Application 22/01878/P by Homes England for:

Application for Outline Planning Permission with some matters reserved - Development of up to 260 new residential dwellings (Class C3 use) together with pedestrian, cycle and vehicular access, cycle and car parking, public open space and associated infrastructure. Approval sought for access with all other matters reserved.

PLANNING APPEAL

(PINS ref. 3308537)

PROOF OF EVIDENCE, ECOLOGY

RUPERT HIGGINS

1 INTRODUCTION

1.1 Qualifications

I graduated from University of Bristol in 1984 with a degree in Botany and Zoology. I am a Founder Member of the Chartered Institute of Ecologists and Environmental Managers (MCIEEM).

1.2 Experience

1.2.1 Following periods working for Avon Wildlife Trust and Nature Conservancy Council (a precursor organisation to Natural England) I became a consultant ecologist and partner in Wessex Ecological Consultancy in 1988. I have worked on a wide variety of development related schemes throughout lowland Britain for many clients, ranging from householders to major construction companies and central government departments. I have also worked on conservation-related projects for a range of clients that includes Natural England, RSPB and the National Trust. These projects included a habitat mapping exercise of 43 Sites of Nature Conservation Interest (SNCIs), carried out for Bristol City Council in 2021, meaning that I have an up-to-date and comprehensive knowledge of the city's most important wildlife sites.

1.2.2 I am, in a voluntary capacity, the County Bird Recorder for Avon and the joint Vascular Plant Recorder for west Gloucestershire. I am co-author of a number of books and papers dealing with natural history, mostly relating specifically to the Bristol region.

1.3 Summary of Case

1.3.1 I was appointed to act as an expert witness for Bristol City Council in this matter on 30th November 2022. I have visited the appeal site, in connection with this application, on 25th November and 20th December 2022 and on 4th and 9th January 2023. I have also made at least three other visits to the site over the last thirty years. My proof of evidence has been informed by reference to documents produced in support of the application, particularly the Ecological Impact Assessment (CD 1.21) and its associated technical appendices (CD 1.21 a) to j)) and the appellant's Statement of Case (CD 9.1).

1.3.2 My statement supports the following deemed reasons for refusal:

1) "*The proposed development is considered to result in significant harm to biodiversity, for which it provides neither adequate mitigation nor compensation (whether on or off site). The application is therefore considered contrary to the development considerations of allocation BSA1201 of the Site Allocations and Development Management (2014), policy BCS9 of Bristol Development Framework Core strategy (2011) policies SA1, DM17 and DM19 of the Site Allocations and Development Management (2014), and paragraphs 174, 179 and 180a of the NPPF (2021).*"

2) "*The proposed development fails to retain important hedgerows and trees within the proposal site and is therefore considered contrary to the development considerations of allocation BSA1201 of the Site Allocations and Development Management (2014), policy BCS9 of Bristol Development Framework Core strategy (2011) policies SA1, DM15, DM17 and DM19 of the Site Allocations and Development Management (2014)*."

3) "*The proposal would lead to the loss and deterioration of Irreplaceable Habitat without either a wholly exceptional reason or a suitable compensation strategy. It is therefore contrary to the development considerations of allocation BSA1201 of the Site Allocations and Development Management (2014), policy BCS9 of Bristol Development Framework Core strategy (2011) policies SA1, DM15, DM17 and DM19 of the Site Allocations and Development Management (2014) and paragraph 180c of the NPPF*."

1.3.3 I present evidence below that, although the fact of the site allocation means that a certain level of biodiversity loss is inevitable if the site is developed, the scale of loss that would result from the current proposal is unacceptable and in conflict with national and local planning

guidelines and policies. This relates, in particular, to the loss of ancient hedgerows and associated veteran trees, which are Habitats of Principal Importance; to the loss of threatened and uncommon species that are present in these hedges; to the failure of the scheme to provide sufficient ecological connectivity; and to the appellant's failure to provide details of any realistic and acceptable strategy to mitigate these losses and to provide Biodiversity Net Gain.

2 THE APPEAL SITE

2.1 Setting

The appeal site is in south-eastern Bristol, with residential developments to the west and north, commercial developments to the east and an area of open land, which includes Victory Park, to the south. It covers six fields and associated large hedges, which have been allowed to spread out into the adjacent fields. A public right of way crosses the southern part of the site and unofficial paths elsewhere on the site are well used.

2.2 Site Ecology

2.2.1 The appellants have provided an Ecological Impact Assessment (CD 1.21), which is supported by a series of appendices (CDs 1.21 a) to j)) that set out the findings of surveys of various habitats and groups of species. I agree that the scope and methodology of these surveys is acceptable, that they have been carried out to an acceptable standard, and that the factual content of the reports is also acceptable, but do not agree with the arising assessments of nature conservation interest in some instances. I have followed the numbering system for hedges and fields used in these reports in my proof of evidence.

2.2.2 The six fields all support grassland that is, to varying degrees, species-rich. Notably, species that are indicative of unimproved grassland, a Habitat of Principal Importance, are widely distributed and locally frequent across the site. The grasslands support a diversity of invertebrates, including threatened species, and provide feeding habitat for a variety of birds, including Priority Species such as kestrel and green woodpecker. A small part of the site has damp grassland with frequent sharp-flowered rush, providing an example of a habitat type that is rare in Bristol.

2.2.3 The hedges support a moderate diversity of native tree and shrub species and also provide habitat for ground flora species that are indicative of ecological continuity and for a wide range of bird and insect

species, which include threatened and uncommon species. They have spread out into the adjacent fields and the large patches of bramble and other scrub that have developed are an important component of the site's biodiversity interest. The hedges are used as foraging and commuting habitats by at least twelve species of bats (CD 1.21 j)) and by badgers (CD 1.21 i)).

2.2.4 There is a small area of broad-leaved woodland in the north-eastern corner of the appeal site.

2.3 Designations

2.3.1 The entire appeal site, with the exception of a small area in the north-eastern corner, was designated by Bristol City Council as a Site of Nature Conservation Interest (SNCI) in recognition of the ecological importance of the combination of species-rich grassland, damp grassland and hedges that it supports, which together form a combination of habitats that is of nature conservation value in a city-wide context. I can confirm that the ecological value of this site compares favourably with that of other SNCIs in the city.

2.3.2 The appeal site was allocated for residential development in 2014 and this allocation supersedes the SNCI designation; the appeal site is therefore no longer considered to be part of the SNCI. It should be noted, however, that I have seen no evidence that the biodiversity value of the site has declined since the SNCI designation was approved by the Local Sites Partnership, and the appellant has provided no such evidence.

2.3.3 The 2014 allocation means that some of the protection that would normally be afforded to an SNCI under Policy DM19 of the Bristol Local Plan does not apply but other elements of the Policy remain applicable, in particular as the appeal site supports hedges that qualify as Habitats of Principal Importance.

2.3.4 The Site Allocation Policy BSA1201 (CD 5.3) includes the following Development Considerations relating to biodiversity and nature conservation:

"Development should:

- *be informed by an ecological survey of the site and make provision for mitigation and compensation measures, including enhancement to the grazing land adjacent to Victory Park and compensation for the loss of semi-improved neutral grassland and damp grassland (the site currently has city-wide importance for nature conservation*

due to the presence and condition of particular species, habitats and / or features);

- *retain or incorporate important trees and hedgerows within the development which will be identified by a tree survey;*

- *provide a green infrastructure link with Eastwood Farm Open Space to the north-east;"*

2.3.5 Site Allocation Policy BSA1201 states that "*The estimated number of homes for this site is 300*" at the base of the development considerations. The introduction of the 'Site Allocations and Development Management Policies Annex: Site Allocations Information' states that:

"*For those sites with a housing allocation, an estimated number of homes which could be developed on the site is provided. The precise number of homes to be developed will be determined through the planning application process*".

