

# North Kent Woods and Downs National Nature Reserve



## Habitat and Botanical Survey- 2024

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# Baseline Botanical Habitats and Species Surveys for the North Kent Woods and Downs National Nature Reserve

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## Contents

<b>Contents .....</b>	<b>2</b>
<b>Scope of surveys .....</b>	<b>4</b>
<b>Methodology .....</b>	<b>4</b>
<b>Results .....</b>	<b>5</b>
<b>UK Habitat Classification and Condition Assessments .....</b>	<b>5</b>
<i>S41 Habitats of Principal Importance within the NNR Project area</i>	5
<b><i>Flagship, rare and notable species of the NNR</i></b>	<b>7</b>
<i>WCA Schedule 8 plants</i>	7
<i>Species of Principal Importance – NERC Section 41 Vascular Plants</i>	10
<i>GB and England Red List - Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species</i>	12
<i>KRPR species (Rare or Scarce within Kent)</i>	14
<i>KRPR (relatively frequent species within Kent, not rare or scarce)</i>	15
<i>Axiophytes</i>	15
<i>Invasive Non-Native Species (INNS)</i>	17
<b>Overarching management recommendations for NNR.....</b>	<b>18</b>
<b>Site by site notes including recommendations .....</b>	<b>19</b>
<i>1. Shorne Woods Country Park</i>	19
<i>2. Cobham Wood</i>	22
<i>3. The 'Leisure Plots'</i>	24
<i>4. Ranscombe Farm</i>	25
<i>5. Ashenbank Wood</i>	28
<i>6. Jeskyns Community Woodland</i>	30
<i>7. Shorne Rough Common</i>	32
<i>8. Rochester and Cobham Park Golf Club</i>	33
<i>9. Cobham Hall School</i>	34
<i>10. Silverhand Estate</i>	35
<i>11. West Park</i>	38
<i>12. South Ashenbank Wood</i>	39
<i>13. Great Crabbles Wood</i>	40

14. <i>Crabbles Bottom</i>	41
15. <i>Holborough Woodlands (Including Lad's Farm &amp; some disused quarries)</i>	43
16. <i>Court Wood</i>	50
17. <i>Shorne Pasture</i>	51
18. <i>Scalers Hill Wood</i>	52
19. <i>Camer Park</i>	53
<b>References .....</b>	<b>54</b>
<b>Appendices .....</b>	<b>56</b>
<i>Lady Orchid Orchis purpurea records as part of baseline surveys for NNR</i>	56

## Scope of surveys

- A high-level **UK Habitat Classification (UKHab)** and **Statutory Biodiversity Metric Condition Assessment** to identify vegetation habitats and their condition, across the NNR project area, and highlight the priority habitats.
- Confirm the **Key sites** and **botanical hotspots** within the NNR.
- Highlight the **‘Flagship’ plant species** for the NNR including **protected, rare and locally notable plant species**.
- Make **recommendations** for areas requiring **management interventions**, including **Invasive Non-Native Species** management and further **botanical surveys** and **monitoring**.

## Methodology

The **UKHab** vegetation classification followed the methodology set out in Version 2 (2.01) [UKHab Ltd, 2023] and was conducted at a relatively low resolution due to the scale of the NNR project area and time constraints. The survey included the main area habitats but some linear habitats such as hedgerows were not included, and small patches of habitat were usually not recorded.

The habitat **condition assessment** utilised the assessment sheets within the Statutory Biodiversity Metric tools [DEFRA, 2023].

Within each surveyed area, key indicators were recorded to justify the UKHab classification and habitat condition assessments. Botanical species records were collected across the sites including INNS, and indicators of sub-optimal condition and in priority habitats relatively comprehensive species lists were made during the survey visits.

Rare plant species were recorded, including Schedule 8 species which are legally protected by the Wildlife and Countryside Act (WCA, 1981), GB and England Red List species with conservation statuses of Critically Endangered (CR), Endangered (EN) or Vulnerable to extinction (VU) and priority species of Principal Importance in Section 41 of the Natural Environment and Rural Communities (NERC) Act [BSBI, 2024]. Rare and notable species for Kent, as listed in Version 20 of the Kent Rare Plant Register (KRPR) were recorded, the list includes species that are rare in Kent and Nationally scarce species that are relatively frequent in Kent (KRPR\*) [Kitchener, 2024]. The recorded species lists also highlight the Axiophytes, defined as ‘worthy’ plants, that are often indicators of habitats considered important for conservation [Buckingham, 2023].

The large scale of woodland habitat across the NNR was classified using UKHab, the woodland blocks were not all classified at UKHab level 5 detail or in terms of National Vegetation Classification (NVC) communities, origin or management. There is historical information about this already, particularly in the SSSI citations and monitoring specifications. A list of Ancient Woodland Indicator (AWI) plants was recorded for woodland across each of the sites (see [AWI records for 2024 surveys](#)).



## Results

### UK Habitat Classification and Condition Assessments

The UKHab habitat types, also termed habitat ‘Distinctiveness’ in terms of the Statutory Biodiversity Metric and Biodiversity Net Gain, recorded in each of the NNR sites are summarised in the *‘Botany Summary Table’* along with a habitat Condition Assessment for each compartment. A sorted *‘Habitats by Type – Summary Table’* is also provided.

#### S41 Habitats of Principal Importance within the NNR Project area

##### **Arable field margins and Arable fields cultivated for annual flora**

Arable habitats on chalk soils supporting rare arable plants is arguably the most important habitat of the NNR. Recorded at Ranscombe Farm, Silverhand Estate and Holborough Woodlands - Lad’s farm. Arable field margins are well recognised in classification systems and listed as a Habitat of Principal Importance, but whole fields managed for arable plants are poorly considered and not included in the Statutory Biodiversity Metric, possibly as they are so rare. Since the Metric does not include ‘Arable fields – cultivated for annual flora’ as a ‘Distinctiveness’ type, the author used professional judgement to rate habitat distinctiveness as ‘Very High’ (Score 8 within the Metric, see the ‘Botany summary table’) since this habitat is rarer than many Priority habitats and valuable within this project area. The Metric also fails to include condition assessments for whole arable fields or arable margins, all being automatically rated as poor (score 1).

##### **Lowland calcareous grassland**

This is the classic chalk grassland associated with the North Downs in Kent. The Statutory Biodiversity Metric includes this habitat as ‘High’ Distinctiveness. Recorded at Ranscombe Farm, Holborough Woods – Lad’s farm, Silverhand Estate, Crabbles Bottom and within the ‘Leisure Plots’. Across the NNR sites, the chalk grassland was assessed in all conditions from ‘Good’ to ‘Poor’ with the main threat being scrub encroachment. This habitat was found in downland fields and scrub woodland clearings but also on narrow grassland strips around field edges and on hedge or woodside banks.

##### **Lowland dry acid grassland**

A rare habitat in Kent. Recorded at Shorne Woods Country Park, and Cobham Hall School. Shorne Pasture was recorded as ‘Other dry acid grassland’. The Statutory Biodiversity Metric includes this habitat as ‘Very High’ Distinctiveness with ‘Other dry acid grassland’ as ‘Medium’ Distinctiveness. None of the acid grassland within the NNR project area was currently assessed as in ‘Good’ condition.

##### **Wood-pasture and parkland**

This is a habitat complex comprising grassland and other habitats, usually in a historical context with parkland trees and a ‘Very high’ Distinctiveness habitat within the Metric. Wood-pasture and parkland habitat was confirmed in the NNR at Ashenbank Wood, Cobham Wood and Camer Park. In all three sites the habitat was in ‘Moderate’ condition with management or enhancement actions recommended.

**Lowland beech and yew woodland**

Not mapped in detail but mainly found within Holborough Woods. A 'High' distinctiveness habitat in 'Moderate' to 'Good' condition.

**Wet woodland – Alder wood on floodplains**

Recorded in Shorne Woods Country Park. A 'High' distinctiveness habitat in 'Moderate' condition.

**Other lowland mixed deciduous woodland**

A large important habitat across multiple sites within the NNR. A 'High' distinctiveness habitat in 'Moderate' to 'Good' condition.

**Traditional orchard**

Recorded at Crabbles Bottom in 'good' condition, including features of veteran apple trees but with an opportunity for grassland enhancement. Traditional orchard has also been established throughout the grasslands at Jeskyns Community Woodland, the assessment is limited to 'Moderate' condition due to the young age of the fruit trees, precluding the important features of veteran trees within the habitat. However, this site provides valuable future continuity of this rare habitat in Kent.

**Hedgerows**

Native hedgerows and particularly species-rich native hedgerows are important habitats and also provide connectivity between other habitats. Individual hedgerows could not be surveyed across the NNR due to time constraints. It would be good to consider some hedgerow surveys of sites, including condition assessments and management options within the NNR. There may also be opportunities for hedgerow planting, particularly to enhance connectivity.

**Eutrophic standing water**

Only a few ponds could be surveyed and condition assessed within this report. However, these habitats have been assessed in terms of their quality for supporting other taxa including amphibians.

## Flagship, rare and notable species of the NNR

The duplicate survey lists are in two separate Excel Spreadsheets and sorted either by species scientific names (*NNR 2024 Species List and Conservation Priorities*) or by site (*NNR 2024 Species List by Site*), the protected and conservation status species are highlighted in labelled tabs within both worksheets.

## WCA Schedule 8 plants

**Ground-pine** *Ajuga chamaepitys* is undoubtedly a flagship priority species for the NNR. Ground-pine was recorded at Lad's Farm (Holborough woods, site 15) in the field known as 'Field 2' in previous botanical surveys (Compartment 189) [Mason, 2012 & 2015]. Ground-pine was locally frequent in disturbed areas along the top fence and trackway and particularly near to the area disturbed for a new gate. However, there were significantly less plants and they were less widespread across the field than they were in 2012, but it may have increased since 2015 due to recent disturbance for the new gateway area. No sign of ground pine was found in Fields 8 or 9 (Compartments 195 & 196). This may represent an overall decline in this species at Lad's farm, for reference an extract of my 2015 survey report [Mason, 2015] is given here:

"The distribution and abundance of Ground-pine across the site is of concern. In 2012 this plant was recorded in Fields 2, 8 and 9, with widespread distribution and abundance particularly in Fields 2 and 9. However in 2015, Ground-pine was not recorded in Field 9 and was showing a dramatic decrease in Field 2, where it is now confined to the top edge of the field next to the fence line. The plant was re-recorded in Field 8, growing in its original location along a disturbed track. The declines in Field 2 and 9 are considered to be due to a combination of lack of ground disturbance and the regeneration / re-colonisation of scrub; the population in Field 8 is also believed to be at risk from scrub development. Ground-pine is a short-lived annual or biennial species which requires disturbed and bare ground in order to thrive and will have benefited from the extensive soil disturbance caused during the initial restoration phase of this project. Its seeds are long-lived and the declines currently witnessed here, particularly within Fields 2 and 9 are reversible, if the planned conservation management regime involving mechanical scrub control, rotational soil disturbance and maintenance of discrete areas of bare ground is implemented."

The reduction in Ground-pine is almost certainly due to a lack of ground disturbance management, this species readily reappears given appropriate management and this should be a priority action. Scrub management will be a recommendation for the chalk grassland in Fields 8 and 9 too, and this should include sufficient soil disturbance to allow Ground-pine to recolonise from the seed bank.

Ground-pine was also historically recorded from Ranscombe farm at the top of Kitchen Field, but wasn't found during this rapid survey (15/7/2020 is the last record from Ranscombe Farm on the BSBI database). However, following soil cultivation/disturbance in 2022, five plants of Ground-pine were recorded by Ben Sweeney in 2024 (Pers. Comm). Management advice from 'Back from the Brink' [Plantlife, 2021]:

"This species requires regular soil disturbance and scrub clearance can be important in order to maintain Ground-pine populations in grassland habitats. Scrub clearance and grazing with cattle or ponies can provide bare ground required for germination. Scrub management through light ploughing or harrowing has also been successful.

Disturbance should not be so frequent as to destroy germinated seedlings and no disturbance should be carried out during the flowering and seeding period. Plants retain seeds into the winter, so clearance work should not be carried out too early, and attention should be paid to the disposal of cuttings. In arable habitats cultivated and uncropped margins and plots provide suitable habitat as well as unsprayed headlands. As Ground-pine seedlings do not survive frosts it is recommended that cultivation occurs in spring. It is unknown if this species requires ploughing or if minimum tillage provides adequate disturbance.”

Long-term, it may be worth investigating the viability of translocation from Lad’s farm to suitable areas across the NNR sites. This would require a large population to first be recovered such that seeds could be collected. A licence would be required from Natural England since this is a Schedule 8 species. Establishment from seed at new sites, as well as studies to address the question posed above, regarding disturbance required in arable habitats i.e.. ploughing or minimum tillage, could be a potential research projects for the Species Recovery Programme.

**Broad-leaved Cudweed** *Filago pyramidata* is already a flagship of the Plantlife reserve at Ranscombe Farm and could potentially spread or be already present in the seedbank at other arable sites in the NNR. Historically Broad-leaved cudweed has been recorded in the millions at Ranscombe Farm (Site 4) although records have been lower in recent years [Kitchener, 2024]. Only a few plants were recorded during this survey in Kitchen Field, Longhoses and arable field south of the North Downs Way (Compartments 29, 31 & 34), although an exhaustive search was not made for individual species. It may be worth considering translocations of seed under Schedule 8 Protected species licence to other suitable arable sites in the NNR, and potentially to the chalk grassland habitats within the disused quarries in the Tarmac landholding, if open ground can be maintained. It may be that it could be moved around by cattle between Ranscombe Farm and adjacent sites, for example if it could be re-established from the seedbank in Brockles Field, or moved from Kitchen Field by cattle, could it move on to the chalk grassland or arable margins of adjacent fields on the Silverhand Estate? There is lots of information and potential research questions in the Back from the Brink project resources including in ‘Looking after Broad-leaved Cudweed *Filago pyramidata*: Ecology and Conservation Portfolio’ [Shellswell, 2021].

**Rough Marsh-mallow** *Malva setigera* (Syn. *Althaea hirsuta*) is not native or archaeophyte but is listed on Schedule 8. Rough Marsh-mallow is certainly a ‘Kent Heritage Plant’, recorded as present at Ranscombe Farm since it was first discovered in 1792, which is accepted as the first record for British Isles [Kitchener, 2024]. NB. Rough Marsh-mallow was not recorded during this survey. However, since the survey, Ben Sweeney has provided records for 2024, 122 plants were recorded from the top margin of Kitchen Field. Ben reported that this was the highest number since 2015 and the first appearance of Rough Marsh-mallow here since 2021. Ben provided useful management guidance for the species that is summarised here: “It requires sufficient disturbance but not annually, if a continuous sward of grassland develops the Rough Marsh-mallow may be lost.” Ben’s management in autumn 2022 used a digger to churn up the top 2 metres of Kitchen Field, between the arable and grassland, no plants were seen in 2023 but 122 re-appeared in summer 2024.

**Meadow Clary** *Salvia pratensis*. Four plants only were recorded in the known location at Ranscombe Farm, the visit was relatively late in the season, the area was fairly rank with tall

vegetation around the plants. There is a wealth of knowledge at Ranscombe Farm regarding management for this species, which does not need to be repeated here.



