill	<i>Gymnopilus penetrans</i>	Common
Common Stump Brittlestem	<i>Psathyrella piluliformis</i>	Common
Crystal Brain*	<i>Exidia nucleata</i>	Common
Deceiver*	<i>Laccaria laccata</i>	Common
Deer Shield	<i>Pluteus cervinus</i>	Common
Ergot	<i>Claviceps purpurea</i>	Common
Fairy Inkcap	<i>Coprinellus disseminatus</i>	Common
Fairy Ring Champignon*	<i>Marasmius oreades</i>	Common

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False Deathcap	<i>Amanita citrina</i>	Common
Fly Agaric*	<i>Amanita muscaria</i>	Common
Fragile Brittlegill	<i>Russula fragilis</i>	Common
Frosty Webcap*	<i>Cortinarius hemitrichus</i>	Common
Glistening Inkcap	<i>Coprinellus micaceus</i>	Common
Green Elf Cup	<i>Chlorociboria aeruginascens</i>	Common
Grey Milkcap	<i>Lactarius vietus</i>	Common
	<i>Gymnopus fuscopurpureus</i>	Scarce (2 NF sites)
Hairy Curtain Crust*	<i>Stereum hirsutum</i>	Common
Holly Speckle	<i>Trochila ilicina</i>	Common
Holly Spot	<i>Phacidium lauri</i>	Common
Honey Fungus*	<i>Armillaria mellea</i>	Common
Ivory Bonnet*	<i>Mycena flavoalba</i>	Common
Jelly Ear	<i>Auricularia auricula-judae</i>	Common
Leopard Earthball	<i>Scleroderma areolatum</i>	Common
Meadow Waxcap*	<i>Cuphophyllus pratensis</i>	Common
Oakbug Milkcap	<i>Lactarius quietus</i>	Common
Ochre Aldercap	<i>Naucoria escharioides</i>	Common
Ochre Brittlegill*	<i>Russula ochroleuca</i>	Common
Orange Oak Bolete*	<i>Leccinum aurantiacum</i>	Common
Orange Mosscap*	<i>Rickenella fibula</i>	Common
Petticoat Mottlegill*	<i>Panaeolus papilionaceus</i>	Common
Pleated Inkcap*	<i>Parasola plicatilis</i>	Common
Pointed Club	<i>Clavaria acuta</i>	Common
Poisonpie sp.*	<i>Hebeoloma sp.</i>	Common
Purple Jellydisc*	<i>Ascocoryne sarcoides</i>	Common
Redlead Roundhead	<i>Leratiomyces ceres</i>	Occasional (2 NF sites)
Rhododendron Bud Blast	<i>Seifertia azaleae</i>	Common
Root Rot	<i>Heterobasidium annosum</i>	Common
Russet Toughshank	<i>Gymnopus dryophilus</i>	Common
Scarlet (or Ruby) Elf Cup	<i>Sarcoschypha austriaca</i>	Scarce (0 NF sites)
Scarlet Caterpillarclub*	<i>Cordyceps militaris</i>	Common
Scurfy Deceiver*	<i>Laccaria proxima</i>	Common
Sheathed Woodtuft	<i>Kuehneromyces mutabilis</i>	Common
Silverleaf Fungus*	<i>Chondrostereum purpureum</i>	Common
Sinuous Chanterelle	<i>Pseudocraterellus undulatus</i>	Common
Spring Brittlestem	<i>Psathyrella spadiceogrisea</i>	Common (1 NF site)
Southern Bracket*	<i>Ganoderma australe</i>	Common
Snapping Bonnet	<i>Mycena vitilis</i>	Common
Spectacular Rustgill	<i>Gymnopilus junonius</i>	Common
St George's Mushroom*	<i>Calocybe gambosa</i>	Common
Sticky Scalycap*	<i>Pholiota gummosa</i>	Common
Stinkhorn	<i>Phallus impudicus</i>	Common
Sulphur Tuft	<i>Hypholoma fasciculare</i>	Common
Trumpet Chanterelle	<i>Craterellus tubaeformis</i>	Common
Turkeytail*	<i>Trametes versicolor</i>	Common
Variable Oysterling*	<i>Crepidotus variabilis</i>	Common
Veiled Poisonpie*	<i>Hebeloma mesophaeum</i>	Common
Vinegar Cup	<i>Helvella acetabulum</i>	Occasional (1 NF record)
Violet Bramble Rust	<i>Phragmidium violaceum</i>	Common
Ugly Milkcap*	<i>Lactarius turpis</i>	Common
Velvet Twiglet	<i>Simocybe sumptuosa</i>	Occasional
Watery Milkcap	<i>Lactarius serifluus / subumbonatus</i>	Occasional