2.3.6 The above statement makes it clear that allocated sites should only accommodate the number of homes that can be developed whilst meeting the other objectives of the BSA1201 (CD 5.3). Arguments that the scale of biodiversity loss included in the application are an inevitable consequence of the allocation are therefore invalid; planning requirements must be considered in site design. There are further constraints that should now have a bearing on site design, namely the identification of veteran trees as laid out in Mr Forbes Laird's proof of evidence whose existence was not known when the site allocation was made.

3 HEDGES

3.1 Introduction

3.1.1 The Site Allocation Policy BSA1201 states that: *"Development should: retain or incorporate important trees and hedgerows within the development…"* The proposed scheme as shown, for example, on drawing number G7507.20.60.03 "Predicted Temporary and Permanent Habitat Loss" (CD 1.5) would involve the removal of the whole of H2, H4 and H5 and parts of H1 and H3, meaning that approximately 74% of the current length of important hedgerow on the site would be removed. This would involve the removal of features such as the only mature field maple tree on the appeal site, the importance of which I return to at 3.4.3 below. The ecological connectivity provided by the existing network of hedges, which is of major importance for groups such as bats, would no longer exist.

3.1.2 In addition, significant earth-moving works are proposed close to several of the retained hedges around the edges of the site. These would pose significant risks to retained hedgerows; the hedges and associated tree groups along the northern boundary of the appeal site would be particularly vulnerable to proposed top-soil scraping. Domestic gardens would abut other retained hedges, leaving them vulnerable to inappropriate management by householders.

3.1.3 The damage that activities such as earth-moving would cause veteran trees is described by Mr Forbes-Laird in his proof of evidence.

3.2 Vegetation

3.2.1 The vegetation of the hedges is described in the appellant's Ecological Technical Appendix C (CD 1.21c). The survey described in this report allowed assessment under the 1997 Hedgerow Regulations; it does not appear that hedges were assessed under any other criteria.

3.2.2 The hedges are dominated by native tree and shrub species and it is accepted by the applicant that they qualify as Habitats of Principal Importance (HPI) as defined by the Natural Environment and Rural Communities (NERC) Act 2006 as shown in Appendix 1 below. They also identify most of the hedges as qualifying as Important Hedgerows under the 1997 Hedgerow Regulations.

3.2.3 Notwithstanding their acceptance of the hedges' importance summarised above, this importance is downplayed in the appellant's Ecological Impact Assessment (CD 1.21). In this document, the hedges are described at 4.22 and elsewhere as being "species-poor". The Hedgerow Regulations define a hedge as being species-rich if it contains four or more of the defined woody species in a thirty-metre length; it does not follow that hedges below this threshold are species-poor. The applicants survey found four or more species in seven of the nine thirty-metre sections they surveyed. I found a slightly higher level of species richness in my survey (summarised at Appendix 2); slight variation is to be expected owing to selection of different sections of hedge to survey. These survey findings do not support a description of the hedges as being species-poor.

3.2.4 The appellant's survey dealt only with assessment under the 1997 Hedgerow Regulations, whereby woody species occurring within thirty metre lengths of hedgerow are recorded, meaning that species occurring outside the survey sections are not listed. These additional species, as recorded during my surveys, include dogwood and ash in H1, dogwood,

elder and holly in H2 and hazel in H3. The findings of my survey are summarised at Appendix 2.

3.2.5 The Ecological Impact Assessment (CD 1.21 para. 5.33, page 38) appears to base its evaluation of the hedges purely in relation to tree and shrub populations. However, ground flora is also an important factor in assessing hedges. Due to the dense growth of bramble and other scrub surrounding hedges it is unlikely that any recent surveyor has been able to fully assess the hedges' ground flora. Nonetheless, the appellant has recorded bluebell in five of the hedges, cuckoo pint in five, wood avens in three, and greater stitchwort and red campion each in one. Due to difficulty in accessing the hedge bottoms it is likely that additional species are present. All of these species are frequently included in lists of ancient woodland indicators. It is not my contention that the presence of any one of these species provides evidence of ancient origin, but this species assemblage does indicate that the hedges are of considerable age.

3.2.6 The appellants have argued, in responses to the Council's nature conservation officer (CD 2.8), that the absence of species such as spindle and field maple (from all but one of the hedges) demonstrates that the hedges are not of significant age. However, it should be noted that species in addition to field maple that are indicative of well-established hedgerows are present. These species include pedunculate oak and hazel. Mr Forbes-Laird presents evidence of the age of several of these features. Spindle is described in the Online Atlas of the British and Irish Flora (Appendix 3) as "*a species of free-draining and base-rich soils, particularly those overlying chalk and limestone*" with an optimal soil pH of 8. The sandstone rocks that underly the appeal site give rise to base-poor (acidic) soils; the mildly acidic nature of the soils is reflected in the vegetation of the site. Spindle would not be expected on soils of this type and its absence here does not relate to the age of the hedges.

3.2.7 Ecological Technical Appendix C (CD 1.21c) para. 4.3 page 14) the conclusions of the appellant's Historical Environment Desk-based Assessment are that the hedges, apart from H6, are of historic cultural importance and "part of a field system pre-dating the Inclosure Acts". Mr Forbes-Laird in his proof of evidence, at 3.5, shows that the hedges are at least 250 years old.

3.2.8 Paragraph 4.23 of Technical Appendix C includes a table categorising the condition of the hedges, as being good in one case, moderate in two and poor in three. Criteria to define favourable condition for hedges are listed, for example, in DEFRA's Hedgerow Survey

Handbook (Appendix 4) and in the UK Habitat Classification. None of the hedges on the appeal site demonstrates the attributes that would lead to categorisation as being in unfavourable status. These attributes include evidence of disturbance or nutrient enrichment, a high frequency of recently introduced non-native species, limited width or height and frequent gaps. It is clear that, using these criteria, the hedges on the appeal site are in favourable condition.

3.2.9 The appellants have identified one veteran tree (CD 1.21 last sentence of para. 4.15 page 24). Mr Forbes-Laird, in his proof of evidence, present details of other trees that qualify as being veteran. He also shows that this development proposal would result in the removal of four of these trees and severe damage to at least five further trees; potential damage to a further three trees could probably be avoided.

3.3 Birds

3.3.1 The appellants completed a survey of breeding birds, which is reported on in Ecological Technical Appendix G (CD 1.21g).

3.3.2 This report identifies a good diversity of birds, which include several species of conservation concern, breeding on the appeal site. Birds considered to be breeding on the appeal site, as listed at 4.31, page 28, of the Ecological Impact Assessment (CD 1.21), include a colony of house sparrow, one pair of song thrush, three pairs of dunnock, two pairs of greenfinch, one pair of whitethroat and two pairs of willow warbler. All of these species rely partially or entirely on the appeal site's hedgerows. Other species of conservation concern that were recorded, notably kestrel and green woodpecker, are not thought to be breeding on the site and are primarily associated with the grassland habitats. At 4.32, page 28, the Ecological Impact Assessment (CD 1.21) concludes that the site is of "below local significance" for breeding birds. My view, expanded on at 3.3.4 below, is that this assemblage of breeding and non-breeding birds is of considerably greater importance.