## Species of Principal Importance – NERC Section 41 Vascular Plants

**Ground-pine** was reported above under Schedule 8 species.

**Broad-leaved Cudweed** was reported above under Schedule 8 species.

**Musk Orchid** *Herminium monorchis* is an important ‘flagship’ species for the NNR, this part of West Kent supports an important population of Musk Orchid, which is vulnerable to extinction in the wild. Musk Orchid was recorded during this survey at Lad’s farm, in the same area of Field 4 (Compartment 191) as in 2012 & 2015 [Mason, 2012 & 2015] but only two flowering spikes were found. However, no plants were found in the area of Field 5 (192), where it had previously occurred, and it was not re-found in Field 6 (193) where the author had found it in 2012. These areas of Fields 5 and 6 were relatively scrubby or rank in comparison to when the Musk Orchids were recorded before. In Field 5 other common orchid species were also not seen that had grown in the same area previously. The decline in Musk Orchid numbers and colonies across Lad’s Farm, probably largely due to a lack of short turf and scrub encroachment, may have continued since 2015. The summary and recommendations from the 2015 survey are provided for comparison here [Mason, 2015]:

“Musk Orchid was recorded in Fields 4, 5 and 6 in 2012, and was re-recorded at the same locations in both Fields 4 and 5 in 2015, although numbers in both fields are showing a general decline. The vegetation in Field 6 was noted to be both taller and more scrubbed over than in 2012 and no musk orchids were recorded in 2015. Musk orchid is a chalk specialist requiring a short sward, and the decline noted here is attributed to scrub encroachment.”

Field 6 now has a very nice chalk grassland bank, with Basil Thyme and other species, that looks good potential habitat worth checking in future years. The survey was possibly a few weeks late to maximise chances of finding this diminutive species, and a small number of Hebridean sheep were grazing Fields 4 and 5 which may have removed flower spikes. It is recommended that further surveys are carried out as well as scrub management both on the bank and in the flat area where Musk Orchid was previously found in 2012.

**Basil Thyme** *Clinopodium acinos* should also be a flagship species for the NNR. Basil Thyme was recorded at the Silverhand Estate (Site 10) in the chalky margin at the top of the Warren (Compartment 109) and in the chalky arable margin of the adjacent field west along the railway line (Compartment 102). A large patch of Basil Thyme, approximately ten square metres in size, was also recorded at Lad’s Farm (Site 15) on the chalky bank within Field 6 (Compartment 193). I had not recorded it here in 2012 or 2015 but the BSBI database does record it at this same site in 2015. Management is similar to that recommended for Ground-pine, occasional disturbance and creation of bare ground and scrub control. More information and guidance can be found in the Plantlife factsheet [Plantlife, 2020] and BSBI species account [Stroh, 2015].

**Fly Orchid** *Ophrys insectifera* was only recorded at the Silverhand Estate (Site 10) on ‘Orchid bank’ (Compartment 141), although the woodlands within the NNR are very likely to contain further locations. Mill Hill woodland at Ranscombe Farm is reported to have a good population of Fly orchid. Care is needed to manage this small population at Silverhand Estate

and protect it from Vineyard operations. More information and guidance can be found in the Plantlife factsheet [Plantlife, 2021]:

“The aim of management is to create thin grassland under an open scrub or grassland canopy, particularly along woodland edges or within woodland glades. Management is required to keep the ground flora relatively thin and short, and to remove build-up of grassy thatch and leaf litter under trees. In woodland habitats, scrub management along the edges of rides and glades to restore dappled light conditions should be undertaken.”

**Man Orchid** *Orchis anthropophora* is relatively common in some good chalk grasslands in Kent but Kent is important as the core territory for this species in the British Isles [Kitchener, 2024]. Man Orchid was under-recorded during this survey, only being recorded at Silverhand Estate (Site 10) on Long Field West and Bomb Field chalk bank top (Compartments 132 & 135 respectively). However, these two fields were new records for the species. Man Orchid is well known from Ranscombe Farm and was previously found at Lad’s Farm in Fields 4 and 5 [Mason, 2015], in the former site it may have been temporarily lost to scrub encroachment. The survey visits were necessarily brief and at these sites may have missed the flowering season and the orchid could have been overlooked or removed by sheep or natural grazers.

**Chalk Eyebright** *Euphrasia pseudokernerii* was confirmed by Lliam Rooney in chalk grasslands at Lad’s Farm, in Fields 4,5,6 & 8 (Compartments 191, 192, 193 & 195C respectively). Chalk Eyebright is Nationally scarce and red listed as Vulnerable to Extinction, but Kent is a stronghold, and fortunate to have a number of sites for this species. Good chalk grassland management practice applies to this species.

**Common Juniper** *Juniperus communis* ssp. *communis* was recorded, as a single aging shrub, at its known location in Field 4 (compartment 191) at Lad’s Farm (Site 15). Juniper is declining in Kent and is at risk due to lack of recruitment of new plants, particularly since regeneration from seed requires both male and female plants to be present and new seedlings risk being grazed off. Consideration could be given to reintroduction, with all necessary consultation and if an appropriate site could be located within the NNR, but there may be a deficit of local provenance seedlings or seed.

**White Helleborine** *Cephalanthera damasonium* was previously recorded in Crookhorn Wood under the veteran beech *Fagus sylvatica* trees near to Crookhorn bungalow. No sign of old flower spikes were found in the summer survey visits but this was not the focus of this survey and would need revisiting in Spring. In Kent White Helleborine is not uncommon on chalk under beech, it is an axiophyte, and considered an indicator of good habitat [Kitchener, 2024 & Buckingham, 2023].

## GB and England Red List - Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species

No **CR** species were present within the NNR project area.

**Ground-pine** is **EN** on the GB and England Red lists [BSBI, 2024], this species was discussed above under WCA Schedule 8 species.

**Broad-leaved cudweed** is **EN** on the GB and England Red lists [BSBI, 2024], this species was discussed above under WCA Schedule 8 species.

**Narrow-fruited Cornsalad** *Valerianella dentata* is **EN** on the GB and England Red lists [BSBI, 2024]. Narrow-fruited Cornsalad is part of an assemblage of rare arable plant species that are an important feature of the proposed NNR. Narrow-fruited Cornsalad was occasional in arable margins and some vine rows at Silverhand Estate (Site 10, recorded at multiple locations) and was frequent in the arable fields at Ranscombe Farm (Site 4, compartments 29, 31 & 36) and one arable margin (199) at Lad's Farm (Site 15). This species is currently considered neither rare or scarce, in Kent. However, the number of tetrads in which it is recorded may have declined by up to 53% which is concerning [Kitchener, 2024]. Management actions for arable plant species should be a focus for the Silverhand Estate within the NNR, following the tried and tested management at Ranscombe Farm. The Silverhand Estate has an exciting opportunity to be a focus for further research and innovation in arable plant conservation within vineyards and to become a stronghold for rare and threatened arable plant species.

**Man Orchid** is **EN** on the GB and England Red lists [BSBI, 2024], this species was discussed above under NERC Section 41 species.

**Stinking Chamomile** *Anthemis cotula* is **VU** on the GB and England Red lists [BSBI, 2024] and another important arable plant for the NNR. Stinking Chamomile was frequent at Ranscombe Farm (Site 4) in Kitchen Field (Compartment 34) and a few plants were also found in Longhoses (29) and another arable field (31). The species was rare in arable at Silverhand Estate (Site 10), it was in the arable margins above and below Henley bank (122) and growing on a chalk mound in the corner of a vineyard (118). It was also found in an arable margin at Lad's Farm (Site 15, compartment 119). Stinking Chamomile is not rare or scarce in Kent but is likely to have declined like most arable plants as a result of changing land management. This species appears to respond well to carefully timed minimum tillage rather than deep ploughing [Moyse, 2016]. There is an opportunity to encourage the spread and abundance of this species along with the wider arable plant assemblages within the NNR, particularly across Silverhand Estate and Lad's Farm.

**Basil Thyme** is **VU** on the GB and England Red lists [BSBI, 2024], this species was discussed above under NERC Section 41 species.

**Dwarf Spurge** *Euphorbia exigua* is **VU** on the GB and England Red lists [BSBI, 2024] and an important species of arable chalk margins within the NNR. Dwarf Spurge was not found in any abundance across the NNR sites, only ever being 'rare' at the sites where it was found. Dwarf spurge was recorded in Kitchen Field (34) at Ranscombe Farm (Site 4), on orchid bank margin

(141) and the chalk mound corner of the vineyard (118) at Silverhand Estate (Site 10). The largest patches were found within the arable margin at Lad's Farm (Site 15, compartment 119), although still only rare in abundance. In Kent, although Dwarf Spurge is not yet scarce, there is evidence of a serious decline in recent years [Kitchener, 2024]. As with other arable plants of arable and chalk, there is an opportunity to encourage the spread and abundance of this species within the NNR, particularly across Silverhand Estate and Lad's Farm.

**Chalk Eyebright** is **VU** on the GB and England Red lists [BSBI, 2024], this species was discussed above under NERC Section 41 species.

**Musk Orchid** is **VU** on the GB and England Red lists [BSBI, 2024], this species was discussed above under NERC Section 41 species.

**Fly Orchid** is **VU** on the GB and England Red lists [BSBI, 2024], this species was discussed above under NERC Section 41 species.

**Lady Orchid** *Orchis purpurea* is **VU** on the GB and England Red lists [BSBI, 2024], as an iconic widely recognised orchid species, this species can be a flagship for land manager and public engagement with the conservation aims of the NNR. Lady Orchid monitoring in Kent is the part of an ongoing action within the Kent Biodiversity Strategy to monitor three target indicator species nominated by the Kent Botanical Recording Group (pers. comm. from Sue Buckingham). It is hoped that recording populations of Lady Orchid and its associate species and surrounding habitat will lead to greater understanding of its requirements and inform good management. Kent has the main national populations of Lady Orchid, most populations are small, and the species is likely to be declining. Lady Orchid is considered an indicator of well managed coppice woodland on chalk. A separate report of Lady Orchid populations found or absent from the known sites, and new sites, found during these woodland survey visits, is appended to this report. The records were from the woodlands at Ranscombe Farm (Site 4) and Holborough Woodlands (Site 15).

**Cat Mint** *Nepeta cataria* is **VU** on the GB and England Red lists [BSBI, 2024]. Catmint was notably absent on historical sites within the NNR. It would be recommended to revisit known historical sites for Catmint and consider targeted management actions. There are historical records from the NNR area, including a Kent Field Club meeting in 2015 where a few plants were found in the area between Field 4 and Field 3 at Lads Farm. There is also a record from 2009, near the PROW below Field 9 [BSBI database]. Cat Mint is often a casual only, appearing in disturbed ground and may disappear with further disturbance. However, it is thought that the longevity of its seedbank and the likelihood that germination is staggered offer the prospect of its reappearance [Kitchener, 2024]. This species may require some disturbance of marginal habitats around NNR sites, such as wood banks, field and track edges and monitoring should focus on any areas that have been recently disturbed.

**White Helleborine** is **VU** on the GB and England Red lists [BSBI, 2024], this species was not recorded, previous records were discussed above under NERC Section 41 species.

**Common Dodder** *Cuscuta epithymum* is **VU** on the GB and England Red lists [BSBI, 2024], this species was not recorded during the current survey but an exhaustive search was not

conducted. There are recent records of this species on Henley Bank (Compartment 121) at Silverhand Estate (Site 10) from visits by Mark Spencer in 2020 and Richard Moyse with the Kent Field Club in 2022 [BSBI database].

#### KRPR species (Rare or Scarce within Kent)

**Corncockle** *Agrostemma githago*. Nationally believed extinct as an archaeophyte arable plant, however it is on the waiting list until its National status can be determined. Since it is possible that its occurrence at Ranscombe Farm may derive from the buried seed bank it is on the KRPR as locally scarce [Kitchener, 2024]. Corncockle was recorded in Longhoses Field (Compartment 29) at Ranscombe Farm (Site 4) during the survey. Continued management and monitoring for arable plants recommended.

**Hairy Lady's-mantle** *Alchemilla filicaulis* ssp. *vestita*. The specific location within Ranscombe Farm (Great Wood) was not visited during this survey but there is a record from 1/8/2023 by Richard Moyse [BSBI Database]. Check continued management and monitoring is within site management plan.

**Orange Foxtail** *Alopecurus aequalis*. Orange Foxtail was not recorded during this survey. I checked the site where Joyce Pitt and the author found it on 20th July 2009, at Shorne Woods Country Park (Site 1) in Randall's Bottom pond, at TQ67867 70196 [Pitt & Mason, 2010]. However, an extensive search could not be carried out of the wet over-grown valley bottom and the species may still be re-found if a suitable open area of drying mud is present at the right time for its appearance.

**Clustered Bellflower** *Campanula glomerata* was widely recorded on chalk grassland within the NNR. At Ranscombe Farm (Site 4) it was recorded in the glade at Mill Hill (Compartment 32) and in Brockles Field (Compartment 33). At Silverhand Estate (Site 10) it was found on Henley Bank (Compartment 121) and along the chalk grassland wood bank 'Orchid bank' (141). It was very widespread within Lad's Farm grasslands, recorded in Fields 3,4,6,7,8 & 9 (Site 15, Compartments 190, 191, 193, 194, 195A & C & 196) and also present within the Holborough Woodland tracks, rides and hedge margins. Field 6 did not have records in the 2015 survey, the bank where Basil Thyme and other chalk species are now growing is very good chalk grassland now, so management may have helped it appear, or it could have been previously over-looked. Clustered Bellflower is scarce in Kent but this area including the NNR, is undoubtedly its stronghold in the county and this attractive recognisable species should be a flagship species for the NNR. It is an axiophyte species indicative of good chalk grassland habitat and responds well to scrub clearance and would be impacted, along with other chalk grassland herbs, if scrub is not appropriately managed.

**Blue Pimpernel** *Lysimachia foemina* was recorded on the northern edge of Kitchen Field (34) at Ranscombe Farm (Site 4). Four plants were recorded, the northern edge of this arable field is Blue Pimpernel's only currently known location in Kent. It was also recorded in nearby Brockles Field by Richard Moyse in 2010. It would be fantastic to think that more suitable



habitat could be managed for this Kent 'rare' species to spread within Ranscombe Farm and beyond to Silverhand arable margins perhaps.

**Burnet Rose** *Rosa spinosissima* was recorded at Lad's Farm in Fields 2, 3 and 4 (Site 15, compartments 189, 190 & 191) and in a woodland ride in Holborough Woodlands, Halling wood (Site 15). Burnet Rose may have spread from Field 4 into Fields 2 and 3 since the 2015 survey, or was previously overlooked, as it was previously only noted in Field 4. At Ranscombe Farm (Site 4) Burnet Rose was recorded in the chalk grassland glade at Mill Hill (Compartment 32). Burnet Rose is scarce in Kent and in its current sites is more at risk of scrub encroachment shading it out than it is a threat to the chalk grassland habitats, as part of the scrub itself.

**Ground-pine, Broad-leaved Cudweed, Musk Orchid, Common Juniper and Meadow Clary** are also listed in the KRPR as rare or scarce in the county but have been previously discussed above under their respective National Conservation statuses.