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White Saddle	<i>Helvella crispa</i>	Common
Winter Polypore	<i>Polyporus brumalis</i>	Common
Witches Butter	<i>Exidia glandulosa</i>	Common
Wood Blewit*	<i>Lepista nuda</i>	Common
Woolly Milkcap*	<i>Lactarius torminosus</i>	Common
Wrinkled Crust*	<i>Phlebia radiata</i>	Common
Yellow Club	<i>Clavulinopsis helvola</i>	Common
Yellow Fieldcap	<i>Bolbitius titubans</i>	Common
Yellow Stagshorn	<i>Calocera viscosa</i>	Common

Appendix 2: Selected images



Fig. A1: Common Toad in the southern conservation field on 25 Mar 2023



Fig. A2: Common Lizard in the southern conservation field on 04 Aug 2023

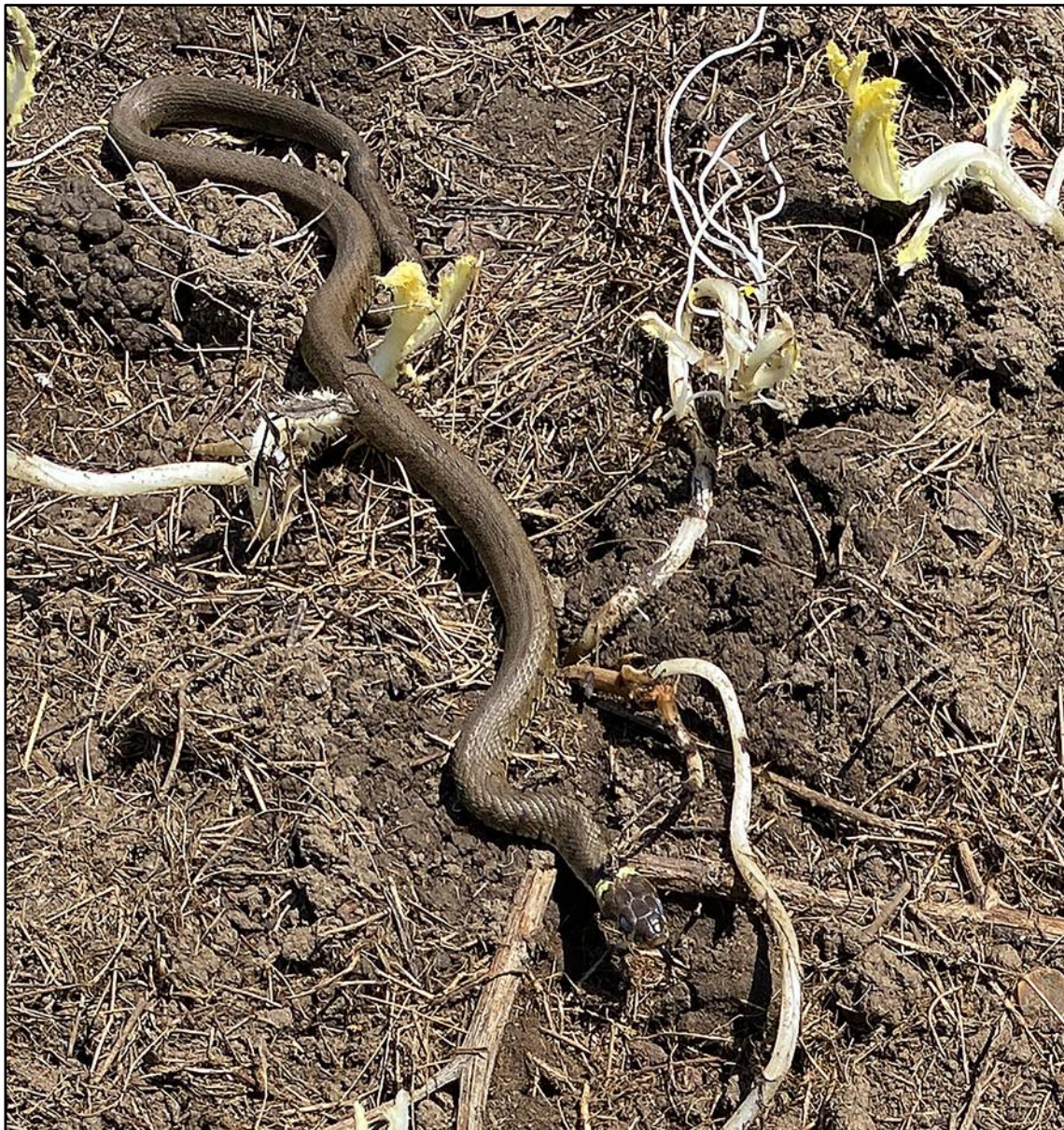


Fig. A3: Grass Snake in the southern conservation field on 02 June 2023



Fig. A4: Barn Owl pellet in small barn in the northern conservation field on 09 Nov 2023



Fig. A5: Male Stonechat with metal ring in the southern conservation field on 25 Mar 2023



Fig. A6: Hornet nest in an old Beech tree in the woodland block on 22 Sep 2023



Fig. A7: Golden-ringed Dragonfly in the southern conservation field on 02 June 2023