3.3.3 The Ecological Impact Assessment (CD 1.21) at 5.51 includes contentions, which I consider below, that mitigation measures will increase populations of most species of bird. However, it concludes at 5.50, page 41, that "*Reduced carrying capacities of certain species, such as willow warbler or whitethroat may potentially result from the reduced habitat footprints that will be present within the site. However, these species were confirmed nesting only at low densities (2 and 1 pairs*

respectively) and the effective (sic) *of habitat squeeze is unlikely to be significant upon the local population.*"

3.3.4 It should be noted that both willow warbler and whitethroat nest in large patches of scrub and that the removal of a very high proportion of the area of this habitat type currently present on the appeal site will certainly, rather than "potentially" lead to the loss of these species from the site. Furthermore, willow warblers nest on or close to the ground in habitats such as dense bramble, and are very vulnerable at the nest to predation by birds and disturbance by dogs.

3.3.5 The principle behind the statement quoted above, that "*the effective* (sic) *of habitat squeeze is unlikely to be significant upon the local population.*" is accepted in most cases: some species may be of conservation concern but if they are widespread and reasonably numerous it is not reasonable to seek the protection of each and every population. In the case of whitethroat this argument is accepted: the loss of one pair would have no significant impact on the wider population. Willow warbler populations have, however, fallen rapidly in southern England recent years and in the Bristol area it is now a rare breeding species. The 2021 Avon Bird Report has a list, shown at Appendix 5, of sites at which the species was present in May and June and therefore where it could possibly have bred. This list includes only two other sites in Bristol, Avonmouth and Stoke Park. In this context, the loss of two pairs is significant; it would represent a large reduction in Bristol's population of this species. It is not reasonable to conclude that, even if suitable habitat is eventually provided in mitigation, recolonisation would occur given the declining population of this species and the inevitable time that would elapse before suitable habitat develops.

3.4 Invertebrates

3.4.1 The appellants commissioned an invertebrate survey, which is reported on at Ecological Technical Appendix H (CD 1.21h). It is based, as acknowledged at 2.7 of the Technical Appendix, on a limited number of survey visits, but it provides a useful overview of the appeal site's invertebrate interest.

3.4.1 The appeal site is assessed, at 4.1 (page 18) of Technical Appendix H (CD 1.21h), as "*holding vice-county value for invertebrates*". (The relevant vice-county is North Somerset, which extends approximately from the River Avon to a line between Bridgwater, Ilchester and Mere.) The report then goes on to list at 4.2 (page 18) five features that are of

particular value for invertebrates, two of which are the hedgerows and the associated patches of scrub.

3.4.2 The Technical Appendix (CD 1.21h) lists at 3.5 to 3.17 (pp 15 to 17) notable species that were recorded during the survey; it also acknowledges that any such list is inevitably incomplete but provides a basis for assessment.

3.4.3 The ranges of some of the listed notable species are increasing and they may no longer be worthy of their listing, as reflected in Technical Appendix H (CD 1.21h) pp 15-17). The occurrence of other species, however, remains genuinely noteworthy. These include the moth species maple pug and *Rhodophaea formosa* (otherwise known as beautiful knot-horn). The former is uncommon locally, with records from six other sites in Bristol. It is of conservation concern because of a very large decline in abundance at a national level. Larvae of the latter species feed on elm; it has been recorded at one site on the southern edge of Bristol but is otherwise unknown in the city. It is generally rare in the Bristol region, with records from seven other sites. Elm and field maple are both found in the hedges of the appeal site, with elm also present in the woodland in the north-eastern part of the site, much of which will also be removed.

3.4.4 Lesne's earwig is a further uncommon invertebrate species that is dependent on habitats associated with the hedges and that was found during this survey. It is Nationally Scarce and has been recorded at only three other sites in Bristol and, since 2000, from only five other sites in Bristol.

3.4.5 Loss of the hedges and associated scrub would result in the loss of these species from the appeal site. Given their scarcity and their dependence on established habitats it is not reasonable to conclude that they would re-colonise any newly created habitats, given the time that would elapse before suitable conditions are available. This effect is not adequately addressed in the Ecological Impact Assessment.

3.5 Conclusions

3.5.1 The requirement to protect the hedgerows on the site is made clear in the Site Allocation Policy BSA1201 (CD 5.3): *"Development should: retain or incorporate important trees and hedgerows within the development…"*

3.5.2 The proposals as set out are incompatible with the following paragraphs of the National Planning Policy Framework 2021 (CD 5.1).

"Conserving and enhancing the natural environment

Paragraph 174. *Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Habitats and biodiversity

Paragraph *179. To protect and enhance biodiversity and geodiversity, plans should:*

(a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity [61] ; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation [62] ; and

(b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Paragraph *180. When determining planning applications, local planning authorities should apply the following principles:*

(a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

(d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

3.5.3 Policy DM19 of the Bristol Local Plan applies, even though the appeal site is no longer an SNCI, because hedges, a Habitat of Principal Importance (HPI), are present; the paragraphs above make clear that the hedges on the appeal site are of considerable ecological value. Policy DM19 requires that:

"*Development which would be likely to have any impact upon habitat, species or features, which contribute to nature conservation in Bristol will be expected to:*

i. Be informed by an appropriate survey and assessment of impacts; and
ii. Be designed and sites, in so far as practicably and viably possible, to avoid any harm to identified habitats, species and features of importance;"

At 2.19.5 Policy DM19 states that:

"*For the purposes of applying provisions of policy DM19, the habitats, species and features which contribute to nature conservation value in Bristol comprise the following locations, habitats, species and development situation…non-designated and other development sites containing Habitats and Species of Principal Importance."*

3.5.4 I accept that allocation of the site makes it inevitable that there will be a degree of hedgerow loss once the site is developed. However, the loss associated with the current proposal is excessive and greater than that necessary to allow development of the site.

3.5.5 It is clear that the mitigation hierarchy required by the above policies has not been fully applied. This hierarchy requires that avoidance of impacts should be the first course of action considered, but the current proposal has not sought to minimise the loss of hedgerows. In particular avoidance would require the retention of a much greater proportion of the site's hedges.

3.5.6 The mitigation of impacts, as used to quantify the scale of impacts in the Ecological Impact Assessment (CD1.21), has relied heavily on compensation, in the form of new hedge planting. At 5.35, page 39, hedge mitigation is considered in terms of lengths of hedge retained, lost and planted. However, this analysis fails to take account of several factors.

3.5.7 The existing hedges are acknowledged to be historic features of cultural significance. By definition, this cultural significance cannot be replaced by new planting. The existing hedges support species that are associated with long-established habitats and it cannot be guaranteed that the full range of such species will be able to colonise, or to survive in, a newly planted hedge.

3.5.8 The comparison at 5.35 of the Ecological Impact Assessment (CD 1.21) is based on one dimension – length – only. However, the spread and height of the existing hedges means that their volume is substantially greater than that which would be provided by any new hedges. The new hedges will therefore be less suitable for the wide range of species that require a large area of suitable habitat or are dependent on the sheltered conditions that are provided by the existing hedges but would be absent from a line of newly planted hedges.

3.5.9 The existing hedges provide a range of habitat and structural diversity, in the form of large trees and shrubs, dead wood, hedge banks and other features, which would be absent from any newly planted hedges. The latter would therefore support a much lower diversity of wildlife.