#### KRPR (relatively frequent species within Kent, not rare or scarce)

KRPR species that are relatively frequent in Kent, that is they are not regarded as rare or scarce in the County, that were recorded in this survey were: Stinking Chamomile, Quaking Grass *Briza media*, Harebell *Campanula rotundifolia* ssp. *rotundifolia*, Carlina Thistle *Carlina vulgaris*, Chicory *Cichorium intybus* ssp. *silvestre*, Basil Thyme, Crosswort *Cruciata laevipes*, Hound's-tongue *Cynoglossum officinale*, Dwarf Spurge, Chalk Eyebright, Wild Strawberry *Fragaria vesca*, Autumn Gentian *Gentianella amarella* ssp. *amarella*, Common Rock-rose *Helianthemum nummularium*, Field Scabious *Knautia arvensis*, Corn Mint *Mentha arvensis*, Sainfoin *Onobrychis viciifolia*, Fly Orchid, Man Orchid, Lady Orchid, Wood Sorrel *Oxalis acetosella*, Hoary Plantain *Plantago media*, Greater Butterfly-orchid *Platanthera chlorantha*, Tormentil *Potentilla erecta*, Sanicle *Sanicula europaea*, Ragged-robin *Silene flos-cuculi*, Devil's-bit Scabious *Succisa pratensis*, Narrow-fruited Cornsalad and Heath Speedwell *Veronica officinalis*.

Many of these species have already been described, since they have National Conservation statuses and others are relatively frequent species of good habitats, so not expanded here. The recorded locations can be seen in the attached species list.

#### Axiophytes

Axiophytes are defined as 'worthy' plants, that are often indicators of habitats considered important for conservation [Buckingham, 2023]. The number of Axiophyte species recorded within the NNR were a reflection of the range of good habitats present. These species recorded locations are shown in the species lists, they are not discussed further here but may be highlighted in the individual site reports.

Axiophytes were: Moschatel *Adoxa moschatellina*, Early Hair-grass *Aira praecox*, Ground-pine, Wild Garlic *Allium ursinum*, Pyramidal Orchid *Anacamptis pyramidalis*, Wood anemone *Anemone nemorosa*, Stinking Chamomile, Kidney Vetch *Anthyllis vulneraria*, Squinancywort *Asperula cynanchica*, Wild Liquorice *Astragalus glycyphyllos*, Downy Oat-grass *Avenula pubescens*, Yellow-wort *Blackstonia perfoliata*, Quaking Grass, Upright Brome *Bromopsis erecta*, Hairy Brome *Bromopsis ramosus*, Clustered Bellflower, Harebell, Nettle-leaved

Bellflower *Campanula trachelium*, Musk Thistle *Carduus nutans*, Glaucous Sedge *Carex flacca*, Oval Sedge *Carex leporina*, Tussock Sedge *Carex paniculata*, Pill Sedge *Carex pilulifera*, Remote Sedge *Carex remota*, Wood Sedge *Carex sylvatica*, Carlina Thistle, Hornbeam *Carpinus Betula*, Greater Knapweed *Centaurea scabiosa*, Lesser Centaury *Centaureum pulchellum*, Small Toadflax *Chaenorhinum minus*, Dwarf Thistle *Cirsium acaule*, Basil Thyme, Common Calamint *Clinopodium ascendens*, Pignut *Conopodium majus*, Lily-of-the-valley *Convallaria majalis*, Midland Hawthorn *Crataegus laevigata*, Crosswort, Hound's-tongue, Spurge-laurel *Daphne laureola*, Broad-leaved Helleborine *Epipactis helleborine*, Blue Fleabane *Erigeron acris*, Wood Spurge *Euphorbia amygdaloides*, Dwarf Spurge, Common Eyebright, Chalk Eyebright, Sheep's Fescue *Festuca ovina*, Broad-leaved Cudweed, Dropwort *Filipendula vulgaris*, Alder Buckthorn *Frangula alnus*, Dense-flowered Fumitory *Fumaria densiflora*, Lady's Bedstraw *Galium verum*, Autumn Gentian, Long-stalked Crane's-bill *Geranium columbinum*, Common Rock-rose, Musk Orchid, Hawkweed species *Heiracium* sp., Horseshoe Vetch *Hippocrepis comosa*, Bluebell *Hyacinthoides non-scripta*, Slender St. John's-wort *Hypericum pulchrum*, Ploughman's-spikenard *Inula conyzae*, Common Juniper, Sharp-leaved Fluellen *Kickxia elatine*, Round-leaved Fluellen *Kickxia spuria*, Field Scabious, Venus's-looking-glass *Legousia hybrida*, Rough Hawkbit *Leontodon hispidis*, Common Gromwell *Lithospermum officinale*, Southern Wood-rush *Luzula forsterii*, Hairy Wood-rush *Luzula Pilosa*, Great Wood-rush *Luzula sylvatica*, Yellow Pimpernel *Lysimachia nemorum*, Yellow Loosestrife *Lysimachia vulgaris*, Wood Melick *Melica uniflora*, Corn Mint, Wood Millet *Millium effusum*, Changing Forget-me-not *Myosotis discolor*, Common Twayblade *Neottia ovata*, Common Restharrow *Ononis repens*, Fly Orchid, Man Orchid, Early-purple Orchid *Orchis mascula*, Lady Orchid, Bird's-foot *Ornithopus perpusillus*, Wood Sorrel, Greater Burnet-saxifrage *Pimpernella major*, Burnet Saxifrage *Pimpinella saxifraga*, Hoary Plantain, Greater Butterfly-orchid, Wood Meadow-grass *Poa nemoralis*, Common Milkwort *Polygala vulgaris*, Salad Burnet *Poterium sanguisorba* ssp. *sanguisorba*, Cowslip *Primula veris*, Goldilock's Buttercup *Ranunculus auricomus*, Buckthorn *Rhamnus cathartica*, Yellow-rattle *Rhinanthus minor* ssp. *minor*, Black-currant *Ribes nigrum*, Small-flowered Sweet-briar *Rosa micrantha*, Sweet-briar *Rosa rubiginosa*, Burnet Rose, Water Dock *Rumex hydrolapathum*, Butcher's Broom *Ruscus aculeatus*, Sanicle, Small Scabious *Scabiosa columbaria*, Ragged-robin, Bladder Champion *Silene vulgaris* ssp. *vulgaris*, Marsh Woundwort *Stachys palustris*, Devil's-bit Scabious, Wild Thyme *Thymus drucei*, Large Thyme *Thymus pulegioides*, Common Valerian *Valeriana officinalis*, Narrow-fruited Cornsalad, Wood Speedwell *Veronica montana*, Hairy Violet *Viola hirta* and Early Dog-violet *Viola reichenbachiana*.

### Invasive Non-Native Species (INNS)

These are the INNS listed in Schedule 9, Part II of the WCA [WCA, 1981] and generally the species which score negatively in condition assessments, although in water dependant habitats some additional species from WFD High-impact TAG are included and professional judgement can be utilised regarding habitat impacts for species such as Butterfly bush *Buddleja davidii* which is not listed in Schedule 9 [Defra, 2023].

INNS recorded were Wall Cotoneaster *Cotoneaster horizontalis*, Cotoneaster species *Cotoneaster* sp., New Zealand Pigmyweed *Crassula helmsii*, Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera*, Curly Waterweed *Lagarosiphon major*, Cherry Laurel *Prunus laurocerasus* and Rhododendron *Rhododendron ponticum*.

INNS recorded during the surveys are detailed in the species list with grid referenced locations and it is recommended that where practical these species are managed and monitored to limit their further increase and impact on priority habitats.

## Overarching management recommendations for NNR

- Regular monitoring of botanical species and habitat condition of priority calcareous and acid grassland, to quickly pick up on problems such as scrub or bracken encroachment, loss of sward diversity/bare ground and over or under grazing
- Careful management of arable plant species with regular but not necessarily annual cultivation or ground disturbance. Much guidance is available from lessons learned at Ranscombe Farm and Species Recovery projects. Consider projects for species recovery and means of potentially encouraging spread of species between different sites.
- Consult prior to considering any species reintroduction and record carefully.
- Monitoring and removal of INNS in all habitats. Avoid planting non-native trees/plants
- Rotational coppicing of Sweet Chestnut or Hazel woodland blocks following best practice and legislation for protected species.
- Aim to keep wet woodland from drying out, retain any woody material in streams and consider leaky dams and other natural solutions to hold water in the woodland for longer.
- Maintain structural and species diversity of woodland, retention of standing and fallen deadwood and limit ground disturbance.
- Maintain open space in woodland and manage scrub where Lady orchid and other notable species have been recorded
- Retain veteran and ancient trees in wood-pasture & parkland. Consider successional planting and veteranisation if needed. Avoid ground compaction and infilling by shrub layer or secondary woodland, maintain a mosaic of scrub patches and open grassland.
- Retain veteran tree features and undertake regenerative pruning of fruit trees in traditional orchards with sympathetic grassland management and avoid use of pesticides or herbicides.
- Grazing management is usually most beneficial but in areas where this is not possible or that require mowing, consider annual cut and collect after the main flowering season. If areas such as walkways need to be cut short regularly, avoid mulching and collect arisings and where possible consider rotating short and longer sward areas from year to year and leaving uncut patches or edge habitats.
- Look for opportunities to connect habitats such as planting hedgerows
- Pond management to retain open water and species diversity.

## Site by site notes including recommendations

### 1. Shorne Woods Country Park

#### Desk study notes

Core site for NNR, within Shorne and Ashenbank Woods SSSI. The 2010 NVC survey (Joyce Pitt and Lesley Mason for KWT) is being repeated by other consultants, results were not available at time of writing, so botanical survey of this site was not a priority for the NNR Botanical assessment and was limited to UKHab and condition assessments with a focus on the grassland at the Knoll.

#### Lowland Dry Acid Grassland at the Knoll (compartment 1)

There was a preliminary BNG assessment utilising Biodiversity Metric 2.0 by Atkins. The project area (Shorne Woods KCC management compartments 6a, 6b, 7a & 7e) was noted by Atkins to be the habitat complex wood pasture parkland but was assessed according to its component habitats. The field survey was over winter on 10<sup>th</sup> February 2022 and therefore outside of the botanical survey season. However, this was recognised as a survey limitation and the report recommended the acid grassland had further botanical survey. The original Atkins assessment of the grassland was UKHab 'Other lowland acid grassland' (g1d) in moderate condition. In addition, areas of 'Bracken' (g1c) and 'Mixed scrub' (h3h) were recorded with the surrounding woodland classified as 'lowland mixed deciduous woodland' (w1f).

I resurveyed the acid grassland at the Knoll on 13<sup>th</sup> May 2024, and found it just met the classification criteria as set out in UKHab v2 for the Priority habitat **'Lowland dry acid grassland' g1a6**: Met two/three criteria as required, i.e.. it failed to meet >12 species/square metre but did just meet >30% cover broadleaved herbs and sedges and was clearly <10% cover of rye grasses and White clover *Trifolium repens*. In addition, there is a requirement for 4 or more acid grassland indicator species, with at least one species frequent and 3 species occasional. See species list for details but qualifying species were Sheep's sorrel *Rumex acetosella* (A), Slender parsley-piert *Aphanes australis* (F), Heath Speedwell *Veronica officinalis* (O) and several other indicator species were locally frequent but only rare in the sward of the parcel as a whole, including Common dog-violet *Viola riviniana*, Bird's-foot *Ornithopus perpusillus*, Pill sedge *Carex pilulifera*, Early hair-grass *Aira praecox*, Common centaury *Centaurea erythraea*, Tormentil *Potentilla erecta* along with major grasses associated with acid grassland Common bent *Agrostis capillaris* (A) and Sheep's fescue *Festuca ovina* (F).

However, the Statutory Metric condition assessment of the lowland dry acid grassland was **Poor**, see the condition assessment sheet. Therefore, I disagree with the previous assessment of 'Other lowland acid grassland g1d in moderate condition, although given the out of season survey, and the relative paucity of indicator species present at the site, I can understand the previous conclusion and applaud the recommendation for a botanical survey in the optimal season. Two seasons of cattle grazing may also have changed the habitat assessment.



The lowland dry acid grassland is a botanical 'hotspot' of Shorne Woods Country Park and management by grazing to control bracken, scrub encroachment and increase botanical diversity should continue with intermittent monitoring to assess species abundance and habitat condition.

#### **Randall Manor grassland (compartment 2)**

Other neutral grassland, g3c. Very small area within woodland, disturbed by archaeological digs. Continue cut and collect, rotational management. See species list and condition assessment. Tussock sedge *Carex paniculata* was recorded at TQ 68228 70406 in ditch near old fish ponds.

#### **Glade with pignut (compartment 3)**

Very small glade with two trampled pathways dissecting. Much of the glade was more improved or disturbed with Perennial rye grass *Lolium perenne* and the woodland origin was shown by bluebell *Hyacinthoides non-scripta* in the sward. One nice corner on drier shallow soil had two flowering plants of Pignut *Conopodium majus* and a tiny patch of Sheep's sorrel. Slender St. John's wort *Hypericum pulcrum* was at the edge of the other side of the glade. See species list and condition assessment with recommendations. May be opportunity for a small area with more species diversity and for acid grassland development, continue cut and collect, control bracken and scrub encroachment. Possibly a low dead hedge or hurdles could protect area of shorter more acid turf with pignut from trampling and enrichment by the public but balance with need for disturbance/maintenance. An incidental moth record here of Speckled yellow *Pseudopanthera macularia* (put on iRecord).

Other areas of 'Modified grassland' g4 near fishing lakes and play areas are marked on map and there are small areas scattered across the park along rides and glades of g3c and g4. Condition not assessed due to small size and time limitations for non-priority habitats. Urban habitats noted on map (sheet A).

#### **Woodland**

Woodland across the whole site was walked and some representative condition assessments undertaken (in The Burnett and Brewers Wood), see condition assessment sheet and summary table (NB. For purposes of map sheet 'A' all woodland is compartment 6 other than where specified as wet woodland compartments 4 & 5 below). The woodland is UKHab 'Lowland mixed deciduous woodland' w1f, specifically 'Other lowland mixed deciduous woodland' w1f7 (includes NVC W10 & NVC W8). Small glades and rides throughout create diversity, e.g. '6A' on map is a small glade ('Other neutral grassland' g3c but not condition assessed, would likely be good) with oaks at TQ 68609 70303 with Hairy wood-rush *Luzula pilosa* and Southern wood-rush *Luzula forsterii* among other species.

Some relatively small areas of 'wet woodland' w1d, specifically 'Alder woodland on floodplains' w1d5. Note, the map shows approximate area of wet alder woodland (compartment 4), it is in patches close to streams and some areas are transitioning to drier woodland, condition assessed as moderate. Management to try and hold water in this part of site would be beneficial along with coppice rotation as appropriate and clearance of INNS Cherry laurel (at TQ 68696 70517 and TQ 68538 70475) and monitoring.

The willow carr within KCC management plan compartment 10, historically naturally regenerated over a redundant clay pit and is a mosaic of ponds and marginal species with dry grassland patches, this woodland best fits into W1d, as not dense enough for h3j 'dense willow scrub' (indicated as compartment 5 on map sheet A, note this drawn boundary is very approximate and is not all willow carr).

25 Ancient Woodland Indicator (AWI) species were recorded across Shorne Woods during the survey, (27, if using additional South-east relevant species listed in Wild Flower key from Francis Rose) see [AWI records for 2024 surveys](#).

**Ponds** not assessed in detail, due to time constraints, the Shorne Woods ponds are known to be important for Great Crested Newts but this will be assessed by others. Several ponds historically had records of INNS New Zealand Pigmyweed *Crassula helmsii*, the ponds were not extensively checked for INNS but *Crassula* was noted at TQ 68277 70160. The historical record for Fan-leaved Water-crowfoot *Ranunculus circinatus* was checked in this pond but not re-found.