Fig. A8: Hornet Robberfly in the southern conservation field on 04 Aug 2023



Fig. A9: Wasp Spider in the southern conservation field on 04 Aug 2023

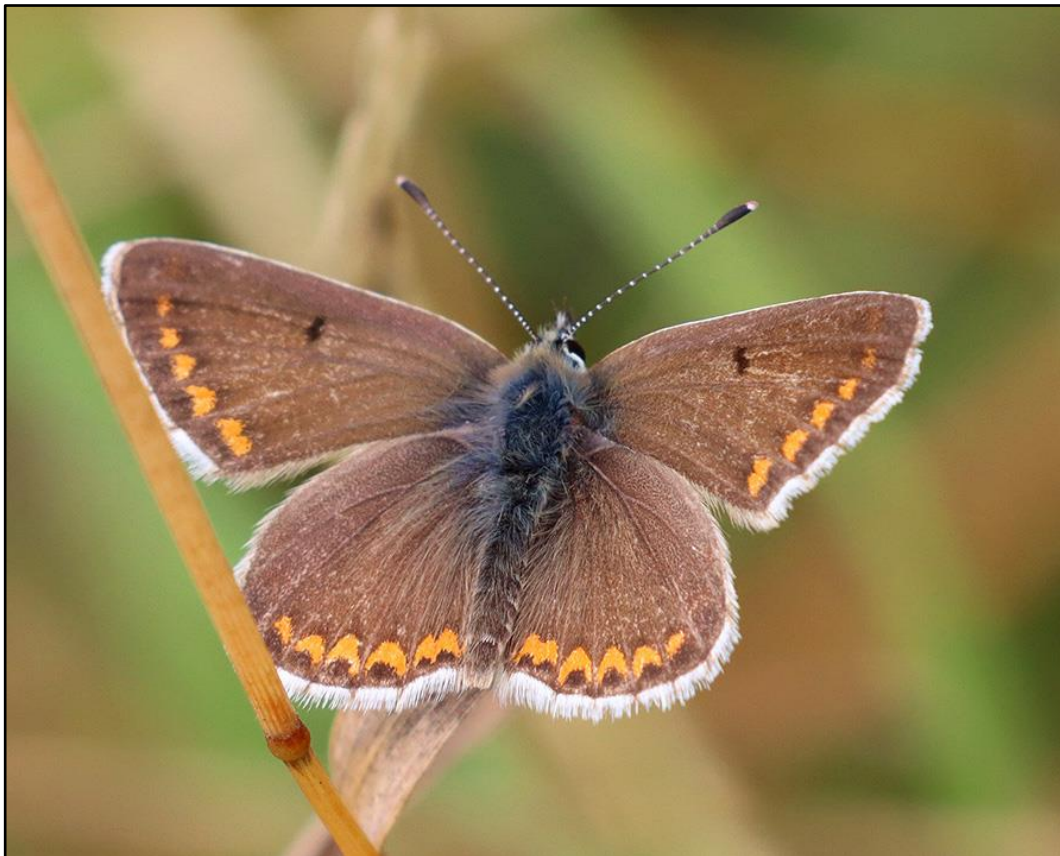


Fig. A10: Brown Argus in the central conservation field on 04 Aug 2023



Fig. A11: Common Centaury in the central conservation field on 08 July 2023



Fig. A12: Heath Speedwell in the central conservation field on 02 June 2023



Fig. A13: Southern Marsh Orchid in the northern conservation field on 02 June 2023



Fig. A14: Pyramidal Orchid in the northern conservation field on 08 July 2023



Fig. A15: Rushes and sedges in the southern conservation field on 02 June 2023



Fig. A16: Narrow Buckler Fern (with Black Snipefly) on 02 June 2023



Fig. A17: Himalayan Balsam bordering the southern conservation field on 22 Sept 2023