3.5.10 The scale of the proposed impact on hedges is such that the development would "*result in significant harm to biodiversity, for which it provides neither adequate mitigation nor compensation (whether on or off site*" as stated in Reason for Refusal 1 and "*fails to retain important trees within the proposal site*" as stated in Reason for Refusal 2. Due to the historic nature of the hedgerows, Reason for Refusal 3 also applies: "*The proposal would lead to the loss and deterioration of Irreplaceable Habitat without either a wholly exceptional reason or a suitable compensation strategy.*"

3.6 Summary

3.6.1 The appellants have failed to fully assess the hedge's value as habitats and as features of cultural significance, or the importance of the range of wildlife known to be associated with the hedges. The significance of the impacts associated with their loss is therefore under-estimated.

3.6.2 The scale of hedgerow loss proposed exceeds that which is necessary to develop the site.

3.6.3 The proposed loss of a Habitat of Principle Importance is in conflict with planning policy and with the requirements of the site allocation.

4 TREES

4.1 The appellant has identified one veteran tree on the edge of the site. However, Mr Forbes-Laird identifies in his proof of evidence at least 11 hawthorn trees and further oak tree that have veteran status.

4.2 The value of veteran trees for biodiversity is well attested. It should be noted that key groups of organisms associated with veteran trees include fungi and saproxylic insects, which have not been covered to any level by the surveys and assessments provided by the appellant. A precautionary principle should therefore be applied, so that all veteran trees of all species are assumed to be of value for such groups and should be protected against harm.

4.3 Policy DM17 of the Bristol Local Plan states that *"Development which would result in the loss of Ancient Woodland, Aged trees or Veteran trees will not be permitted".* The Natural England and Forestry Commission Standing Advice on ancient woodland, ancient trees and veteran trees is a material consideration for local planning authorities. It acknowledges that veteran trees are irreplaceable features and states that "*a veteran tree may not be very old, but it has significant decay features, such as branch death and hollowing. These features contribute to its exceptional biodiversity, cultural and heritage value*." Mr Forbes-Laird has demonstrated that these features are present in accessible hawthorns and oaks. It goes on to state, addressing local planning authorities, that "*You should refuse planning permission if development will result in the loss or deterioration of ancient woodland and ancient and veteran trees unless both of the following applies: there are wholly exceptional reasons; and there's a suitable compensation strategy in place*." Paragraph 180 (c) of the NPPF includes essentially the same statement.

4.4 Four of the veteran hawthorn trees so far identified, VH1, VH4, VH5 and VH6, would be lost as a result of the current proposals. Mr Forbes-Laird shows at 5.4.2 of his proof that there would be significant risk to one of the veteran oak trees, T5, and to a further four veteran hawthorns, VH2, VH3 VH7 and VH9.

4.5 The loss of and damage to veteran trees has informed the following Reasons for Refusal 1: "*The proposed development is considered to result in significant harm to biodiversity*"; 2: "*The proposed development fails to retain important hedgerows and trees within the proposal site";* and 3: "*The proposal would lead to the loss and deterioration of Irreplaceable Habitat without either a wholly exceptional reason or a suitable compensation strategy."*

5 GRASSLANDS

5.1 I acknowledge that the approach taken to grassland loss must be different to that taken to loss of hedgerows and trees. In allocating the site for residential development Bristol City Council accepted the loss of most of the existing grassland interest. However, the allocation (CD 5.3) requires that *"Development should…make provision for mitigation and compensation measures, including enhancement to the grazing land adjacent to Victory Park and compensation for the loss of semi-improved neutral grassland and damp grassland (the site currently has city-wide importance for nature conservation due to the presence and condition of particular species, habitats and / or features)*".

5.2 That the grassland is currently of nature conservation importance is not in dispute. It supports plant species such as black knapweed, pignut, meadow vetchling and common bird's-foot trefoil, locally at high frequencies, that are indicative of unimproved grassland, which is a Habitat of Principal Importance. The appeal site supports a small area of rush pasture with sharp-flowered rush. I am aware of only two other sites in Bristol that support this habitat type: Lawrence Weston Moor, in the north-western part of the city, and Highridge Common, on the south-western edge of the city.

5.3 The appellant's invertebrate survey (CD 1.21h) identifies at para. 3.5 (pp 15-17) seven notable species associated with the appeal site's grassland habitats, although the point it makes that two of these species have become more widespread in recent years and may not qualify for the national status they were previously given is reasonable. It is particularly notable that one of these species, small heath, is a butterfly, an example of the best-recorded group of invertebrates, meaning that we can be sure that its stated rarity is genuine. It is listed in Section 41 of the NERC Act and is a Bristol BAP species. Reference to data on the publicly accessible Bristol Regional Environmental Records Centre (BRERC) website (http://brerc.dyndns.org/live/BRERC/imaps.html) shows that it has been recorded from 55 one-kilometre grid squares in Bristol. However, in 32 of these squares it has not been seen since 2000; in 17 not since 2010; and in the remaining six not since 2020. I have not seen it in the city for over 15 years. The trend outside Bristol is similar and there are no post-2020 records from any square within ten kilometres of the appeal site. The status of this one species, which is likely also to apply to other insects on the site, reveals the difficulty of fully mitigating the loss of grassland habitat as required by Site Allocation Policy BSA1201

(CD5.3). It is not reasonable to anticipate that, even if suitable habitat can be provided, a species that has declined so rapidly and is now present in Bristol only at this one site, would be able to colonise any new habitat. The appellant's ecological impact assessment does not propose any methodology to mitigate impacts of this nature or otherwise address this issue, for example by committing to measures to provide habitats in advance of their loss on the appeal site.

6 GREEN INFRASTRUCTURE

6.1 Site Allocation Policy BSA1201 (CD 5.3) includes the requirement that *"Development should…provide a green infrastructure link with Eastwood Farm Open Space to the north-east."* The importance of this requirement was re-iterated in the pre-application advice provided in 2019, which is summarised at para. 5.5 (page 31) of the applicant's Ecological Impact Assessment (CD 1.21). A general principle was established that the corridor should be ten metres wide, although it was agreed that it could be narrower than this in places, providing that the quality of the habitats was high.

6.2 The crucial part of this link would be through the north-eastern limb of the site, leading to Broomhill Road. Eastwood Farm Open Space, which is an SNCI and Local Nature Reserve, is immediately to the north-east of Broomhill Road. The following plan extracts show the appellant's proposals for this part of the site:

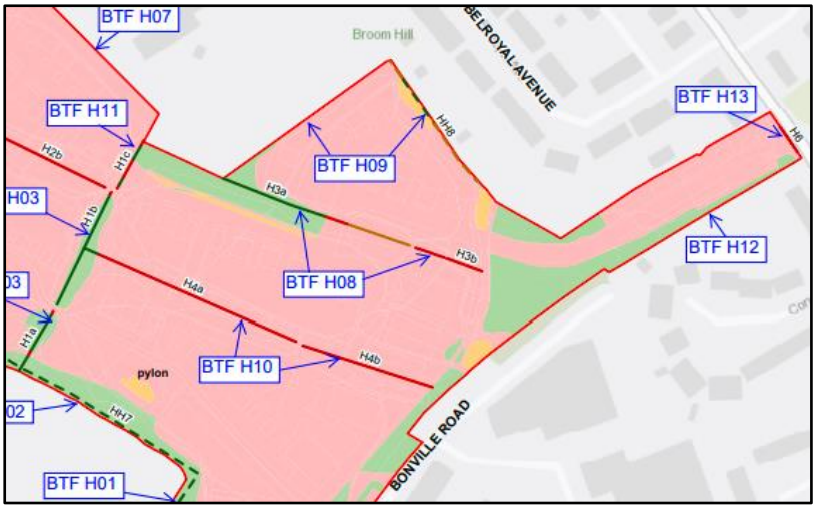


Figure 1: Extract from The Environment Partnership Drawing Number G7507.43.001: Proposed Development – Predicted Temporary and Permanent Habitat Loss. Pink areas show "temporary and permanent loss" and green areas show "retained habitats enhanced."