**Streams** not condition assessed, since the River Condition Assessment (RCA) is very time-consuming and not appropriate for this rapid survey. However, general observations of a few streams particularly in Northeast near the alder carr, were of some nice sections of watercourse with gravels and woody material left in. Negative observations were that the banks were quite bare of vegetation in the sections that were surveyed near to paths, but these were probably disturbed by dogs and people, and were also very shaded. Standard recommendations would be to continue to leave woody material blockages to promote natural processes and try and limit access to a few points.

#### **Species NOT re-found during current survey**

**Cyperus Sedge** *Carex pseudocyperus* was previously found near Randall fish pond TQ 6821 7041 but this area although wet, had no standing water and was too shaded and overgrown, maybe open up this area of woodland to the light. Tussock sedge was persisting nearby and would also benefit.

**Orange Foxtail** *Alopecurus aequalis* was not found in the valley area of Randall Bottom, where it was previously recorded by Joyce Pitt and me. It was difficult to access for comprehensive survey as steep and wet. This area had been managed and had a lot of young willow regrowth with good swamp habitat. However, this species does require open bare wet mud, maybe it was swamped by too much willow regrowth, bramble and other vegetation. Regular management could facilitate some disturbance to create more bare ground.

**Wild daffodil** *Narcissus pseudonarcissus* not recorded in historical location but survey was late in season, was historically located in what was now a recently coppiced glade with tree planting, wild daffodil could still be present suggest this area is monitored.

**Broad-leaved helleborine** *Epipactis helleborine* not recorded but others have reported in compartment with grassland and willow carr mosaic. Early-purple orchid *Orchis mascula* was not found but peak was in April and not all woodland was extensively searched.

## 2. Cobham Wood

### **Desk study notes**

Core site, National Trust, SSSI. MAGIC, ARCH-KHS and 'Cobham Wood Biological Survey' (National Trust, 2014) had mapped the Priority Habitats as Wood-pasture and parkland, a small acid grassland area around Darnley Mausoleum and small calcareous grassland remnant to the south. The aim was to verify and condition assess the current habitats, highlight any hotspots and opportunities for management.

### **Wood-pasture and parkland**

Compartment 9 on map sheet B and see species list. A mosaic of Wood-pasture and parkland, comprising the historic deer park with veteran trees and a mosaic of younger open woodland, large areas of dense bracken and relatively small areas of 'Other neutral grassland' with scattered bracken and scrub that were not separately assessed. The whole parkland was low impact grazed by Highland cattle. Some of the veteran trees and future replacements are being lost to tree diseases including 'ash die back' and 'acute oak decline'. There are some new plantings for succession already taking place. The wood-pasture and parkland was assessed in moderate condition, with failing attributes being tree diseases and high ground cover of bracken, a low distinctiveness habitat.

### **Grassland areas within the wood-pasture and parkland**

All part of compartment 9, but highlighted on map as 9A, 9B & several areas 9C. The small area of grassland (9A) around the Darnley mausoleum was very trampled and did not currently support enough indicator species to qualify as acid grassland. It was assessed in Spring and although early in the season, it was evident from the species found that it had become compacted and improved in nature (now termed modified in UKHab). This area seems to have declined in comparison to the description and species listed on Map II of 'Cobham Wood Biological Survey' (National Trust, 2014). It is recommended that management aims to reduce the public pressure on this area of grassland, although it will require disturbance of grazing. The other areas of grassland (9B & 9C) were all more neutral in nature. Very few calcicoles were found when walking back through area 9b on 25<sup>th</sup> June 2024, no remnant chalk grassland area was found. Recommend that management aims to increase and enhance the plant diversity of these areas and path edges by controlling encroachment of bracken and scrub. The best acid grassland species were seen outside the park in short turf around National Trust barns!

### **Bracken within the wood-pasture and parkland**

The dense bracken was not mapped in detail but coverage can be seen on Google Earth March 2024 (See additional map sheet B) as rusty brown areas of 'Dense bracken' g1d within compartment 9. Recommend that these areas have more intensive management to control cover of bracken, prevent further encroachment, and enhance the grassland.

### **Woodland**

Compartment 10 was woodland outside of the wood-pasture and parkland area. Mainly overstood sweet chestnut with oak standards and smaller area that had been coppiced in previous years, mainly equivalent to NVC W10 with small area more dominated by ash (W8), which had ash dieback. This is classified as 'Other lowland mixed deciduous woodland' w1f7

and was 'moderate' in the Condition Assessment. Compartment 11 had been recently felled and some cleared as part of National Trust's Wood-pasture Reinstatement Project. This is classified as 'Other lowland mixed deciduous woodland' w1f7 and felled woodland has no Condition Assessment, the Condition is automatically fixed at 'Good' in the Statutory Metric.

### 3. The 'Leisure Plots'

#### **Desk study notes**

Core site for NNR, Cobham Wood SSSI (W8 Ash woodland & W10 Oak woodland). West Kent Downs Countryside Trust have an agreed management plan.

#### **Woodland**

Map sheet B, compartment 12. There was great variety in the woodland areas across this compartment, partly related to its historical division into leisure plots. Due to time constraints not every part of the woodland could be viewed or extensively recorded, it could be useful to survey in more detail if this has not been done recently. The woodland is UKHab 'Lowland mixed deciduous woodland' w1f, specifically 'Other lowland mixed deciduous woodland' w1f7 (includes NVC 10 & NVC W8). There were some areas more dominated by ash (NVC W8) with lots of dieback, areas with hornbeam, field maple and oak (W10), others dominated by Sweet chestnut coppice (including some very recent coppice management, also W10) and plots that had native and non-native conifers including Corsican Pine, Scot's Pine and European larch (good to retain some conifers for biodiversity). A central area roughly lying between Cobham Park to the north and the chalk grassland area to the south, had more dense bracken in the field layer and Silver birch had moved in. There was some recent tree planting in tubes, to protect from deer, note some tubes have mislabelled species within. See compartment 12 species list and condition assessment (Moderate) for more notes.

#### **Lowland calcareous grassland**

Map Sheet B, compartment 13. A recently fenced, for grazing, area of chalk grassland with a good diversity of chalk indicator species, including frequent Wild liquorice *Astragalus glycyphyllos*. However, the grassland was dominated by Upright brome and the sward height and encroaching scrub (including some invading non-native Pine saplings) need continuing management. Suggest grazing continues and pines are removed if not grazed off. There were remnant orchard trees including apple and wild plum within the grassland area and in the scrub at the bottom along the footpath, no veteran fruit trees seen but some trees could be retained to provide future habitat.

#### **Pond (non-priority)**

Map Sheet B, compartment 14. Adjacent to the grassland in the woodland edge was a recently created lined pond, this type of pond is a non-priority habitat. This had been planted up and surveying this area in April, so species were not recorded. Condition assessment is really too early in the life of this new pond but was currently assessed in Moderate condition, see sheet for comments.



## 4. Ranscombe Farm

### Desk study notes

Core site for NNR and part is SSSI, flagship reserve for Plantlife. Supports WCA 1981 Schedule 8 species (including Ground-pine *Ajuga chamaepitys*, Meadow Clary *Salvia pratensis*, Rough Marsh-mallow *Malva setigera* synonym *Althaea hirsuta* & Broad-leaved Cudweed *Filago pyramidata*) and other notable plants including orchids and rare arable weed species, which are not limited to the SSSI areas. The field survey aimed to condition assess the woodland, check Lady Orchid sites and other rare plants in spring. Magic/KHS surveys showed an area of calcareous grassland (SW of site TQ69519 67562) outside of the SSSI boundary 'Brockles Field', the aim in summer was to ground truth this and condition assess, alongside a high level BNG assessment of habitats and rapid scan for some rare plants across the site. This reserve is already extensively surveyed and the intention was not to duplicate this effort.

### Woodland

Large areas of woodland within Ranscombe Farm site. Woodland parcels (15-26 on map sheet C) all fell into UKHab Other Lowland mixed deciduous woodland (w1f7) there was variation across the whole site, briefly described here. Broad Oak Wood, Great Oak Wood, Birch Wood, Clay Pond Wood, parts of Head Barn Wood and Merralls Shaw (Compartments 15, 16, 18, 21, 22, 23 and 26) had large areas of overstood and recently managed chestnut coppice, some Oak hornbeam woodland or secondary birch. There was a nice woodland shaw (Compartment 17) which was hazel coppice with mature ash, hornbeam and field maple, ground flora included a large number of Early-purple orchids. Part of Head Barn Wood contained plots of hazel coppice and some other broad-leaved tree plantations (Compartments 19 & 20). Mill Hill (Compartment 24) had some veteran beech, lots of mature ash with dieback among other tree species. The wood had nice ground flora including lots of Sanicle and a glade with chalk grassland (assessed separately). Longhoses Wood had hazel, oak, field maple and hornbeam coppice with good ground flora including Early-purple orchids. Butterfly-bush *Buddleja davidii* was present in a few places across the reserve. Condition assessments were good for all of the woodland except for the hazel/plantation compartments (19 & 20) which were moderate condition. (refer to Condition assessment sheets, species list and AWI table for more of the records). Lady Orchid is known in a few places within the woodlands (Clay Pond, Mill Hill and Great Wood) and some of these sites were re-found and recorded as part of Lady Orchid survey (see separate survey report). There was lots of good woodland management including coppicing, glade creation and ride widening across the reserve.

Anti-social and potentially illegal behaviours are a problem across this site, as within the NNR as a whole. Problems found during the survey were reported to the site manager in case they were not aware.

### Grassland

Lowland calcareous (chalk) grassland in large glade in Mill Hill wood and over a large area of Brockles Field (compartments 32 and 33 respectively) and on bank amongst cleared woodland (35). The chalk grassland in the glade (32) has a nice range of chalk species but is in poor condition due to being rank and grass dominated with scrub encroachment. Management is recommended to increase the proportion of short sward and enhance to species-rich chalk

grassland. In Brockles Field the chalk grassland is in Moderate condition, management should continue to monitor levels of scrub and work towards shorter areas of species-rich grassland within the sward. The small bank along the fence line was particularly good. The bank above Kitchen Field is a nice mosaic of chalk grassland within the woodland edge and Wild liquorice is thriving here. The only concern was the location of Rough Marsh-mallow *Malva setigera*, it was not located during the survey in the area where it was historically. However, since the survey, Ben Sweeney has provided records for 2024, of 122 plants from the top margin of Kitchen Field. Ben reported that this was the highest number since 2015 and the first appearance of Rough Marsh-mallow here since 2021. Ben provided useful management guidance for the species that is summarised here: "It requires sufficient disturbance but not annually, if a continuous sward of grassland develops the Rough Marsh-mallow may be lost." Ben's management in autumn 2022 used a digger to churn up the top 2 metres of Kitchen Field, between the arable and grassland, no plants were seen in 2023 but 122 re-appeared in summer 2024.

There were other areas of 'Other neutral grassland' across the reserve (compartments 28, 30, 37, 38 & 39) and condition varied from poor to good and failing criteria can be seen on the condition assessment sheets. Some of these areas already had calcicoles, such as wild marjoram *Origanum vulgare*, and could be managed towards restoration of chalk grassland.

### Arable

Rare arable plants or 'weeds' are obviously the main feature of this Plantlife flagship reserve. There are two main fields which are managed for arable plants: Kitchen Field (34) and Longhoses (29). An additional field south of the North Downs way (31) is also being managed by annual cultivation to encourage these rare annual plant species. Narrow-fruited cornsalad *Valerianella dentata* is doing well at Ranscombe Farm as it seems to be elsewhere in the NNR project area (including Silverhand Estate Vineyards and Lad's Farm). Stinking Chamomile *Anthemis cotula* was also widespread, particularly in Kitchen Field. Four plants of Blue pimpernel *Lysimachia foemina* were present at the top of Kitchen Field, this is it's only current location in Kent. The top strip where the chalk is nearest the surface was the best part of the field. Other arable plants seemed to be present at much lower abundance than historically (both botanical recorders personal experience in Kitchen Field and in Longhoses), including Broad-leaved cudweed *Filago pyramidata*, Venus's-looking-glass *Legousia hybrida*, Dwarf spurge *Euphorbia exigua*, and Corncockle *Agrostemma githago*. Ground pine was also historically recorded from Ranscombe Farm at the top of Kitchen Field but wasn't found during this rapid survey (15/7/2020 is the last record from Ranscombe Farm on the BSBI database). However, following soil cultivation/disturbance in 2022, five plants of Ground-pine were recorded by Ben Sweeney in 2024 (Pers. Comm). The historically recorded scarcer poppy species were also not found during the survey, only Common Poppy *Papaver rhoeas* was recorded. The abundance of ruderals, in particular Bristly Oxtongue *Helmintheca echioides*, was also notable. This survey was a rapid walkover, on one day in one year, and may not give an accurate reflection of the condition of the arable areas but this is obviously one of the botanical jewels of the NNR and management interventions should focus on maintaining this species assemblage and I am sure that reserve managers will already be focused on this. It is noted that management for arable plants is difficult and it is to be expected that in some years numbers of the rare species will fluctuate, management timing is important and it is the experience of reserve managers that in some years species like Bristly Oxtongue will

predominate but can then be controlled by grazing and arable plants will then be able to compete [Moyse.R, 2023]. The UKHab classification was updated in version 2 (2023) to include 'Arable fields - cultivated for annual flora' code c1c9 within the broad habitat of 'Croplands'. However, the Statutory Biodiversity Metric does not include this habitat in its 'Distinctiveness' types, to mitigate this omission the author used professional judgement to rate habitat distinctiveness as 'Very High' (Score 8 within the Metric), (see the 'Botany summary table') since this habitat is rarer than many Priority habitats and valuable within this project area. The Metric also fails to include condition assessments for this habitat, as all Croplands are exempt from condition assessments, and automatically awards a score of 1 for 'Poor'. However, in this instance I would assess the condition as 'Poor' using professional judgement due to the abundance of undesirable species, such as Bristly Oxtongue, and the low abundance of desirable annual arable weed species.

## 5. Ashenbank Wood

### **Desk study notes**

Core site for NNR and part of Unit 4 of Shorne and Ashenbank woods SSSI, Woodland Trust. The areas of woodland habitat were already previously NVC mapped, so the present field survey focused on a high-level woodland Statutory Metric Condition Assessment for the whole site and recorded ground flora AWI species, INNS and other notable features. The KLIS ARCH-KHS showed small patches of neutral and acid grassland in parkland, although acid grassland was not shown on MAGIC priority habitat layers. Therefore, a priority of the field survey was to ground truth any Wood Pasture and parkland and grassland habitats, using the UKHab classification, and conduct relevant condition assessments.

### **Grassland**

The grassland on the site of a bronze age barrow mound (Compartment 46) was shown on the Kent Habitat Survey as acid grassland but although the soils may be acidic, the indicator species were not present and it doesn't currently meet the acid grassland criteria. The species are recorded on the species list, but they comprised much less than 75% cover of grass species, with bluebell frequent, and grasses that were present were Perennial rye-grass (>10%) and coarse neutral species with tall herb, annuals and bracken. The best classification was 'Other neutral grassland' g3c, in poor condition. The area has a pathway through the middle and its very trampled on the mound, during the survey someone was exercising their dog playing ball, so it gets a lot of disturbance. The bracken is being well managed by cutting back and piled at the edges, allowing bluebells to grow. Daffodils have been planted and naturalised on the mound but almost certainly are not the native species (not flowering for confirmation). There were other similar areas of grassland within the site but these were within the Wood-pasture Parkland habitat (47).