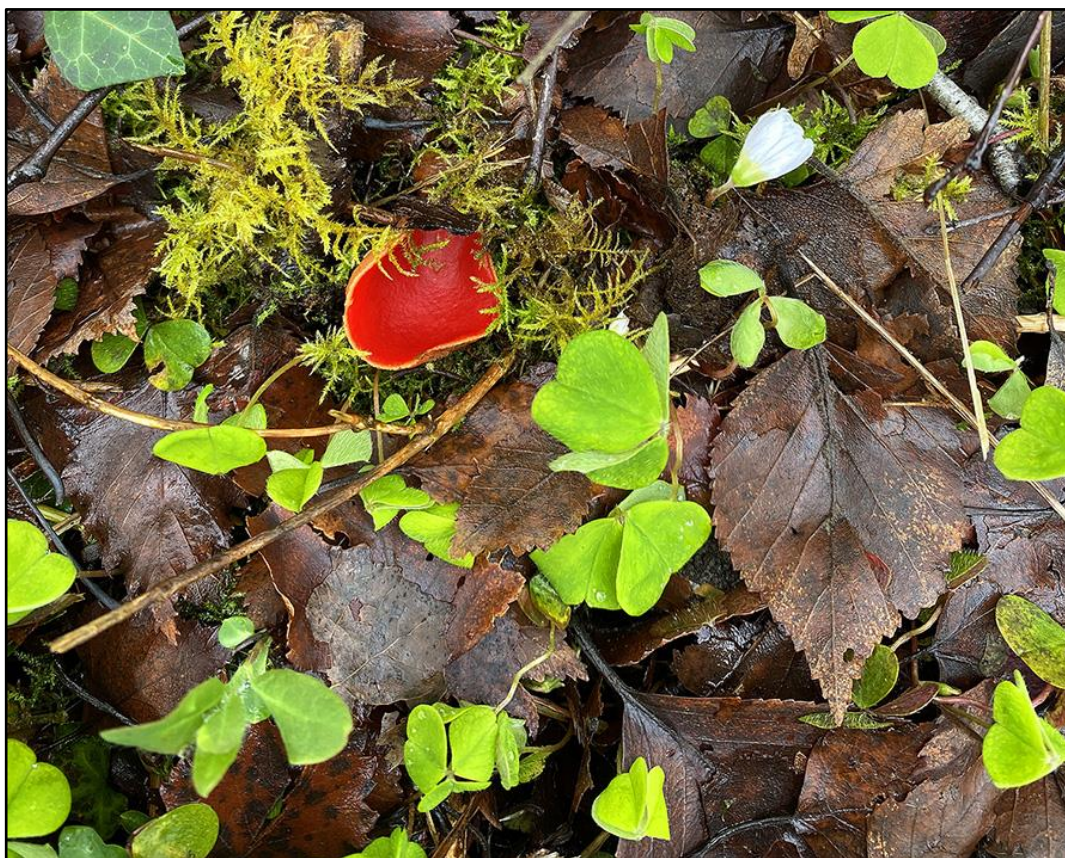


Fig. A18: Scarlet Elf Cup (probably) and Wood Sorrel on 01 Apr 2023



Fig. A19: Gymnopus fuscopurpureus on woodchip on 09 Nov 2023



Fig. A20: Blue Roundhead on woodchip on 09 Nov 2023



Fig. A21: Redlead Roundhead on woodchip on 09 Nov 2023



Fig. A22: Vinegar Cup in woodland on 01 April 2023



Fig. A23: Orange Oak Bolete in the southern conservation field on 04 Aug 2023



Fig. A24: Badger in the southern conservation field on 04 Mar 2023



Fig. A25: Fox at Site 3 carrying a female Pheasant on 17 May 2023



Fig. A26: Fox at Site 4 on 20 July 2023



Fig. A27: Fallow Deer with newborn fawn at Site 4 on 01 July 2023



Fig. A28: Fallow Deer buck at Site 4 on 21 Oct 2023



Fig. A29: Roe Deer buck at Site 4 on 12 Aug 2023



Fig. A30: Muntjac Deer buck at Site 4 on 18 Oct 2023



Fig. A31: Otter at Site 4 on 27 April 2023



Fig. A32: Polecat (centre of image) at Site 4 on 18 Oct 2023



Fig. A33: Stoat (right of image) at Site 4 on 20 April 2023



Fig. A34: Buzzard at Site 4 on 06 Aug 2023



Fig. A35: Portland Ribbon Wave during nocturnal survey on 06 Sept 2023



Fig. A36: Large Clouded Knot-horn *Homoeosoma nebulella* on 17 Aug 2023



Fig. A37: Vagrant Piercer *Cydia amplana* during nocturnal survey on 06 Sept 2023



Fig. A38: Fungus beetle Diaperis boleti during nocturnal survey on 07 July 2023



Fig. A39: Lesser Stag Beetle during nocturnal survey on 07 July 2023



Fig. A40: Mirid bug *Polymerus palustris* during nocturnal survey on 07 July 2023

Appendix 3: Biodiversity Enhancement Plan for Green Hill Farm, Landford, New Forest (submitted 22 Feb 2023)

Introduction

On 15 Nov 2022, the New Forest National Park Authority as the Local Planning Authority (LPA) granted planning permission, subject to conditions, for application number 21/00928 at Green Hill Farm, Landford, New Forest, SP5 2AZ, specifically:

- *Use of land for the siting of 150 holiday lodges (static caravans), which includes the existing 60 holiday lodges on site and 90 in place of the 130 existing touring and camping pitches; 16 glamping units consisting of 8 safari tents, 4 glamping pods and 4 shepherd huts; retention of dining tent; playground; cycle hire; fishing hut; trim trail; pond; extension of existing lake; operational development, including the laying of bases, access roads, parking spaces, paths, recreational areas and landscaping.*

Condition 11 relates to development of a Biodiversity Enhancement Plan (BEP) to mitigate risks to protected species and to deliver habitat management measures to enable Biodiversity Net Gain (BNG) both within and immediately adjacent to the development site. The habitat management measures included within the BEP should be in accordance with the Ecology Survey Report and Impact Assessment (RPS, 2022a) and the BNG Assessment (RPS, 2022b).

This document outlines the proposed BEP and is being submitted to the LPA for approval in writing prior to any further development, demolition, or site clearance taking place. As part of the Condition, *“the approved mitigation measures shall be adhered to throughout all phases of the development and the ecological enhancement measures shall thereafter be maintained in perpetuity, unless otherwise agreed in writing by the LPA”*.

This BEP is being delivered by Wild New Forest, who will oversee the proposed habitat management and biodiversity monitoring activity. Wild New Forest have specialist expertise in ecological survey and monitoring, and public education and outreach in the New Forest National Park. They are a trusted partner of Forestry England and New Forest Land Advice Service, delivering specialist ecological surveys on the Crown Lands and baseline ecological surveys on private estates and holdings around the forest fringe in support of wildlife conservation projects.

Mitigating impacts on protected species within the development site

The Green Hill Farm site is approximately 31 ha in area, with the proposed development site being approximately 20 ha in area and the front fields being nearly 11 ha in area (Fig. 1).