Figure 2: Extract from Illustrative Master Plan

6.3 The green corridor shown on the plans above, which is the only link between the application site and Eastwood Farm, can clearly be seen to be narrow and lacking a continuous connection to other parts of the corridor to the south-west, along Bonville Road. This is at odds with the statements made at 5.5 of the appellant's Ecological Impact Assessment (CD 1.21) which asserts that: "*The proposed development is therefore considered to be policy compliant with regard to provision of the green infrastructure link with Eastwood Farm Open Space. Furthermore the green infrastructure provision to the east and south of the site will avoid isolation of Brislington Meadows SNCI in the south*." The plan extract above show a corridor that is fragmentary in nature and narrow in several places.

6.4 A high level of lighting will be required along the access road. The appellant's ecological impact assessment (CD 1.21) acknowledges the adverse impacts on biodiversity of lighting, for example at paragraph 5.68, page 44, which concludes "*Additionally new artificial lighting introduced from streetlights and also along the Cycle Link has the potential to significantly disturb foraging and commuting bats and disrupt or further fragment commuting routes*" and at paragraph 6.64, page 56, which states that "*There is growing concern about the impacts of artificial light upon invertebrate communities and increasing evidence of negative effects from such light sources*" and goes on to expand on this statement. The section concludes with the sentence: "*The authors suggest dimming and filtering of blue wavelengths of light to reduce impacts*."

6.5 The proposed width of the green corridor in the north-eastern part of the appeal site means that the ecological function of this corridor would be severely compromised. The proposal to include residential buildings along this route, as shown on Figure 2 above, narrows the width of the green corridor to such an extent that the requirement of BSA1201 is not met.

6.6 Figure 1 above also shows significant breaches to the remainder of the corridor, along Bonville Road, effectively isolating the habitats in the north-eastern part of the site and further weakening the effectiveness of the green infrastructure link.

6.7 The ecological impact assessment (CD 1.21) recommends, at 6.35, page 51, that priority be given to providing infrastructure links in areas including "*connections between woodland W2 and the retained sections of hedgerow H3*". Figure 1 above shows that this link has not been provided.

7 BIODIVERSITY NET GAIN

7.1 The need to provide 10% Biodiversity Net Gain (BNG) has been accepted by the applicants, as has the need to use off-site mitigation to reach this target. It has been agreed between the appellant and the City Council that Victory Park can be used for biodiversity enhancement. The appellant has provided a Biodiversity Metric (CD 2.1). However, I would like to re-iterate points made above, that BNG calculations address only a part of ecological mitigation: new hedge planting cannot replicate the value of the appeal site's existing hedgerow network and provision of grassland with a suitable plant species composition does not guarantee suitable mitigation for other groups, such as insects.

7.2 I accept most of the assumptions that have been made by the applicant in preparing the BNG Metric. However, in my view as outlined above the applicants have downplayed the value of several of hedges 1,3 and 4, which should be entered into the metric as "species-rich hedgerows with trees" rather than as either "native hedgerow with trees" or "native hedgerow". I have also assessed the condition of hedge 4 as being "moderate" rather than "poor". These changes result in a greater loss of biodiversity than allowed for in the applicant's assessment.

7.3 Although discussions have been taking place, there is no agreement as to what proportion of Victory Park can reasonably be made available. It is reasonable to assume that there will be a requirement for the retention of football pitches and a formal play area across a large part of the park, which will significantly reduce the area available here for habitat creation.

7.4 The applicants provide no information provided on the condition of the habitats that Victoria Park currently supports, which has an overriding effect on the degree of biodiversity enhancement that can be achieved. My own survey of the site, summarised at Appendix 6, shows that its vegetation consists largely of improved grassland dominated by perennial rye-grass. This is an indication that the underlying soils have been fertilised in the past and are therefore nutrient-rich. Smaller parts of the Park have grassland that is currently of biodiversity interest and therefore unsuitable for enhancement.

7.5 I also considered the biodiversity interest of other areas of land in the vicinity, some of which might be made available to the applicant under the terms of the Land Agreement with Bristol City Council. My own survey, supported by the findings of a Bristol City Council survey dating from 2008 (summarised in Appendix 6) show that much of this land is of existing nature conservation interest, as reflected by its inclusion within the SNCI. Due to its existing level of interest this land is unsuitable for biodiversity enhancement.

7.6 The prime requirement for any off-site mitigation, in terms of BNG, would be to provide compensation for the loss of species-rich grassland. This would require the provision of a suitable nutrient-poor substrate, since nutrient-rich soils will not support grassland of significant nature conservation value. It does not appear that agreement to the radical measures, such as soil stripping, that would be required to accommodate species-rich grassland has been reached.

7.7 It is a general principal of BNG that the area of replacement habitat provided should be greater than the area of any habitat that is lost. The difference between the two figures depends to a large extent on the character of the habitat to be lost on the mitigation site in the process of habitat enhancement or creation. It is highly unlikely that Victory Park and adjoining land parcels are large enough to accommodate all the needs for off-site BNG, particularly in view of the other land use needs of the site. The appellants have provided no indication that any other area of land is available for mitigation, or that any other potential opportunities have been explored. I did, however, identify some parcels of land that, if available, may be suitable for biodiversity enhancement.

7.8 The applicants have provided a provisional Biodiversity Net Gain metric (CD 2.1). This shows the total of biodiversity units currently on

site provided by grassland that would be lost being 32.03 units. On-site mitigation, by the applicants' calculations, would provide 13.17 units. Off-site mitigation would therefore have to provide 18.86 units in order to achieve no net loss, and approximately 22 units in order to provide 10% gain, as has been agreed.

7.9 I have calculated the area of land that would be required to provide this level of gain. The available land with the lowest existing biodiversity value, and therefore the best potential for gain, is modified grassland; there are no significant areas lacking vegetation available. Making certain assumptions, for instance that the condition of created grassland would be "fairly good", there would be no delay in providing mitigation and that no problems would be encountered, approximately 2.8 hectares of modified grassland would need to be converted to other neutral grassland (the habitat type currently present on the application site) in order to provide this level of gain.

7.10 My survey concludes that approximately 1.8 hectares of suitable land is available in Victory Park and in adjoining areas, assuming that the football pitches would not be available for enhancement and reflecting the need to protect the root zones of important trees. This does not take account of the need to provide mitigation for the loss of other habitats, such as scrub.

7.11 It is to be expected that fine details of compensation schemes are not finalised at this stage of the planning process; the appellants at para. 5.44, page 23, of their Statement of Case (CD 9.1) conclude that reaching the agreed level of BNG gain is best dealt with through conditions. I agree that details of areas proposed, establishment methodologies and long-term management are matters best dealt with through conditions. However, it is reasonable to expect that the principal that BNG, as well as other mitigation requirements, is achievable be demonstrated before approval of an outline scheme. This has not been done in this case.

8 CONCLUSIONS

8.1 The appeal site has been allocated for residential development, but the requirements of the site allocation policy, the NPPF, local plan policies and other approved documents, such as the Bristol Ecological Emergency, continue to apply.