### **Wood-pasture and parkland**

A large area (approximately NE) within Ashenbank is historical Parkland (approximate boundary for compartment 47 shown on Map sheet D), this is a habitat complex with only a secondary code in UKHab (26) but is a Metric specific 'Very high distinctiveness' habitat in the Statutory Metric 'Wood-pasture Parkland' with its own condition assessment sheet. The condition was assessed as Moderate. It is a difficult balance to limit public disturbance at such a busy site, there is evidence of disturbance and enrichment. The current management plan includes grazing which would be beneficial to help prevent infill by saplings, especially sycamore, and limit scrub and bracken encroachment. There are some lovely veteran trees throughout Ashenbank and within the more open WPP. Contains open grassy areas (47A, 47B, 47C, 47D WW2camp). These were previously recorded as 'improved' or 'modified grassland' but they are better classified as 'Other neutral' but form part of the Very high distinctiveness WPP habitat. Woodland ground flora species, including Bluebell, Primrose, Wood anemone and Dog's-mercury, feature since these are clearings originally derived from the woodland.

### **Pond (non-priority)**

The pond was fenced and appeared in good condition, given survey limitations of access and early season (Compartment 48). There was a good mosaic of marginal and aquatic vegetation and open water. It appeared well managed, was fenced to limit dog and public disturbance and even in this woodland location it was only partially shaded. There were no obvious INNS or fish stocked but no sampling was undertaken.

**Woodland**

A large part of Ashenbank is WPP but the remainder (Compartment 49) is UKHab 'Lowland mixed deciduous woodland' w1f, specifically 'Other lowland mixed deciduous woodland' w1f7 (includes NVC 10 & NVC W8). This was assessed in good condition. There was only a small area of ground flora loss due to rope swings and biking (see photos at TQ 67499 69301). The damaging INNS Rhododendron and Cherry Laurel were not recorded on this visit. The INNS Himalayan Balsam was recorded on the woodland path near the road boundary, by Claire Munn in August (see species list for location).

## 6. Jeskyns Community Woodland

### Desk study notes

Affiliate in NNR project. Desktop study shows patches of traditional orchard priority habitat that appears relatively recently planted on aerial photos and was previously arable. The Forestry England leaflet confirms Jeskyns was planted in 2006 with 130,000 trees creating woodland, wildflower meadows and orchards. The field survey aimed to ground truth the current habitats with a focus on priority habitats. A high level UKHab classification and condition assessment baseline was done for the whole site, plus recording any interesting botanical species and INNS.

### Traditional Orchard

The orchards at Jeskyns are all relatively recently planted and young but their traditional spacing and lack of intensive orchard management means they meet the criteria for 'Traditional orchard' which is a secondary code '27' in UKHab and 'high distinctiveness' habitat. The orchards (compartments 58-66) varied from mixed apple varieties, plum or cherry trees and there were two cobnut platts. The condition assessment of the orchards was 'moderate', this was largely due to the young trees not yet having features found in veteran fruit trees, such as rot holes or dead wood. Some of the orchards score lower due to the lack of formative pruning, the cobnut platts show evidence of early shaping, one appeared recently pruned, the other required management. The orchards all had moderate distinctiveness grassland underneath (Other neutral grassland), either with a variety of herb species or rank grassland, similar to the other grasslands across the site.

### Pond (non-priority)

There were five ponds recorded (Compartments 67-71). Henhurst Lake (67) is classified as a pond (non-priority), since it is smaller than 2Ha. This pond was multi-tasking with a wildlife end fenced off from the more open water end with a concrete ramp used for dogs to access and swim. The fence does a good job of protecting any birds and other wildlife from disturbance, any chemical pollution from pet treatments and invasive species can still access through the fence but it is a good compromise for such a public space. The concrete ramp also focuses the dog access and limits bank erosion and silt pollution of the pond. Unfortunately, the pond did have abundant INNS Curly Waterweed *Lagarosiphon major*. There appeared to be a dry depression/swale directing water from nearby grassland and paths into the pond that could lead to pollution. Nearby was a very small pond (68), this was not accessible for survey as fenced, but appeared relatively dry at the time of the survey as the vegetation was dominated by sedges with some emergent aquatic plants just at the centre. This pond might benefit from some vegetation management or desilting. The pond (69) near Ashenbank wood was similarly dry at the time of survey with sedges and marginals but very few aquatic plants. This pond would probably be restored by careful desilting. There was a very sad dry pond (70) along the track at TQ6702 6904, this was very shaded by the overhanging woodland shaw and was totally dry at the time of survey, it was also full of dumped rubbish. If this can hold water, it could be opened up to allow in more light and cleaned out perhaps. The final pond (71) was within the Jeskyns car park, this was fenced limiting visibility for the survey but sedges were abundant and no clear water was visible, although the centre did have branched bur-reed so was probably standing water and there were some marginal species. This pond may need some vegetation management and possibly

desilting. The different ponds' species are recorded in the species list. Fencing of most ponds is great and will limit dogs and public pressures.

### **Grassland and Woodland areas**

Assessed all the grassland across the site (labelled 72), except for 'modified grassland' areas (g4, areas labelled 73) as 'Other neutral grassland' (g3c, a mix of g3c5 and g3c6) these varied across the site from relatively species-rich (sown) to rank grass dominated areas. Since the whole site is arable reversion and at least some wildflower areas have been sown, it made sense to assess them all together. Across the site there is a good variety of sward heights and mowing management to provide continuation of forage for pollinators and invertebrate niches, there were some dense scrub and long grass edge habitats to woodlands and a great general mosaic of scattered scrub and trees. Grassland was cut and baled, with bales left in large piles at the edge of a couple of areas, these will be good compost heaps for grass snake and invertebrates, although maybe seeds could be collected for spreading to other less diverse areas too. There are a lot of public pressures and dogs around the site but thick scrub edges and fences restrict access well. The condition assessment across the whole site is 'good', however some less diverse fields may have been 'moderate' if they had been assessed separately. Across the site the management should aim to increase sward diversity and species-richness and maintain the mosaic of patchy scrub.

There were native hedgerows and young planted woodland blocks and bands across the whole site. The hedgerows were not assessed as there was not sufficient time to do this across the whole NNR project. The woodland was a mix of native and non-native species including some conifers. The best UKHab classification was 'Other broad-leaved woodland' (w1g) as the woodland didn't meet the criteria for 'Lowland mixed deciduous woodland', the condition was not assessed as relatively recent planted woodland.

There is an enhancement opportunity to add more mixed broad-leaved native hedgerows, along bare stock fence lines and to add hedges, woodland shaws or scrub to link any isolated patches of woodland to give greater connectivity for Hazel dormice and other species.



## 7. Shorne Rough Common

### **Desk study notes**

Core part of NNR. Owned by Shorne Parish Council.

### **Woodland and Grassland**

Shown on map sheet 'A', see species list and summary table and condition assessment sheets for Woodland (compartment 7) and one small patch of grassland (compartment 8). Main woodland disturbance is from bikers creating features for riding and bare ground but if remains limited to existing area, the rest of this small woodland is relatively undisturbed. There is invasive Cherry laurel in the woodland, suggest these are removed. The grassland is very small and modified, currently mown. Possibly could be enhanced, if practical, by rotational cut and collect mowing, leaving longer areas and mown pathways and spaces for recreation, maybe move unmown areas around in different years.

## 8. Rochester and Cobham Park Golf Club

### **Desk study notes**

Unknown status in NNR project. The desk study suggested neutral or improved grassland with woodland. There were no recorded grassland priority habitats. A large area was recorded on Magic as Wood-pasture & Parkland. Due to lack of access permissions, the field survey was limited to a rapid walk along PROW only, the aim was to verify grassland and woodland habitats with some condition assessment where possible.

### **Grassland**

Grassland assessment only relates to 'roughs' which are less regularly mown (compartment 75 across roughs of whole course). These are 'Other neutral grassland' g3c and in 'moderate' condition due to lack of sward and species diversity and lack of bare ground. Roughs could be enhanced by rotational mowing with cut and collect, avoid use of mulching mowers that add back nutrients and limit species diversity. Some areas are more diverse with rare to occasional abundance of species like Grass Vetchling, Oxeye Daisy and Common Bird's-foot-trefoil but other parts are rank and species-poor or modified in character and better matched to 'Modified grassland' g4, these are not mapped in detail. There was very little scrub, some low bramble appeared to have been treated with herbicide, the edges were not surveyed and may have had good bramble scrub, if not this is an opportunity.

### **Woodland**

Access limited to PROW and survey was after optimal season for ground flora recording (see species list for AWI and other species), the woodland was in 'Good' condition. There was a small area (TQ6926 6925) where soil and waste materials had been dumped in the woodland which could damage trees and ground flora, this material should be removed and avoided if possible. The habitat at the Golf course did not appear to qualify as Wood-pasture Parkland as assessed within the limitations of this survey visit, no mosaic of scrub patches and a lack of historical parkland veteran trees.

## 9. Cobham Hall School

### Desk study notes

Unknown status in NNR project. Tiny patch of acid grassland was shown on KLIS KHS. Rest is shown as neutral or modified and woodland. NB. Access and survey time was limited, grassland inside the school is likely to be species-poor or modified but this was not verified during the field surveys (Claire Munn did visit and confirmed, although may still be area worth checking as a rapid escorted survey only). The field survey did verify the grassland outside of the main school area as visible from the PROW.

### Grassland

Most of the grassland (compartment 78) was 'Other neutral grassland, *Lolium-cynosurus*' g3c6 and very similar to the grassland of West Park (Site 11, compartment 80). This site was cattle grazed, but currently grass dominated, and species diversity could be enhanced through continued management. There were two areas of 'Lowland dry acid grassland' within this area, which must have poorer well drained sandy soils. One area on the top of the slope around the PROW (approximately TQ68226946-TQ68266943) and the other on some small banks and worn ground outside the Angling club car park (TQ68356954). Sheep's sorrel *Rumex acetosella* was frequent with other acid indicators present including Bird's-foot *Ornithopus perpusillus*, Common Stork's-bill *Erodium cicutarium* and Slender Parsley-piert *Aphanes australis* (Compartment 77, see species list for details).

### Woodland

There was no access to the woodland (79 on map) but it was viewed from along the railway line PROW and seemed to be mature Ash woodland with Pedunculate oak, Hornbeam, Sycamore and Elder and Hawthorn understorey and a ground flora of Dog's-mercury and nettles at least near to the PROW. It appeared undisturbed on the northern edge, with deadwood, and likely to score in 'Good' condition but this was not verified. Fishing lakes (Pond, non-priority) were also not accessed due to lack of access permission. Opportunity for some further surveys within Cobham Hall School if required. Some INNS: Japanese Knotweed, Rhododendron and Cherry Laurel were recorded by Claire Munn, on a rapid tour of Cobham Hall School on 9/8/24, these have been added to the species list and the Knotweed especially should be treated and removed.

### Grassland banks along railway line (North of school and golf course)

A lovely corridor of grassland habitat was rapidly surveyed along the PROW along the High-speed railway (narrow strip of grassland and scrub, North of Sites 9 & 8 and south of the railway line), only the public side of the fence was noted. This area was likely seeded as part of the railway mitigation plan, but naturalised native species such as Ragged-robin, Greater Burnet-saxifrage and quaking grass add to the biodiversity of this corridor and there were lots of Common Spotted-orchid and Pyramidal orchids which are likely to have come from the seed bank or to have spread from local habitats. The species list is included, the site was not assessed since it was outside of the NNR project site list, but would be species-rich 'Other neutral grassland' g3c6 with calcicoles and scattered scrub, and in 'Good' condition.

## 10. Silverhand Estate

### Desk study notes

The Silverhand Estate is affiliated to the NNR project and covers a huge area with a variety of semi-natural habitats, including chalk grassland and woodland, along with large areas of cropland including vineyards, these are mainly organic and have arable margins and vegetation between the vines. There are small areas of woodland within SSSI Unit 46 of Halling to Trottiscliffe Escarpment and some areas of grassland and woodland are within Local Wildlife Sites: GR04 and GR07. The Henley Bank part of GR04 was visited during a KFC field meeting, with records submitted to KMBRC and a brief report in the Bulletin 2023. Dr Mark Spencer has also surveyed areas of the estate between 2020 & 2023. A small area of Traditional orchard is marked on maps, within the estate house grounds but this was not surveyed as outside of the access permission.

The field survey aimed to baseline survey the UKHab habitats, assess their condition and record any notable species including rare arable plants.

### Grassland

**Lowland Calcareous grassland** (g2a5) was recorded in 9 compartments (121, 132, 133, 135, 136, 143, 145, 150 & 152). The grassland was of variable condition with only two compartments scoring in good condition (see condition assessment sheets). Four areas in particular needed scrub management Henley bank (121), part of Bombfield Bank (136), Part of Round Wood Field (143) and the open patches of grassland where Greater Butterfly Orchid is found within scrub woodland (150). Management actions and grazing to urgently address scrub encroachment in conjunction with regular botanical monitoring to assess and adjust management (method, level and timing if required) would be recommended. Other areas needed appropriate level and timing of grazing to reduce grass species abundance and increase the sward and chalk species diversity. Dodder *Cuscuta epithymum* was not recorded on Henley Bank (121) but has been relatively recently.

Chalk grassland species were also present along several of the wood banks and other margins of both arable vineyard fields or neutral grassland fields (including but not limited to 112, 107, 109 and continuing along into 102) and the Cobhambury Road Roadside verges. Some of the chalk grassland along wood banks and other margins, for example Cobhambury Wood Field, would benefit from being managed as wider species-rich grassland to buffer them, and the adjacent woodlands or hedgerows, from tracking of estate vehicles and other operations. Edge habitat can be left until later in the season, with shorter sward further into the field for tracking over. Some of the species-rich grassland and other habitats were potentially being impacted by cultivation and management associated with the Pheasant shoot.

There were some fields which had 'Other neutral grassland', with just a few calcicoles, for example 'The Warren' (109), the 'Ox-eye daisy' field (107), and the Bush valley fields (168, 169, 170 & 171), where species-rich calcareous or neutral grassland may be restored with appropriate management.

**Hatch Hill** (151) was a large field surrounded by woodland, it currently has a few nice species with a lot of tall herb and some scrub. It could be interesting to consider leaving this field to

‘rewild’ through natural succession, maybe with low impact cattle grazing depending on deer grazing levels, and monitor to see if a wood pasture mosaic of trees, scrub and grassland with tussocky and shorter sward areas and pyramidal orchids would develop over time.

**Notable botanical species** recorded in grassland areas (see species list for locations) included widespread and frequent Pyramidal Orchid *Anacamptis pyramidalis* and occasional Bee Orchid *Ophrys apifera* and Common Spotted-orchid *Dactylorhiza fuchsii*. Rarer orchids (KRPR\* species) recorded on site included Man Orchid *Orchis anthropophora* (Longfield West, 132 and on Bomb Field Bank, 136), Fly Orchid *Ophrys insectifera* (Orchid Bank, 141) and Greater Butterfly-orchid *Platanthera chlorantha* (In open grassland areas of scrub woodland, 150). Basil Thyme *Clinopodium acinos* (KRPR\*) was recorded along the top of ‘The Warren’ (109) and was also found in the top corner margin of the adjacent field to the west (102), it would be good to manage and monitor these margins through grazing or mechanised disturbance to maintain open bare ground and promote the further spread of Basil Thyme. Wild Liquorice *Astragalus glycyphyllos* was locally abundant in ‘The Warren’ and along the railway boundary grassland. Chicory *Cichorium intybus* (KRPR\*) and Common Broomrape *Orobanche minor* were also occasionally found in grasslands around the site. The rare plant Catmint *Nepeta cataria* (KRPR) was notably absent from both this site and other previous sites within the NNR. It would be recommended to revisit known historical sites for Catmint and consider targeted management actions.