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Figure 1: Approved site masterplan, with the development site outlined in red and the front fields outlined in blue.

Ecological survey work conducted across the whole site by RPS (RPS, 2022a) identified evidence for several protected species, including Dormouse *Muscardinus avellanarius*, Badger *Meles meles*, and reptiles (with Grass Snake *Natrix helvetica*, Slow Worm *Anguis fragilis*, and Common Lizard *Zootoca vivipara* returning positive records). Most Badger and reptile activity was restricted to the margins of the front fields, which will be managed specifically to deliver BNG (see Section 4).

Although there was no evidence for Dormouse within the development site, a partially completed Dormouse nest was found in the mature hedgerow bounding the eastern margin, close to the access point to Plaitford Common. The new trees and landscape infrastructure (Fig. 1) should increase the availability of suitable habitat for this species around the margins of the site, and planting and subsequent hedgerow management will therefore take account of their food requirements through the seasons, e.g. Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa*, and Bramble *Rubus fruticosus*. Should any minor works be necessary to these hedgerows in future, e.g. removal of encroaching scrub or fallen trees blocking paths, the following precautionary approach will be adopted prior to works commencing as proposed by RPS (2022a):

- When Dormice are hibernating (i.e. between November and April inclusive), a fingertip search of the sections of scrub/trees due to be removed will be undertaken by a suitably licenced Ecological Clerk of Works (ECoW). Once the ECoW is satisfied that no Dormice are present, the scrub will be cut to approximately 30cm above ground

level using chainsaws or hand saws under the supervision of the ECoW. Any suitable arisings will be used to create brush piles within retained areas of habitat around the site.

- *Once Dormice are out of hibernation in May, any below-ground stumps will be removed under ECoW supervision.*
- *If any Dormice are found during the clearance, all works must cease and the need for a licence from Natural England evaluated.*

The survey by RPS (2022a) only found low numbers of reptiles on the development site. As the areas of habitat to be cleared on site are limited in extent, a habitat manipulation strategy has been proposed by RPS (2022a) whereby animals are moved out of work areas into retained surrounding habitat, should this be necessary.

- *Any suitable habitat that needs to be cleared will first be cut to a height of 10 cm, in suitable weather conditions when reptiles are active (sunny with air temperatures >10°C, between March and October, inclusive).*
- *The areas should then be left for 24 hours to allow any reptiles present time to move into adjacent retained areas of habitat.*
- *A second cut can then be carried out to cut the grass to ground level.*
- *The strimming should be carried out in the presence of an ecologist, and any reptiles seen will be caught by hand and re-located to surrounding habitat by the ecologist.*

Badger activity was largely restricted to the boundaries of the site (RPS, 2022a), and there was no evidence for Badger activity in the improved grassland areas where new lodges will be located, or for Badger setts within 30m of the development (the two outlier setts identified during the survey were located around the margins of the front fields). However, the recommendations made by RPS (2022a) will be implemented to mitigate potential negative impacts on Badgers, and a modified version of these recommendations is provided below:

- *A suitable re-survey of the site will be undertaken by Wild New Forest in Jan 2023, prior to works commencing, to identify the current use of the site by Badgers (this will primarily focus on sett locations as Badger activity may be limited at this season - the regular walkover surveys and trail camera deployments commencing in March 2023 and outlined in Section 5 will also pay special attention to signs of Badger activity).*
- *Heavy plant activity should not take place within a 30-meter buffer zone around any identified setts unless licensed by Natural England.*
- *Any excavation holes or pits that would be big enough for a Badger to fall into must not be left open overnight. They should be either covered up, or a suitable escape ramp should be provided (a scaffold board, for example).*

- *All rubbish, including food waste, must be removed from the site, and safely secured at the end of each day.*

Management actions to deliver BNG within the development site

RPS (2022b) provided outline management measures to deliver BNG within the development site. This includes an increase in the area covered by neutral grassland (meadow habitat) that will be managed in line with the blocks of meadow in the front fields (see Section 4). Creation of new hedgerows, scrub / woodland edge habitats, and two ponds, will be delivered as part of the Landscape Strategy, and Wild New Forest will work with the client to ensure the habitats and species being delivered as part of this strategy will support and enhance existing biodiversity on site. The two ponds comprise 1) an extension to the existing pond in the southern corner of the site, and 2) a small wildlife pond close to the eastern boundary of the site (Fig. 1). The excavation method for these ponds is still being developed, but the intention is for work on both ponds to be completed by the end of autumn 2023. It is intended that both ponds will contain features to support increased aquatic biodiversity, e.g. gently shelving natural margins, and that natural colonisation by aquatic flora and fauna will be accommodated and monitored.