8.2 The NPPF 2021 includes the following statements:

Paragraph 174. *Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Habitats and biodiversity

Paragraph *179. To protect and enhance biodiversity and geodiversity, plans should:*

(a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity ; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation ; and

(b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Paragraph *180. When determining planning applications, local planning authorities should apply the following principles:*

(a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

(d) development whose primary objective is to conserve or enhance biodiversity should be supported; *while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*"

8.3 The application has not minimised impacts on biodiversity. As stated in reason for refusal 1, it would result in "*significant harm to biodiversity*", which includes the loss of a large proportion of the native hedgerows on the appeal site. These hedgerows are known to support species that are locally uncommon and that have experienced substantial population declines over recent decades. As further stated in reason for refusal 1 the proposed development "*provides neither adequate mitigation or*

compensation": the feasibility of habitat compensation schemes has not been established, in terms of the need to replicate the structural and species diversity of the existing habitats, and the inevitability that notable species will be lost from the area owing to the delay between habitat loss and new habitats maturing sufficiently to support these species, even if this can be achieved.

8.4 Reason for refusal 2 states that the development "*fails to retain important hedgerows and trees*". The applicant acknowledges that there would be substantial loss of hedgerows. These include the most diverse hedgerows on the site, which are known to support a range of uncommon species and are known to be of cultural and historic importance.

8.5 The presence of previously undetected veteran trees adds weight to the contention in reason for refusal 3 that "*The proposal would lead to the loss and deterioration of Irreplaceable Habitat*". This statement also refers to the loss of hedgerows that are Habitats of Principal, but veteran trees are also irreplaceable habitats, as recognised in government policy. These losses are over and above those that would be inevitable given the appeal site's allocation.

8.6 The applicant has not demonstrated that adequate mitigation is feasible, which has informed reasons for refusal 1 and 2. The ecological networks following development would be weaker and less resilient than those currently present, largely due to the loss of hedgerows.

9 STATEMENT OF TRUTHFULNESS AND PROFESSIONAL ENDORSEMENT

9.1 In accordance with Planning Inspectorate guidance 'Planning Appeals and Called-in Applications', section 1.13 Expert Evidence (PINS 01/2009 published in April 2010), I confirm that the evidence which I have prepared and provide in this Proof of Evidence is true, and has been prepared, and is given in accordance with the guidance of my professional institution (Institute of Chartered Ecologists and Environmental Managers). I further confirm that the opinions expressed herein are my true and professional opinions.

Appendix 1: Definition of hedges as Habitats of Principal Importance, NERC Act 2006.

Worksheet 1: Section 41 habitats of principal importance in England	
You can search the list by selecting the arrow and column header (drop-down) arrow under each column heading.	
Broad habitat	**Habitat name**
Acid Grassland	Lowland dry acid grassland
Arable and Horticultural	Arable field margins
Bogs	Blanket bog
Bogs	Lowland raised bog
Boundary and Linear Features	Hedgerows
Broadleaved, Mixed and Yew Woodland	Lowland beech and yew woodland
Broadleaved, Mixed and Yew Woodland	Lowland mixed deciduous woodland

Download from "List of priority habitats and species in England ('Section 41 habitats and species') for public bodies, landowners and funders to use for biodiversity conservation."

https://www.gov.uk/government/publications/habitats-and-species-of-principal-importance-in-england

"A hedgerow is defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, an where any gaps between the trees or shrub species are less than 20m wide (Blackmore, 2022). Any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitats, as is the herbaceous vegetation within 2m of the centre of the hedgerow. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat, where each UK county can define the lost of woody species native to their respective country. Climbers such as honeysuckle and bramble are recognised as integral to many hedgerows, however they require other woody plants to be present to form a distinct woody boundary feature, as such they are not included in the definition of woody species. The definition is limited to boundary lines of trees or shrubs; and excludes banks or walls without woody shrubs on top of them."

Extract from UK Biodiversity Action Plan Priority Habitat Descriptions:

https://data.jncc.gov.uk/data/ca179c55-3e9d-4e95-abd9-4edb2347c3b6/UKBAP-BAPHabitats-17-Hedgerows.pdf

Appendix 2: Hedgerow Survey, 25th November 2022, RJ Higgins

Hedge 1:

Woody species in thirty metre length:

Hawthorn, holly, pedunculate oak, dog rose, English elm.

Additional woody species:

Ash, elder, dogwood.

Hedge 2:

Woody species in thirty metre length:

Blackthorn, hazel, pedunculate oak, hawthorn, elder.

Additional woody species:

Holly, dogwood.

Notes:

Bank present

Hedge 3:

Woody species in thirty metre length:

Blackthorn, hawthorn, holly, elder, ash.

Additional woody species:

Pedunculate oak.

Notes:

Bank present

Hedge 4:

Woody species in thirty metre length:

Hawthorn, blackthorn, holly, pedunculate oak, English elm, field maple.

Additional woody species:

Elder.

Notes:

Bank present

Hedge 5:

Woody species in thirty metre length:

Hawthorn, hazel, blackthorn, holly, pedunculate oak.

Additional woody species:

English elm, dog rose (buddleia).

Notes:

Bank present

APPENDIX 3: Species account for spindle in Online Atlas of the British and Irish Flora (Botanical Society of Britain & Ireland, Biological Record Centre, UK Centre for Ecology & Hydrology, Joint Nature Conservation Committee)

https://plantatlas.brc.ac.uk/plant/euonymus-europaeus

Appendix 4: Extracts from DEFRA's Hedgerow Survey Handbook

Chapter 1, pp 14-15

Defining a species-rich hedgerow

Where the structural species making up the 30m section of hedgerow include at least five (or at least four in northern and eastern England, upland Wales and Scotland) woody species that are either native somewhere in the UK, or which are archaeophytes (see Appendix 11), the hedgerow is defined as species-rich. Climbers and bramble do not count towards the total except for roses. Hedgerows that contain fewer woody species but have a rich basal herbaceous flora may also be defined as species-rich, but the criteria to define these have to be set on a local basis as there is no national definition.

Hedgerow Condition Assessment

The main enhancement to the standard survey method in this edition has been to enable the collection of data that can be used to assess whether hedgerows are in 'favourable condition', as defined by the Steering Group for the UK BAP for Hedgerows. In addition, the length of hedgerows in an area can be established and other important features described, such as hedgerow trees. Using this survey method, the results can be directly related to BAP targets both for local and UK plans. This condition assessment is aimed at hedgerows comprising mainly native species, regardless of whether they are rural or urban.

Hedgerow condition assessment depends on recording hedgerow 'attributes'. These are measurable characteristics, like height and width, that have been given thresholds by the Steering Group to indicate whether a particular hedgerow is in 'favourable condition'. These attributes are all listed at Appendix 9. The basic attributes deemed to be indicative of 'favourable condition' include the height and width of the woody component, along with the degree of intactness of the hedgerow canopy, and also the height above ground at which the canopy starts. Other features of the hedgerow that are important measures of condition include the width of any perennial herbaceous vegetation and undisturbed ground adjacent to the hedgerow. Species composition is also important, specifically the presence of recently introduced or non-native species. These attributes will form the benchmark against which any decline or

improvement in hedgerow condition can be monitored, for instance in relation to Local BAP targets, The results can also inform strategic decisions that need to be taken to prevent the decline of hedgerows and to guide and encourage their restoration and management.

The survey method recognises that a range of hedgerow types is of value for wildlife; not just the "classic" shrubby hedgerows, but also "lines of trees" and combinations of shrubby hedgerows and trees. These types need to be assessed in slightly different ways to suit their individual character.

Extract from Appendix 9 (pp133-134):

The Steering Group for the UK Biodiversity Action Plan for Hedgerows has agreed the following attributes as defining favourable condition. The Essential Assessments in the Field Survey Form will allow the relevant information on all these attributes to be collected.