### **Vineyards - Arable margins, corners, chalk mini-cliff and between the vine rows**

Across the Silverhand Estate the arable margins and vine row arable plants were less interesting than had been anticipated at the start of the survey. However, some KRPR\* species were recorded including Narrow-fruited Cornsalad *Valerianella dentata*, Stinking Chamomile *Anthemis cotula* and Dwarf Sprurge *Euphorbia exigua*. Other nice arable plants were also present including Venus’s-looking-glass *Legousia hybrida* and Dense-flowered Fumitory *Fumaria densiflora*. In addition to the arable plants, species associated more with chalk grassland or grasslands in general were occasionally found in the field margins or vineyard rows such as Hound’s-tongue *Cynoglossum officinale* (KRPR\*), Sainfoin *Onobrychis vicifolia* (KRPR\*), Kidney Vetch *Anthyllis vulneraria*, Musk thistle *Carduus nutans* and Common Broomrape *Orobanche minor*. Further botanical surveys of the arable fields and vineyards, along with consideration of their management for arable plants and other KRPR or axiophyte species is recommended. Key areas to target management and monitoring would be the top margin of the field west of The Warren (102), the arable corner (167), the chalk piles, mini-chalk cliff and margins of vineyard (118) east of Buckland road, the wide margins of the arable field south of Cobham and Cuxton woodlands (106) and Warren Road arable field (161) that was not extensively surveyed on this occasion. Management actions for arable plant species should be a focus for the Silverhand Estate within the NNR, following the tried and tested management at Ranscombe Farm. The Silverhand Estate has an exciting opportunity to be a focus for further research and innovation in arable plant conservation within vineyards and to become a stronghold for rare and threatened arable plant species.

### **Woodland & scrub woodland**

The woodlands within Silverhand Estate were not surveyed due to time constraints and summer timing for this site, since the surveys focussed on grasslands and arable plants. The adjacent Holborough Woodlands owned by Tarmac, often surround or are inbetween the

Silverhand land holdings and these woods were rapidly surveyed in the Spring (see Site 15). Further surveys, timed in spring with perhaps a later visit to capture helleborines, would be recommended for the Silverhand woodlands and woodland shaws, especially those within Unit 46 of Halling to Trottiscliffe Escarpment SSSI and the Local Wildlife Sites (GR07 & GR04). Broad-leaved helleborine *Epipactis helleborine* was frequent within the small woodland in Upper Bush. Notable historical records of species to look for include Lady Orchid *Orchis purpurea*, Stinking Hellebore *Helleborus foetidus*, Fly Orchid and Catmint (in the hedgerow/woodland shaw/field margins).

Additional habitat diversity had been added to the Silverhand Estate by the Cobhambury road wildflower verges, agri-environment scheme margins and headlands and hedgerow gapping up and management.

## 11. West Park

### **Desk study notes**

Core member of NNR project. In the KHS all grassland is shown as neutral, the field survey aimed to ground-truth and condition assess the habitats present.

### **Grassland**

The whole field was a single sheep grazed compartment, so consistent sward height, although at the time of survey it was not over-grazed despite relatively high number of sheep. Fine grass dominated sward with Sweet vernal-grass, Red fescue, Crested-dog's-tail and Common bent. Common Bird's-foot-trefoil and common sorrel were occasional and rare but there was a lack of acid grassland indicator species and the grassland was classified as 'Other neutral grassland, *Lolium-cynosurus*' and assessed in 'Moderate' condition. The grassland could potentially be enhanced by adding compartment boundaries, such as fenced hedgerows enabling rotational grazing to allow some parts to flower and set seed.

### **Pond**

The pond was holding water in late June but was totally shaded by trees and had no vegetation, except for a patch of Water starwort. The banks were very heavily poached. The pond was connected to a dry agricultural ditch. Suggested enhancement would be to open up the canopy to achieve 50% shade and to fence off the pond, at least partially, to limit sheep poaching and allow the vegetation to naturally regenerate. The connection of the pond to the ditch could be blocked, if it is a source of pollution, otherwise the ditch could also be fenced with a wide buffer to allow vegetation to regenerate.



## 12. South Ashenbank Wood

### **Desk study notes**

Affiliate site for NNR and Unit 5 of Shorne and Ashenbank woods SSSI.

### **Woodland**

South Ashenbank (Compartment 50) is The woodland is UKHab 'Lowland mixed deciduous woodland' w1f, specifically 'Other lowland mixed deciduous woodland' w1f7 (NVC W10). This was assessed in good condition. See Map sheet E for areas referred to here and separate species list shows diversity of species recorded, including 15 AWI. The majority of the wood (50A) is overstood Sweet chestnut coppice, with some veteran chestnut standards and a good mix of AWI were recorded. The northern portion of the wood (50B), is more diverse and similar in character to Ashenbank wood. A proportion of the wood had been recently coppiced (50C). There was a small open grassy glade (50D) at TQ67501 68898, which is 'Other neutral grassland' g3c but too small to separately classify so treated as part of woodland. There was one large shrub of the INNS Cherry Laurel recorded at TQ67367 68753, it is recommended that this is removed and the woodland monitored for regrowth or spread. Recommendations are to continue rotational woodland management through coppicing, maintain open glades and rides for diversity.

### 13. Great Crabbles Wood

#### Desk study notes

Great Crabbles wood SSSI, Unit 1. Aim was to assess woodland condition and record AWIs and any notable species and INNS.

#### Woodland

Great Crabbles wood was assessed as a single compartment (52), the woodland is UKHab 'Lowland mixed deciduous woodland' w1f, specifically 'Other lowland mixed deciduous woodland' w1f7 (includes NVC 10 & NVC W8). See Map sheet F and separate species list, including 23 AWI. Much of the woodland was overstood chestnut coppice, some with mature oak standards and some recently coppiced, other areas had more ash, hornbeam and field maple. There was good ground flora and the woodland had limited public access, with fallen trees and overgrown rides making access more difficult, so the woodland was relatively undisturbed. Early Purple-orchids were recorded at several locations, particularly in the woodland pits along with some other AWIs. INNS, lots of cherry laurel shrubs, were recorded (see grid references of those that were found in species list). Strongly recommend removal of these plants as soon as possible, all of those found were still small and relatively easy to remove but multiple plants and could easily spread to be a significant problem if not tackled. Monitor woodland for more plants and regrowth. There were a couple of 'camps' in the woodland, including a large one constructed of woodland materials with fire pits (TQ70465 70213, [see separate photos](#)) and one with plastic materials (TQ70228 70242, [see separate photos](#)). The camps are relatively small but (if these are known about by the landowner and not unpermitted) care needs to be taken they are limited to current footprints and do not impact larger areas of ground flora. If unpermitted, removal is recommended to discourage use. The lower southern edge adjacent to the PROW, and Crabbles Bottom, is chalk scrub woodland. The whole woodland was assessed in good condition.

There was a small area of woodland (TQ7044 7061) that was fenced with 'no access' signage, this was not surveyed. From the fence it looked like overstood Sweet chestnut woodland with good ground flora, likely to be in 'Good' condition.

Between the main woodland and the private woodland was a wide band of clearance along a telegraph wire route. This was not routine coppice clearance for cableway but appeared to be damaging activity for a SSSI Woodland. If this had been limited to felling and mulching, this could provide an open glade habitat as part of rotational woodland management. However, the groundwork appeared excessive with large scale movement of woodland soil, creating large sloping piles of clay, left covered in large sheets of black plastic ([see separate photos](#)). Could be worth checking if Natural England were consulted regarding this Operation Requiring Consent in a SSSI.

## 14. Crabbles Bottom

### Desk study notes

Core site for NNR. Priority for the field survey was to ground-truth and condition assess the habitats including orchard along with grassland and woodland areas.

### Traditional Orchard

This meets criteria for 'Traditional orchard' which is a secondary code '27' in UKHab and 'high distinctiveness' habitat. The orchard (compartment 53) was assessed in 'good condition' but there were opportunities identified for further enhancement of its condition for biodiversity benefits. The grassland under the orchard is 'low distinctiveness' species-poor neutral grassland, this could be enhanced by continued rotational cut and collect, possibly with the addition of yellow-rattle, or would be great to trial, scarifying and then spreading green hay from the other species-rich grassland areas of the site.

### Grassland

There were three open areas of grassland within the site, viewing of historical aerial photographs shows that these were remnants of a strip of likely chalk grassland habitat below Great Crabbles wood. The field survey showed that the two larger more easterly areas (compartments 55 and 56) were Lowland calcareous grassland (g2a5) with a large number of indicators and herb species. Both areas were herb-rich and had large numbers of pyramidal orchid (see species list), the central compartment 55 was the best. There was a raised up slightly higher level running across the southern portion of each field, with a slightly more rank taller sward, maybe deeper or slightly more nutrient rich soil had been placed here. The smaller westerly area (compartment 54) was relatively species-rich but there were not enough indicator species to justify 'lowland calcareous grassland' classification and no orchids were recorded. Species-rich other neutral grassland (g3c6 secondary code 18) was probably the best classification; 'Other calcareous grassland' g2c could match for UKHab but this is not included in the Statutory Metric as a habitat, so harder to value using the metric, although professional judgement would say the same 'Moderate distinctiveness'. There was a damper area on margins, with Meadowsweet and Ragged robin was also recorded. It would be recommended to manage this area to increase species diversity as in the other two areas. All three grassland areas were assessed in good condition, the main threat would be scrub encroachment, since all had scattered trees and scrub, particularly on margins. Some of the trees within the fields could have the canopies raised, or be thinned out, to allow more light in and prevent loss of grassland species.

### Woodland

The woodland parts of Crabbles bottom (57) are not all easily accessible due to habitat density, further from the pathways they are probably more chalk scrub woodland in character. However, the areas that were surveyed were plantation woodland, planted through landscaping plastic fabric, probably as part of the road construction. The main plantation was hazel coppice but there were a wide variety of other native trees (see species list). Due to the ground being covered with matting the field layer was very poor, although it was surveyed in July. The woodland was assessed as moderate condition, mainly due to the limitations imposed by the ground covering but also since it is still a relatively young woodland. Removal of the ground covering could be considered as an enhancement.



## 15. Holborough Woodlands (Including Lad's Farm & some disused quarries)

### Desk study notes

Affiliate site for NNR. Most is designated as SAC or SSSI, applicable SSSI units are 17 – 46 and includes SAC Annex 1 habitats Beech (H9130), yew (H91J0) and chalk Grassland (H6210). SSSI features include the 'Vascular plant assemblage' including three species that require disturbed ground - Ground pine, Cut-leaved Germander and White Mullein; two species of scrub margins - Man Orchid and Lady Orchid; Musk Orchid on Chalk grassland and Stinking Hellebore and Lady orchid of the Broad-leaved & Yew Woodland. The aim of the current survey was to rapidly assess the condition of the woodlands, record any notable plant species, including Lady Orchid and AWIs and note any INNS within the woodlands. Areas of grassland within the woodlands were also assessed for habitat type and condition. Recommendations for management or enhancement would be noted.

In 2012 and 2015 I did baseline and monitoring surveys of Ladd's Farm for LaFarge/Tarmac that included chalk grassland survey with condition assessments and monitoring of rare plants following a major scrub clearance project. The aim was to re-visit the monitored fields, assess habitats and condition and species presence and make recommendations for management. In addition, some areas of disused quarry were rapidly assessed where possible.

### Woodlands

The woods were walked over a few days during Spring, due to the vast area of woodland and the survey time constraints it was not viable to record species in detail or do condition assessments of every woodland block. There is a good variety within the woodlands, from Lowland Beech and Yew woodlands, chalk scrub woodland, Hornbeam, Hazel coppice, Ash, Sweet chestnut coppice sometimes with oak standards (and both overstood and recently coppiced), plantation woodland of Scot's pine and some non-native conifers throughout the site that adds to diversity at the current level. Open glades, cable ways and rides added to the diversity of the woodland. The species, including ground flora, found in different areas are recorded in the species list and more than 40 AWI were recorded.

A separate report details the Lady orchid survey, some historical sites were not re-found some of these may need coppicing or bramble clearance, some may have been disturbed by woodland operations or other activities. In Red Wood, a Lady orchid and blind rosettes and eaten spikes were found at TQ 68311 66936 on a slight bank on the south side of a wide grassy track and uphill on the same side of the track at TQ 68273 66969, there was a pheasant shelter dug into the side of this ride just across from the orchid site. Nearby a wood bank, open due to fallen trees, had some orchids near a badger sett (TQ 68294 66896), would be good to maintain this open area if needed. A small glade/cleared area at the woodland edge (TQ 68240 66992) had a single Lady orchid spike, so it would be good to maintain this open area. A new site was found on a relatively undisturbed ride above Longbottom bank (TQ 68054 65247), this ride also had chalk grassland flora and would benefit from being undisturbed by vehicular traffic, as it was now, but occasionally managed to maintain the open ride. A large population of orchids were being maintained through scrub and *Buddleja* management in a long glade on the woodland slope north of Chapel Lane (TQ 68094 64027). The wood banks of Chapel Lane were a good feature of the site.

Representative condition assessments were done across the site and the woodland varied from good to moderate condition. The assessment is fairly high-level, in comparison to the SSSI monitoring criteria, but the main failing attributes lowering the assessment scores were the presence of INNS, ash dieback, lack of woodland regeneration in places and woodland disturbance. The presence of INNS, Rhododendron and Cherry Laurel, was not yet too high and it would be good to try and eradicate and monitor these species before they spread further. Woodland disturbance, especially of ground flora, was high in places especially from off-roading trail bikes and karts not sticking to the byways but creating multiple tracks down banks and around yew groves and multiple wrecks. This was particularly prevalent along the byway from Buckland Road through to Holly Hill. Some fallen trees had been left at TQ67211 63776 to block access down a slope, this could be replicated and some boundary trees laid to create more edges to the byway. There were also impacts from activities associated with pheasantry, including the footprint of pens, vehicle disturbance of rides, cover crops in grassland, feeding stations, shelters dug into woodland or rides (sometimes near Lady orchid sites), mowing/mulching rides and grasslands and the use of herbicides around pens (sometimes near chalk grassland species or orchids, for example TQ68168 66149 & TQ68035 64125). Deer were present and levels may need assessing as part of the woodland management plan. Coppice management on rotation was taking place which is essential good management. However, it is recommended that operators time coppicing (and scrub clearance for pheasantry) to minimise the risk of offences in relation to Protected species such as Hazel dormice and birds (NE Consent required in SSSI).

### **Grassland and Cropland within the Woodland**

There were areas of 'Other neutral grassland' within the woodland (174, 175, 176, 178, 180 and 181), two were in good condition, one was poor and three could not be assessed. Two parcels of land had been recently ploughed. See condition assessment sheets and species list for further information. The neutral grassland sward and species diversity could be enhanced, through management and possible addition of yellow rattle. There were some nice rides and edges through the woodlands that could be maintained and expanded.