Biodiversity survey and monitoring activities that are scheduled to commence on 01 March 2023 (see Section 5) will provide additional data on priority habitats and species within the development site. For example, Wild New Forest have previously identified a rich fern and saprophytic fungi assemblage within the wet alder- and birch-dominated carr woodland adjacent to the stream that runs through the development site, including notable wet habitat indicators such as Royal Fern *Osmunda regalis*; this wet woodland connects to a block of mostly damp broad-leaved woodland at the southern margin of the site that is also rich in ferns and mosses (and contains Butchers Broom *Ruscus aculeatus* along a drier section of woodland margin) but is currently degraded due to the presence of invasive *Rhododendron ponticum*.

As part of the management plan, it is therefore proposed that 1) dead wood continues to be retained within the woodland areas to support saprophytic invertebrates and fungi, and 2) *Rhododendron* will be removed from the woodland areas to allow native species of flora to reoccupy the woodland floor. The intention is for this area of woodland to continue to provide an important wildlife corridor through the centre of the development site, complementing that which will run around the site perimeter once hedgerow planting has been completed.

Finally, Wild New Forest have proposed development of a nature trail across the entire Green Hill Farm site, that will help to inform guests about wildlife and conservation, while also providing an on-site recreational resource that will help to reduce visitor pressure on the adjacent open forest.

RPS (2022b) calculated that delivery of the above management plan for the development area would see the BNG score increase from 34.38 habitat units to 66.82 habitat units, with new hedgerows providing an additional gain of 22.76 hedgerow units.

Management actions to deliver BNG in the front fields

The three front fields, outlined in blue on the approved site masterplan (Fig. 1), cover an area of nearly 11 ha. The habitats within these fields, and their surrounding hedgerows, have been described in recent reports (RPS, 2022a) based upon fieldwork conducted in summer 2021 and 2022.

The two largest fields (Fig. 1) mostly comprise neutral improved and semi-improved grassland, with their quality and condition varying spatially according to past management regimes (overall they are currently rather species-poor). They are bordered by hedgerows and mixed scrub, comprising a good variety of native tree and shrub species.

The following management regime for these two fields will come into force from 01 March 2023 and will see them managed predominantly as grassland meadow habitat for perpetuity (noting that this date is within six months of planning permission being granted, as outlined in Condition 13).

- The interiors of the fields are to be managed as grassland meadow, comprising at least 70% of the total area of each field (Fig. 1). The interior of each field will be sub-divided into four quarters, separated by regularly mown pathways to both enable and control recreational access. In addition, the external margins of each field will be mown. Signage will be installed to encourage recreational users (and their dogs) to remain on the mown paths and to discourage access to the grassland meadows. A mechanical mowing regime will initially be designed that is efficient and effective in delivering a variable sward height that will help to maximise overall floral and invertebrate diversity. At least one quarter of each field will remain uncut over an 18-month period commencing on 01 March 2023 to provide habitat for overwintering fauna - these uncut areas will be managed on a rotational basis to ensure continuity of habitat. The overall intention is to maintain the front fields as predominantly meadow habitats for perpetuity, and to prevent transition to scrub and ultimately woodland; this will ensure they are available for potential back-up grazing if required in the future.
- The measures outlined above will cover an 18-month period commencing on 01 March 2023, covering two 'growing seasons' through to the end of summer 2024. The floral and invertebrate diversity in the grassland meadows will be carefully monitored and assessed through this period, and a decision then taken as to whether grazing by forest livestock for specific periods of the annual cycle will be beneficial going forwards, both in terms of increasing floral diversity and managing sward height, and also to introduce herbivore dung into the system that will support coprophilous invertebrates and fungi. This would require additional secure fencing and potential exclusion of recreational users during the period of active grazing in each field. It is proposed that existing contacts in New Forest Land Advice Service are used to identify potential local graziers if this option is taken forwards.
- A strip of land around the margins of each field will be allocated to natural regeneration to provide an ecological transition between the existing mature hedgerows and the managed meadow habitats in the field interiors (Fig. 1). These 'buffer strips' of scrub