Attribute (section of recording form)	Threshold (sub-section of recording form)	Method
To be in 'favourable condition' a hedgerow must meet all the thresholds listed below.		
9 – Undisturbed ground & perennial herbaceous vegetation cover	9a – Undisturbed ground (At least 2m)	Estimate average width of undisturbed (uncultivated) ground from the centre-line of the hedgerow. Automatically favourable if borders grassland.
	9b – Herbaceous vegetation (At least 1m)	Estimate average width of perennial herbaceous vegetation between the centre-line of the hedgerow and adjacent disturbed ground.
10 – Nutrient enrichment	No suitable thresholds have been developed, but should be less than 20% combined cover of nettles, cleavers and docks	Estimate percentage cover of nettles, cleavers and docks within a 2m wide band alongside the hedgerow.
11 – Recently introduced, non-native species	11a – Non-native herbaceous species. (Maximum 10%)	Estimate cover of all non-native herbaceous species as percentage of area of 2m band extending from centre-line of hedgerow.
	11b – Non-native woody species. (Maximum 10%)	Estimate cover of all non-native woody species as percentage of area of vertical face of hedgerow.
13 – Size	13a – Height: (At least 1m)	Measure 'average' height excluding bank.
	13b – Width: (At least 1.5m)	Measure 'average' width at widest point of hedgerow canopy, shoot tip to shoot tip.
	Cross-sectional area: Minimum $3m^2$	Take the 'average' height and width for the hedgerow, and multiply to give the cross-sectional area.

Attribute (section of recording form)	Threshold (sub-section of recording form)	Method
To be in 'favourable condition' a hedgerow must meet all the thresholds listed below.		
14 – Integrity/ continuity	14a – <10% gaps	Estimate total length of gaps present as a percentage of total hedgerow length or 30m section (as appropriate).
	14b – No gaps >5m wide	Record if any gaps > 5m wide excluding access points.
	14c – Base of canopy less than 0.5m above ground for shrubby hedgerows	Estimate 'average' height from the base of the hedgerow to the lowest leafy growth.

APPENDIX 5: EXTRACT FROM AVON BIRD REPORT 2021, pp129-130

WILLOW WARBLER *Phylloscopus trochilus* [Amber 3]

Common passage migrant and declining breeding summer visitor.

There were no obvious changes, and arrival and departure dates were typical.

Arrival this year started on the fairly standard date of March 23rd, with one each at Ashton Court and Worle. The next day saw two at CI-Y and one at NW/PL, and again two at CI-Y on 25th. On 28th one was found in Eastville Park and two near Saltford. Three were noted at BL on 29th, with singletons at five other sites. From 30th and through to April 8th daily counts were in double figures, between 15 and 37 from a wide scatter of places. There was a clear influx around 9th to11th, with daily totals of 100, 129 and 130, respectively, from up to 27 sites on these three days.

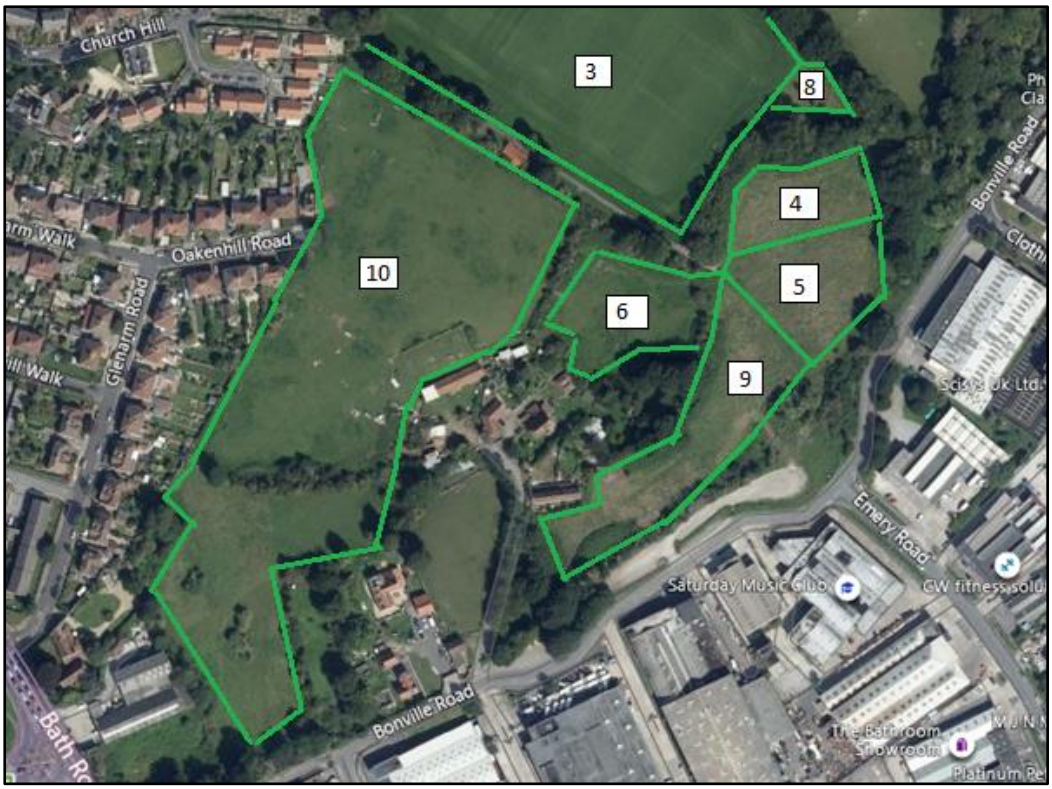
By 16th daily totals were back down to around 20 and stayed at this level for a week or so, gradually dropping towards the end of the month. In general, most sites recorded between one and three individuals on any occasion, so they were widely if relatively thinly scattered.

The general pattern of the spring passage can be exemplified by counts at two regularly watched sites. At Sand Point, migration started with one on March 30th, ten there the next day, then single figure counts regularly to the middle of April, peaking at 25 on 13th and14th, followed by another small influx on 19th, when 20 were counted. From then on only relatively small numbers were reported through to the last one on May 6th. Similarly, at BL, between one and three were noted from March 29th to April 9th, then 14 were counted on 11th, with 16 on 15th, but just one on 18th, but no more.

The first evidence of breeding was of one carrying nesting material at Chipping Sodbury Common on April 13th. Between mid-May and the end of June, reports came from Abbots Pool, Ashton Court, Avonmouth, Backwell Lake, Badminton, Bath (Lansdown, Twerton), Barrow Gurney, BL, Bristol Airport, Burrington Ham, Cameley, Coalpit Heath, Cold Ashton, CVL (just one on three dates, eggs laid but nest failed), Dolebury, Dunkerton, Dunkirk, Felton Common, Frampton Cotterell, Gordano Valley, Little Sodbury, Lower Strode, Marshfield, Nailsea, North Wick, OPS, Patchway, Portishead, Priston, Saltford, Severnside, Siston, Stoke Park, Tickenham, Tortworth, Wraford and Yate. Most reports were just of one or two individuals, so they remained very sparsely spread, and it is hard to ascertain how many were actually breeding. The BBS reported them from 32 squares, some possibly migrants.