### **Lad's Farm grasslands**

There were 9 fields originally surveyed by the author in 2012 and 2015 [Mason, 2015]. There was an opportunity during this survey to see how the habitats may have changed since 2015 in response to management and make recommendations.

NB. Some of the original 9 fields, were shown to be outside of the NNR boundary for site 15 in the supplied QGIS site boundary layer, please refer to Map sheet P for locations of the fields in relation to the boundary, I assume this is a simple mapping issue and the boundary should be adjusted? Note the terms Lad's and Ladd's have been used interchangeably in maps and reports over recent years, I am hereafter referring to Lad's as written on the Ordnance Survey mapping

**Field 1** (Compartment 188) was assessed as Lowland Calcareous grassland, with sufficient presence and abundance of chalk indicator species and frequent Pyramidal orchids. However, the chalk grassland was assessed as poor condition, failing the majority of the assessment criteria, including scrub encroachment, a tall rank grass dominated sward with limited number of herb species per square metre. The scrub cover was more than 20% but may have reduced

from the 65% cover reported in 2015 [Mason, 2015]. Recommendations would be to continue and possibly increase grazing or other scrub management with regular monitoring of scrub cover and species diversity. NB. Dark Green Fritillary butterflies were seen in both Fields 1 and 2 during the survey.

**Field 2** (Compartment 189) was assessed as Lowland Calcareous grassland in moderate condition. This grassland failed on scrub cover, which had increased since 2015, too tall sward and the INNS Wall Cotoneaster *Cotoneaster horizontalis* was present. Recommendations would be to control and monitor the INNS Cotoneaster and continue grazing management with more regular monitoring. Burnet Rose, a KRPR species was recorded, it was not found in 2012 or 2015 [Mason, 2015].

**Field 2 is the 'botanical hot spot' for Ground-pine within the NNR and within Kent.** Ground-pine was locally frequent in disturbed areas along the top fence and trackway and particularly near to the area disturbed for a new gate. However, there were significantly less plants and they were less widespread across the field than they were in 2012, but it may have increased in Field 2 since 2015 due to recent disturbance for the new gateway area. No sign of ground pine was found in Fields 8 or 9 (Compartments 195 & 196). This may represent an overall decline in this species at Lad's Farm, for reference an extract of my 2015 survey report [Mason, 2015] is given here:

"The distribution and abundance of ground pine across the site is of concern. In 2012 this plant was recorded in Fields 2, 8 and 9, with widespread distribution and abundance particularly in Fields 2 and 9. However in 2015, ground pine was not recorded in Field 9 and was showing a dramatic decrease in Field 2, where it is now confined to the top edge of the field next to the fence line. The plant was re-recorded in Field 8, growing in its original location along a disturbed track. The declines in Field 2 and 9 are considered to be due to a combination of lack of ground disturbance and the regeneration / re-colonisation of scrub; the population in Field 8 is also believed to be at risk from scrub development. Ground pine is a short-lived annual or biennial species which requires disturbed and bare ground in order to thrive and will have benefited from the extensive soil disturbance caused during the initial restoration phase of this project. Its seeds are long-lived and the declines currently witnessed here, particularly within Fields 2 and 9 are reversible, if the planned conservation management regime involving mechanical scrub control, rotational soil disturbance and maintenance of discrete areas of bare ground is implemented."

The reduction in Ground pine is almost certainly due to a lack of ground disturbance management, this species readily reappears given appropriate management and this should be a continuing priority action in Field 2, with associated regular monitoring.

**Field 3** (Compartment 190) was assessed as Lowland Calcareous grassland in moderate condition. This grassland failed on scrub cover, which had increased since 2015, too tall sward and lack of bare ground. However, the field did comprise a tall herb-rich sward with frequent Pyramidal Orchid and Clustered Bellflower. The KRPR species Burnet Rose was locally frequent along with other less scarce KRPR species. The axiophyte species, Common Valerian *Valeriana officinalis* ssp. *collina* was occasional, in this field. Recommendations would be to continue and possibly increase grazing or other scrub management with regular monitoring of scrub cover and species diversity.



**Field 4** (Compartment 191) was assessed as Lowland Calcareous grassland in good condition, the only failing attribute was the cover of scrub. Musk Orchid *Herminium monorchis* was recorded at Lad's Farm in the same area of Field 4 (Compartment 191) as in 2012 & 2015 [Mason, 2012 & 2015] but only two flowering spikes were found. A small number of Hebridean sheep were grazing at the time of survey and natural grazers including deer and rabbits are also present. KRPR species recorded included Chalk eyebright, Clustered Bellflower, Burnet Rose and Common Juniper, as a single aging shrub, at its known location in Field 4.

**Field 5** (Compartment 192) was assessed as Lowland Calcareous grassland in good condition, again this failed the target for scrub cover. No Musk Orchid plants were found in Field 5 during this visit, we search thoroughly where it had previously occurred alongside with other common orchid species, including Fragrant Orchid *Gymnadenia conopsea*, which was also absent during this survey. Man Orchid was previously found at Lad's Farm in Fields 4 and 5 [Mason, 2015], it was not recorded during the current survey, the timing of the survey visit was just past the main flowering season, spikes may have been grazed by Hebridean sheep present at the time of survey, natural grazers, or the orchids may have been temporarily lost to scrub encroachment. KRPR species Chalk eyebright was also recorded in the best area of chalk grassland.

**Field 6** (Compartment 193) was assessed as Lowland Calcareous grassland in moderate condition. The habitat quality and condition varied across the field, with a lower flat area with a taller sward and low scrub, there is a damp area near the field entrance and the bank with a shorter chalk herb-rich sward and bare chalk exposed along an old trackway. The habitat condition failed on high percentage cover of both scrub and sub-optimal condition indicator species including Dock species *Rumex* spp. and non-native Butterfly-bush *Buddleja davidii*. A large patch of Basil Thyme, approximately ten square metres in size, was recorded on the chalk bank. I had not recorded it here in 2012 or 2015, but the BSBI database does record it at this same site in 2015 (David Steere) and possibly earlier. Chalk eyebright, Clustered Bellflower and Harebell *Campanula rotundifolia* were also recorded on this bank. Liam Rooney recorded a hybrid bedstraw in the lower flat area of the field *Galium x pomeranicum* (*G. verum* x *G. album*) as well as both parents (Lady's Bedstraw & Hedge Bedstraw respectively).

Musk Orchid was not re-found in Field 6, where the author had found it in 2012. The decline in Musk orchid numbers and colonies across Lad's Farm, probably largely due to a lack of short turf and scrub encroachment, appears to have continued. The summary and recommendations from the 2015 survey are provided for information here [Mason, 2015]:

"Musk orchid was recorded in Fields 4, 5 and 6 in 2012, and was re-recorded at the same locations in both Fields 4 and 5 in 2015, although numbers in both fields are showing a general decline. The vegetation in Field 6 was noted to be both taller and more scrubbed over than in 2012 and no musk orchids were recorded in 2015. Musk orchid is a chalk specialist requiring a short sward, and the decline noted here is attributed to scrub encroachment."

The nice chalk grassland bank, with the Basil Thyme, Clustered Bellflower and other species, looks good potential habitat for Musk Orchid and is worth checking in future years. The survey was possibly a few weeks late to maximise chances of finding this diminutive species. In 2012,

the Musk Orchid was actually growing in the lower flat rank area of the field. It is recommended that further surveys are carried out as well as more intensive scrub management. Removal of the invasive *Buddleja* from this bank, whilst plants are still relatively small, should be an urgent priority.

**Field 7** (Compartment 194) was assessed as Lowland Calcareous grassland in moderate condition. The field did have a diverse sward structure with the majority being longer and grass dominated but more than 20% of the field had shorter herb-rich habitat. Clustered Bellflower was recorded along with Small scabious *Scabiosa columbaria*, Common Rock-rose *Helianthemum nummularia* and a single Pyramidal orchid *Anacamptis pyramidalis*. The failing attributes were scrub encroachment and a lack of species-diversity across the taller sward. Continued grazing management and regular monitoring is recommended.

**Field 8** was split into 3 areas for this survey (see the attached map) as two areas of chalk grassland (Compartments 195 A&C) were separated by an area of rank neutral grassland (Compartment 195B). Compartments 195A and 195C were assessed as Lowland Calcareous grassland in moderate condition. The failing attributes were cover of scrub and lack of bare ground and sward diversity. Chalk eyebright was on the steep bank in area 195C along with Harebell, and Clustered Bellflower was in both areas 195C & 195A along with other KRPR species. Compartment 195B was assessed as a separate area and classified as Other Neutral grassland in poor condition, it failed the same attributes and also had poor species diversity. Scrub management is recommended for the chalk grassland in Field 8 with sufficient soil disturbance to allow Ground pine to recolonise from the seed bank. In 2012, Ground-pine was recorded in bare ground along the bottom track of area C leading from the scrubbed over gateway to Field 7.

**Field 9** (Compartment 196) was assessed as Lowland Calcareous grassland in moderate condition. The failing attributes were lack of species diversity and bare ground cover but ultimately due to the extremely high, approximately 80%, scrub cover that was encroaching on the species-rich chalk grassland along with Butterfly-bush (*Buddleja*) which was particularly dense at the bottom of the field near the track. Clustered Bellflower was recorded and several KRPR species in the chalk grassland between the scrub. Field 9 has been notable for the axiophyte Dropwort *Filipendula vulgaris* which has a limited distribution on chalk grassland in Kent and was found on the east side of Field 9, in 2012 and 2015, it was still present in this survey but only where there was sufficient open ground near to the quarry fence (a couple of plants were also found in Field 4 in 2015 but not in this survey). Extensive scrub management, mechanical and/or intensive grazing, is a priority for the chalk grassland in Field 9, and sufficient soil disturbance to allow Ground pine to recolonise from the seed bank.

In summary, the nine chalk grassland fields at Lad's Farm, retain much of their rare plant interest, with some winners such as Clustered Bellflower, and there is a nice diversity in the character and species of the different fields. Lad's Farm is still the stronghold for Ground-pine within Kent, but this species does require continued ground disturbance and is only found in one field currently as compared with three different fields in 2012 [Mason, 2012]. Basil Thyme was found in a large patch on the bank in Field 6, and thus bank appears more species-rich than in 2015. Musk Orchid was still present in Field 4, but in very low numbers and may have been temporarily lost in Field 5 and was also not re-found in Field 6. The over-arching

impression of this relatively rapid survey was that some areas had improved in condition and diversity, but some rare species may be at risk. Scrub levels were still too high across the whole site and in most fields, but especially in Field 9, scrub was having a detrimental impact on the chalk grassland habitat. It is recommended that more regular botanical monitoring is done, to record abundance and distribution of the rare species, assess the chalk grassland condition and to inform ongoing management.

There was an arable field margin (199), that was recorded in passing and may be outside of the project boundary, but which contained some Red Listed arable plants: Narrow-fruited Cornsalad (VU), Dwarf Spurge (EN) and Stinking Chamomile (EN). It is recommended that this margin and others on the landholding continue to be cultivated sensitively and are monitored in further detail.

Crookhorn wood not surveyed in Spring on this occasion, some incidental recording was done of AWIs and other species whilst walking through tracks in July (but too late in the season for optimal survey). Previously White Helleborines were recorded under veteran beech near to Crookhorn Bungalow end of track, but no sign was seen of old flower spikes. There is also a historically orchid rich wide ride (between Field 5/193 and Crookhorn Bungalow) that was not surveyed this time. Recommend further surveys of Crookhorn wood and rides to update records and to highlight any opportunities for enhancements.

### **Quarries – Clements (South Hill), Houlder and Lees**

The best fit UKHab classification for the quarries was 'Sparsely vegetated land - Other inland rock and scree' code 's1d'. This entailed some professional judgement since the definition ideally required <50% vegetation cover and Clements and Lees, in particular, had >50% vegetation cover. The quarries have been disused for some time and vegetation has established through succession, with only occasional limited management for clay shooting. This was necessarily a high-level classification and there were specific habitats within the quarries, including chalk grassland, dense scrub and woodland that could be mapped and individually assessed but that was not practical during our brief visit. The value of the quarry habitats is in their mosaic of habitats, they are functioning as 'Open mosaic habitats' but obviously on the natural substrate of chalk rather than an artificial substrate as in priority Brownfield/Open Mosaic Habitat of Previously Developed land. The quarries were assessed in 'poor' habitat condition largely due to the cover of scrub >25%, presence of INNS including Cotoneaster and non-native Butterfly-bush (*Buddleja*) and high cover of vegetation. There were axiophytes and KRPR species in the quarries, particularly in the open chalk grassland areas, Autumn Gentian *Gentianella amarella* ssp. *amarella* was notable in Lees Quarry. Very little time was spent recording in the quarries, the chalk scarp quarry faces were not investigated and may hold botanical and other taxa interest if they could be safely assessed. It is recommended that some management is considered to maintain the existing open species-rich areas, manage scrub and INNS where feasible and to try and facilitate further species recording.

There is another disused quarry (White pit) south of Wingate Wood (TQ6945 6502) that has historical records of KRPR 'rare' and WCA Schedule 8 protected Cut-leaved Germander *Teucrium botrys*. The last records of this plant, at its only known location in Kent, are from 2018. Myself and Lliam tried to access the site, via paths where others were already accessing,

to look for this species but the site was too scrubbed over to allow access to the specific area where it had last been seen. It is recommended, the landowner is determined, and a survey and any required management work undertaken.

## 16. Court Wood

### **Desk study notes**

Unknown status in project, Local Wildlife Site GR01 Court Wood – Woodland and possibly some grassland areas (The whole LWS is not included in the project boundary). There was no access permission in place, so this site was not included in the field surveys.

## 17. Shorne Pasture

### Desk study notes

Unknown status in project. Mainly overlaps with the boundary of Local Wildlife Site GR18, Shorne Pasture, which is cited as containing an area of acid grassland. Field survey aimed to verify and condition assess the habitats.

### Grassland

There was an area of grassland (compartment 82) with limited acid grassland indicators including Common Bent and Sheep's fescue, Common Stork's-bill and Sheep's sorrel however not in sufficient abundance to justify a classification in UKHab as 'Lowland dry acid grassland' (g1a6), it was classified as 'Other dry acid grassland' (g1d) and assessed in 'poor' condition. However, late August is not optimal as rather late for acid grassland survey and the grassland was rather brown, very worn from public access and very rabbit grazed. It is likely that this public and rabbit disturbance has been going on for some time, as there was an abundance of common ragwort at the site, which exploits bare ground. A return visit is recommended for botanical survey of grassland when spring ephemeral species may be present, such as the Clover species listed on the LWS citation and to check for Field Mouse-ear that the citation states was frequent but BSBI has no recent records.

The other areas of grassland (compartment 83 & 84) were ranker 'Other neutral grassland, *Arrhenatherum* grassland' g3c5. It was a ranker but tussocky sward, good for invertebrate niches and full of Lady's Bedstraw, red and white campion, but also thistles, docks and nettles. Bramble was encroaching on all the grassland compartments and prevented access to compartment 84. Compartment 83 was condition assessed as 'poor' and by extrapolation compartment 84 was classified and assessed as the same from a distant view, but this was not ground-truthed. It is recommended that some management is done to limit scrub encroachment and raise tree canopies maybe to allow an area of grassland to be maintained. It would be worth considering if there are any options to limit public access away from the best acid grassland area, disturbance is necessary but more than sufficient rabbits appear present.