and woodland will also provide wildlife corridors around and across the site and will help extend the block of mature broadleaf woodland that borders the southern margin, while also providing additional screening in the longer term. This area of natural regeneration will comprise no more than 30% of the total area of each field. There are abundant and diverse seed sources for trees and shrubs in the adjacent hedgerows (Appendix A), but it is not clear at this stage whether existing grazing pressure from deer and rabbits will suppress sapling growth sufficiently to hinder or prevent natural regeneration. It is therefore proposed that the natural regeneration areas are initially fenced to exclude people only, which will ensure they are effective wildlife refugia, but with the option to install deer exclusion fencing in future if natural regeneration is not being achieved. Climax vegetation is expected to be broadleaved woodland or wood pasture (depending on future grazing regimes), but this will take several decades to achieve.

- A permitted bridleway will be installed along the boundary with New Road between the main entrance and the far western corner of the site (Fig. 1), with access points at either end; this will lie between the hedgerow bounding New Road and the area of natural regeneration described above.

The smallest (northernmost) field is subdivided into several blocks that are dominated by improved and semi-improved grassland, but that also include damp grassland and scrub/woodland; it is therefore proposed that a detailed management plan for this field is developed after further survey work has been conducted in 2023, given it comprises a wider variety of habitats than the two larger fields. The survey results and the future management plan for this field will be provided in the 2023 site biodiversity report at the year end.

RPS (2022b) calculated that delivery of the above management plan for the front fields would see the BNG score increase from 53.46 habitat units to 78.96 habitat units.

Ecological monitoring and reporting

An annual biodiversity monitoring programme will commence on 01 March 2023 and will initially be conducted by Wild New Forest. This programme will comprise the following:

- Monthly walkover surveys of the three front fields in the period March to October to record all observed fauna, flora, and fungi.
- Quarterly walkover surveys of the development site to record all observed fauna, flora, and fungi (March; April to June; July to Sept; Oct).
- Monthly transect-based acoustic surveys for bats across the entire site in the period May to September.
- Monthly moth surveys (non-destructive light trapping) at suitable locations in the front fields in the period May to September.

- Trail camera deployments from 01 March to 31 October at suitable and secure locations on the margin of each of the front fields, i.e. two or three cameras in total.

The intention of these integrated surveys is to build upon the initial baseline data collected by RPS and Wild New Forest (RPS, 2021), and to monitor changes in biodiversity over time, with a focus on priority habitats and species, e.g. NERC Section 41 species.

An inaugural site biodiversity report will be produced by Wild New Forest in draft form no later than 31 Dec 2023, and annually thereafter, outlining 1) the details of the survey methodology used, 2) the status of biodiversity on site (habitats and species), and 3) progress towards the BNG targets outlined above. Given this will be the first such report, it will contain further details of objectives and targets, e.g. management of the northernmost front field and the two ponds, which will be informed by the results of survey work and management interventions being delivered in 2023. A full species list incorporating data from all the above surveys will also be provided as an addendum to the report and will be updated annually, and all records of priority fauna, flora, and fungi species will be provided to the appropriate records centre.

The draft report will initially be provided to the NPA Ecologist for comment, and an annual meeting convened with the NPA Ecologist in January of each year to 1) capture feedback, 2) address any questions, and 3) collectively discuss management plans for the following year. Any required amendments will be incorporated into the final version of the report prior to publication, which will be no later than 31 Jan each year; the report will be provided digitally in PDF format on the Green Hill Farm Holiday Village website and will also be provided to the NPA Ecologist. The NPA Ecologist will also be invited to attend an annual site visit to assess progress against the objectives outlined above; the first visit, in 2023, will likely target the late spring or early summer (May-June) period.

References

RPS (2022a) Green Hill Farm – Ecology Survey Report and Impact Assessment. Ref. ECO02057.

RPS (2022b) Green Hill Farm – Biodiversity Net Gain Assessment. Ref. ECO02057.