On July 16th, two were seen on Chipping Sodbury Common, and one was found near Saltford on 18th, both the first since the spring at these two sites, indicating the start of autumn dispersal. They were widely reported in August and through to mid-September, mostly in ones and twos, although nine at CVL on Aug. 12th was an exception. The ringers at Cameley and Littleton caught small numbers during this period through to Sept. 8th, with sightings elsewhere daily to 13th. The last few reports came from Chipping Sodbury Common (two on 15th), Hallatrow (two also on 15th), Ham Green (two on 17th), Saltford and Crew's Hole (one each on 20th) with one at Severn Beach on 21st and 22nd.

APPENDIX 6: NOTES FROM SURVEY OF VICTORY PARK AND ADJACENT AREAS, 4th JANUARY 2023



SNG: Semi-improved neutral grassland

Area Notes

1: Grassland with frequent any hills and encroaching oak saplings; partially burnt in 2022. Frequent red fescue (*Festuca rubra*), common bent (*Agrostis capillaris*), Yorkshire fog (*Holcus lanatus*) and creeping bent (*Agrostis stolonifera*). Moss (*Rhytidiadelphus squarrosus*) locally frequent. Herb species include common bird's-foot trefoil (*Lotus corniculatus*), sheep's sorrel (*Rumex acetosella*), pignut (*Conopodium majus*), field woodrush (*Luzula campestris*) and barren strawberry (*Potentilla sterilis*).

Unsuitable for enhancement due to existing biodiversity interest.

2: Mown grassland with frequent false oat-grass (*Arrhenatherum elatius*), perennial rye-grass (*Lolium perenne*), cocksfoot (*Dactylis glomerata*) and red fescue. Herbs very infrequent, include dandelion (*Taraxacum vulgare agg*), goosegrass (*Galium aparine*) and smooth hawksbeard (*Crepis capillaris*).

Suitable for enhancement but would require substantial works, including topsoil stripping, which would be constrained by the need to protect root zones of trees, including veteran oaks.

3: Amenity grassland heavily dominated by perennial rye-grass.

Suitable for enhancement but would require substantial works, including topsoil stripping. Unlikely to be available due to current use as football pitches.

4: Tall grassland with frequent red fescue, common bent, meadow foxtail (*Alopecurus pratensis*) and Yorkshire fog. Substantial patches of black knapweed (*Centaurea nigra*).

Unsuitable for enhancement due to existing biodiversity value.

5: Similar to 4, but with less frequent black knapweed.

Suitable for enhancement.

6: Improved grassland dominated by perennial rye-grass. Herb species include creeping buttercup (*Ranunculus repens*) and thyme-leaved speedwell (*Veronica serpylifolia*); moss (*Kindbergia praelonga*) locally frequent.

Suitable for enhancement but would require significant works, including top-soil stripping, and may be unavailable due to current land-use (horse grazing).

6: Not fully surveyed but appears to be improved grassland dominated by perennial rye-grass.

Suitable for enhancement but would require significant works, including top-soil stripping, and may be unavailable due to current land-use (horse grazing).

7: Not fully surveyed, appears to be semi-improved grassland with herbs locally frequent.

Unsuitable for enhancement due to existing level of biodiversity interest, which includes veteran oaks as well as species-rich grassland.

8: Recently planted with trees and therefore unsuitable for further enhancement.

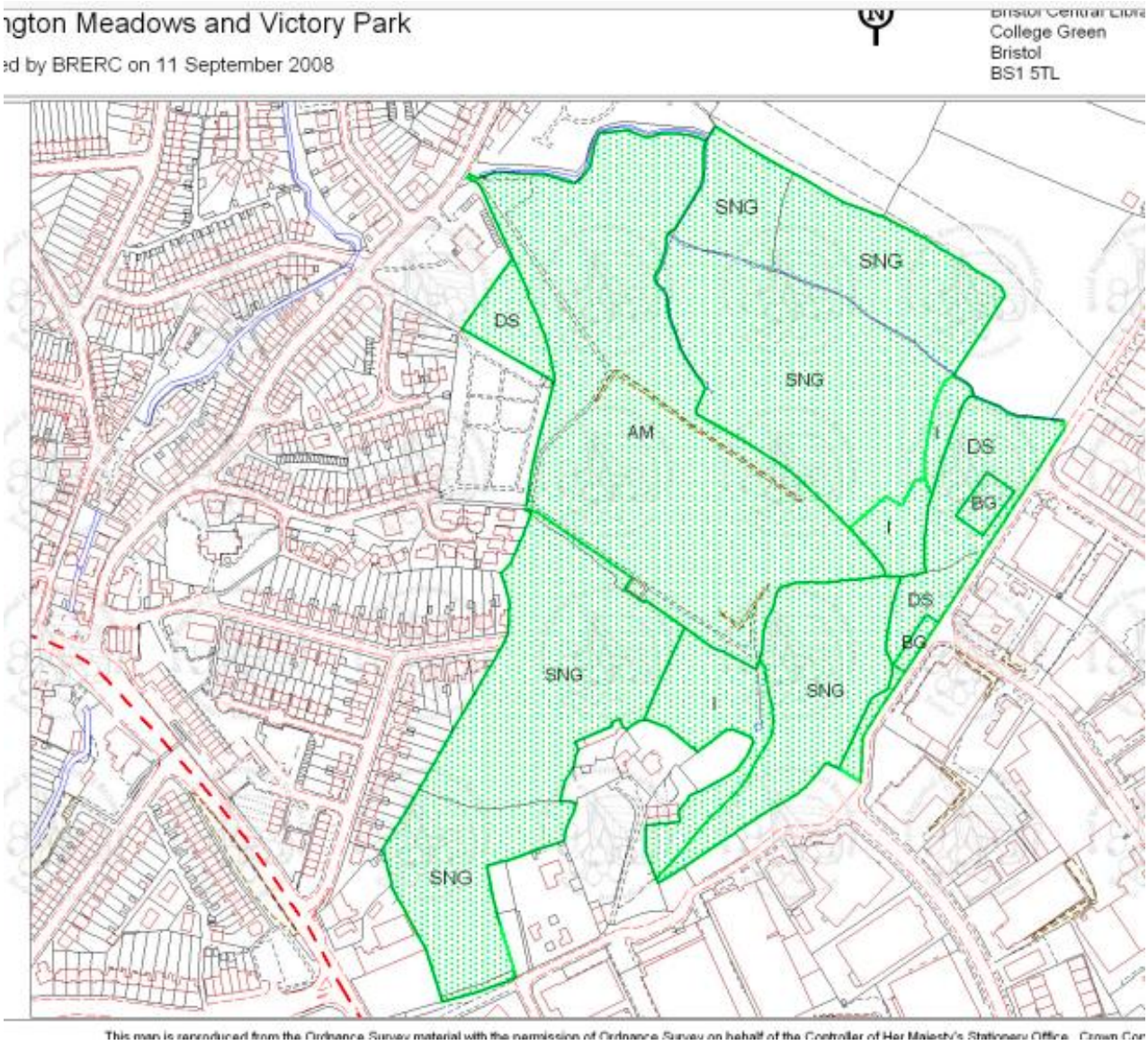
9: Rough grassland with frequent false oat-grass, cocksfoot and red fescue. Herbs not frequent, species include creeping thistle (*Cirsium arvense*) and dandelion.

Suitable for enhancement but would require significant works, including top-soil stripping.

10: Not fully surveyed, appears to be semi-improved grassland.

Unsuitable for enhancement due to existing level of biodiversity interest.

The following information provided by Bristol Regional Environmental Records Centre confirms the assessments made of areas 7 and 10, assuming that there have been no major changes in habitats since 2008.



AM: Amenity (i.e. species-poor) grassland.

SNG: Semi-improved grassland.

DS: Dense scrub.