### Woodland

It was late in the season for ground flora, so only a quick walk through a small part of the woodland (compartment 85) was done, and no condition assessment. Species are noted in the list, but the main woodland areas were not recorded. It would be better to resurvey and condition assess, ideally at the same time as an early season grassland survey in April-May.

## 18. Scalers Hill Wood

### **Desk study notes**

The woodland is within Unit 4 of Shorne and Ashenbank woods SSSI. The woodland was viewed from the PROW. Grassland areas are all shown as modified grassland (improved grassland) in KHS and Google Earth shows horse grazed paddocks. Magic map suggests small area of unknown priority habitat near tennis court and on drive verges. The grassland areas were not ground-truthed due to lack of access.

### **Woodland**

'Other lowland mixed deciduous woodland' w1f7 (NVC W8, ash dominated in compartment 51A, more veteran Beech in 51B and W10 Overstood Sweet chestnut and Sycamore coppice in 51C). Condition was assessed as 'Good' across the whole compartment and was limited by access and view from PROW.



## 19. Camer Park

### **Desk study notes**

Core site for NNR. Field survey to ground truth and condition assess any Wood-pasture parkland (shown on Magic map and it's history as an 18<sup>th</sup> Century parkland) survey any other habitats present. The site boundary needs to be redrawn, as part of the area shown on the original map provided for the desk study are private residential properties and land (refer to Map sheet J).

### **Wood-pasture and parkland**

Assessed as Wood-pasture Parkland, due to historic parkland trees that included veteran and mature trees, both native and non-native plantings. There were recent plantings of young trees for succession of the habitat. The grassland was mainly 'Modified' and very species-poor with only small patches of more diverse 'Other neutral grassland' in the north-east. One of the more diverse areas was fenced and had fallen dead-wood in the form of a large fallen tree, this added to the biodiversity value of the site and there were also other standing dead-wood trees in the park. There were some good edge habitats with stands of nettles. The condition was assessed as 'moderate' with failing attributes being low distinctiveness 'modified' grassland and lack of sward structural diversity for fauna. There is an opportunity to enhance the grassland habitats through management. Currently some of the areas had been left uncut with mown paths, which is good but other areas had been recently mown and the arisings left as mulch which would further enrich the soil and discourage any increase in species diversity. It is suggested that the grassland needs a management plan that might include rotational cut and collect, with some scarification for bare ground and possibly adding yellow-rattle to some late mown areas. The area near the fallen tree was lower and potentially could have damper species if managed, or a pond could maybe added to the site.

### **Woodland**

There was only a relatively small area of woodland that wasn't included in the WPP. This was assessed in 'good' condition but there was INNS Cherry Laurel recorded, this was only a small shrub that could easily be manually removed. It would be great to check the woodland for other plants and monitor regularly. The AWI and ground flora were recorded but it was late in the season and also this woodland is fairly disturbed, which is expected in a public park. Some of the paths could have more structural diversity and light at the edges.

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## Appendices

Lady Orchid *Orchis purpurea* records as part of baseline surveys for NNR  
Lesley Mason, Apr-May 2024

Checked historical record sites and recent sites on a list supplied by Sue Buckingham as part of a wider BSBI survey. I also recorded any Lady orchids that I found during the woodland survey walkovers for the NNR botanical baseline in April and May 2024.

**TQ66T** Henley Street – Cobhambury wood: Not visited as not in NNR site list

### **TQ66W Upper Halling – Checked on 10/05/2024**

TQ 68094 64027 (main concentration but spread along glade). Conservative total count across this site would be **116 Lady orchids**. Comprising at least 72 flowering spikes, 20 blind and 4 finished flowering and 20 eaten/damaged some by slugs (slime seen). Some had pods after flowering but too early to be swollen in fruit. Difficult to do an accurate count as some orchids were in shade and hidden under woodland/scrub edges and long vegetation as well as out in open glade. The glade had been managed, probably last Autumn/Winter by brush cutting, some Butterfly bush *Buddleja davidii* present, needs annual management (Check this is in a management plan, owners Tarmac, in SSSI Unit 28).













### **TQ66X(3) Upper Halling**

Checked on 29/04/2024, nothing seen at grid reference for single record in 2013.

### **TQ44X(4) North Halling**

Not checked as no access arranged - outside NNR and Tarmac landholding in private woodland on steep bank

### **TQ66Y(1) Luddesdown**

Checked area of historical 2015 record but nothing found on 26/04/2024

### **TQ66Y(2) Luddesdown**

Historical grid reference 2010 in Little Red Wood, checked area but nothing found on 26/04/2024.

### **TQ66Y(3) Luddesdown Red Wood E**

Checked area of historical record but nothing found on 26/04/2024

### **TQ66Y(5) Luddesdown Red Wood W**

26/04/2024 Found **total of 7 Lady orchids** (2 flowering, 1 eaten & 4 blind): These 7 comprised 1 flowering spike and 2 blind rosettes at **TQ 68311 66936** on a slight bank on the south side of a wide grassy track. Further uphill on the same side of the track at **TQ 68273 66969** were 4 more lady orchids (1 flowering, 1 eaten and 2 blind).









Two more sites found very close by to TQ66Y(5):

Following the wood bank roughly south into wood from the site above **3 more lady orchids** (1 eaten spike and 2 blind rosettes) were found on the wood bank at TQ 68294 66896 near a badger sett.

# Orchis purpurea (Lady Orchid) recording form

Version 02, March 2020

Site number (if a listed site) 'New' BUT very close to TQ66Y(5)	VC 16	Site on list? (Y/N) N ?	Day 26	Month 04	Year 24	Recorder(s) hesey mason
Site name * Red Wood, Holborough woods.		Aspect ESE		Slope Small bank facing ESE		

\* If the site is not on the Record Data list please give a location name from OS (e.g. Green Wood, nr Wye)

Grid reference(s) With large colonies of plants, please take grid reference from approx. centre of colony, indicating population size below. For well scattered or isolated individuals or small groups please record these separately with grid references. Continue on reverse if necessary	Sketch map Please indicate north and approximate position of population surveyed
T Q 6 8 2 9 4 6 6 8 9 6	See photos + map. woodland above bank. Hazel + Ash, bluebell + bramble  Bank grassy with Dogs-mercury, Enchanter's nightshade + violet reichenbachiana Badger Sett Bramble + fallen trees in open glade below the bank  Other Lady orchid Ride →

Population size	0 (null)	Unit counted	Rosettes	Density e.g. a few plants widely scattered
1-10	<input checked="" type="checkbox"/>	Flowering/fruiting spikes	1 eaten	close group.
11-100		Clumps/patches		
101-300		Blind rosettes	2	
301-500		Combination of above	3	Extent e.g. 50 x 100 m
501-1000			% of plants blind	66
1001-3000			Presence of swollen capsules	Too early
3001-10000				
>10000				
Actual number if counted	3			< 1 m <sup>2</sup>

Habitat type Please give brief description of habitat, noting if woodland, scrub or grassland site. If woodland give dominant tree species and say if plants mostly close to path or glades	Management Please comment on ownership, if known, and give brief details of how site appears to be managed (if at all) and whether this seems appropriate.	Grazing Is there evidence of grazing by deer, slugs or rabbits? If so can you comment on the effect?					
Woodland, Clay with fints bank 'wood bank' Ash + Hazel coppice Groundflame - Bluebell, Dogs-mercury	Hazel coppiced Ash unmanaged Landowner: Tarmac. contact is Michael Chilton	Deer seen. Slugs Holes in leaves.					
Shading (tick as applicable)		Sward height in grassland sites (tick as applicable)					
High	Mod	Low	None	<10cm	11-30cm	31-100cm	>100cm
	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			

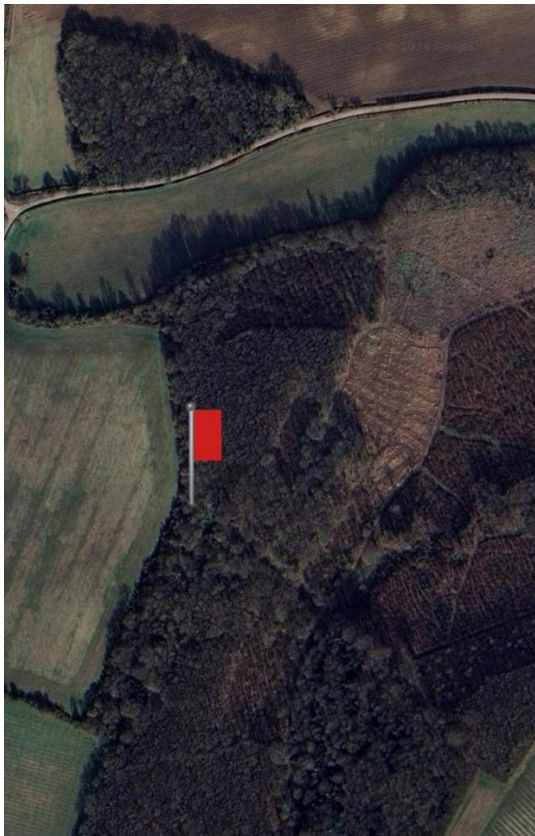
Grid references continued	Site history Please comment on any factors likely to have influenced the abundance of plants on the site. For null records please offer a reason.
	SSSI

Hallway to Trottschiff camp.





*Mercurialis perennis* (F), Primrose *Primula vulgaris* (F), Wood Avens *Geum urbanum* (F), Bluebell *Hyacinthoides non-scripta* (O), and the woodland around included Field Maple *Acer campestre*, Hazel *Corylus avellana* and Spindle *Euonymus europaea*.





**New Site within Holborough Woodlands (SSSI unit 32)- TQ 68054 65247, 05 May 2024**  
Map and completed form below:









## Version 02, March 2020

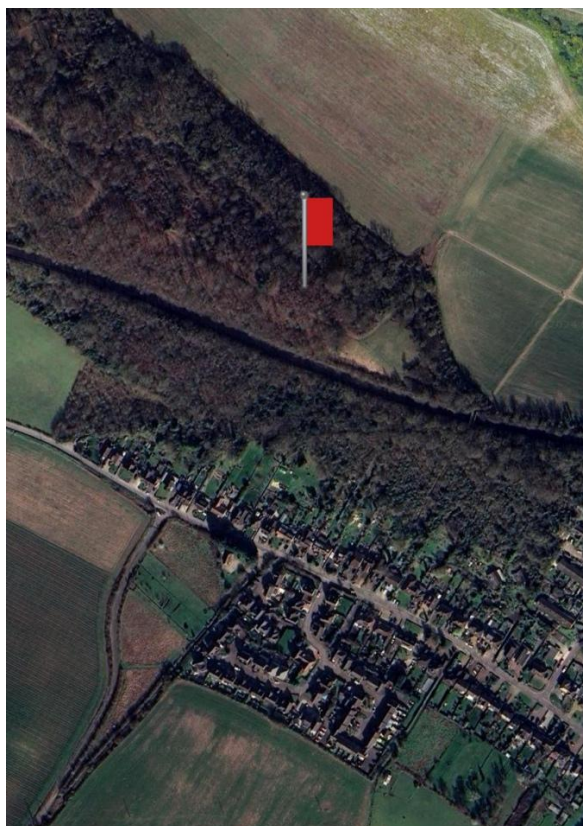
66



[illegible]

**TQ76D Ranscombe Farm west – Mill Hill**

At TQ 70270 67363 on 22/04/2024: 1 very tall Lady orchid in flower, 1 more in bud and several blind young plants.





**TQ76E(1) Great Wood, Ranscombe Farm**

Found 2 in open grassy glade on 19/04/2023 at TQ 70851 68384 (But GPS not precise +/-18m).





# Orchis purpurea (Lady Orchid) recording form

Version 02, March 2020

Site number (if a listed site) <b>TQ 76 (1)</b>	VC <b>16</b>	Site on list? (Y/N) <b>Y</b>	Day <b>19</b>	Month <b>04</b>	Year <b>24</b>	Recorder(s) <b>Lesley Mason</b>
Site name * <b>Great Wood, Ranscombe Farm.</b>			Aspect <b>Flat</b>	Slope <b>Flat</b>		

\* If the site is not on the Record Data list please give a location name from OS (e.g. Green Wood, nr Wye)

<p>Grid reference(s) With large colonies of plants, please take grid reference from approx. centre of colony, indicating population size below. For well scattered or isolated individuals or small groups please record these separately with grid references. Continue on reverse if necessary</p> <p><b>TQ 70851</b> <b>68384</b></p>	<p>Sketch map Please indicate north and approximate position of population surveyed</p>
--	---

<p>Population size</p> <p>0 (null) <b>2</b></p> <p>1-10</p> <p>11-100</p> <p>101-300</p> <p>301-500</p> <p>501-1000</p> <p>1001-3000</p> <p>3001-10000</p> <p>&gt;10000</p> <p>Actual number if counted <b>2</b></p>	<p>Unit counted</p> <p>Rosettes <b>2</b></p> <p>Flowering/fruiting spikes</p> <p>Clumps/patches</p> <p>Blind rosettes</p> <p>Combination of above</p> <p>% of plants blind <b>0</b></p> <p>Presence of swollen capsules <b>Too early</b></p>	<p>Density e.g. a few plants widely scattered</p> <p><b>Just 2 spikes</b></p> <p>Extent e.g. 50 x 100 m</p> <p><b>N/A</b></p>
--	--	---

<p>Habitat type</p> <p>Please give brief description of habitat, noting if woodland, scrub or grassland site. If woodland give dominant tree species and say if plants mostly close to path or glades</p> <p><b>Grassy glade</b> <b>last topped in Autumn 2023?</b> <b>See spp. list for herbs.</b></p>	<p>Management</p> <p>Please comment on ownership, if known, and give brief details of how site appears to be managed (if at all) and whether this seems appropriate.</p> <p><b>looks like brush cut + raked in Autumn 2023</b></p>	<p>Grazing</p> <p>Is there evidence of grazing by deer, slugs or rabbits? If so can you comment on the effect?</p> <p><b>No evidence but deer + probably rabbits are present.</b></p>																
<p>Shading (tick as applicable)</p> <table border="1"> <tr> <td>High</td> <td>Mod</td> <td>Low</td> <td>None</td> </tr> <tr> <td></td> <td></td> <td></td> <td><input checked="" type="checkbox"/></td> </tr> </table>		High	Mod	Low	None				<input checked="" type="checkbox"/>	<p>Sward height in grassland sites (tick as applicable)</p> <table border="1"> <tr> <td>&lt;10cm</td> <td>11-30cm</td> <td>31-100cm</td> <td>&gt;100cm</td> </tr> <tr> <td></td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> </table>	<10cm	11-30cm	31-100cm	>100cm		<input checked="" type="checkbox"/>		
High	Mod	Low	None															
			<input checked="" type="checkbox"/>															
<10cm	11-30cm	31-100cm	>100cm															
	<input checked="" type="checkbox"/>																	

Grid references continued	Site history
	Please comment on any factors likely to have influenced the abundance of plants on the site. For null records please offer a reason.



**TQ76E(2) Clay Pond Wood, Ranscombe Farm**

Found 10 Lady Orchids on 19/04/2024 at TQ 71030 68348, these included 1 blind, the rest were in bud or beginning to flower.



**TQ76E(3) Great Wood (Upper)**

Coppice was now very scrubby so couldn't wade through to the 2023 location, no Lady orchids recorded

**TQ77A Great Crabbles Wood, Higham**

1997 location checked but No lady orchids recorded in Great Crabbles wood during survey of wood on 12/04/2024