



Impacts of urban development at Burnham Beeches SAC and options for mitigation: update of evidence and potential housing growth, 2019.

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Summary

Chiltern District Council and South Bucks District Council are preparing a joint Local Plan to replace the existing Core Strategies and Local Plans for the two districts. This report has been commissioned to provide an update and 'refresh' relating to the impacts of housing growth in the two Districts on Burnham Beeches Special Area of Conservation (SAC), a site internationally important for nature conservation. Local Plans must be accompanied by a Habitat Regulations Assessment, and the screening part of the assessment work has identified recreation as an issue at Burnham Beeches SAC.

Burnham Beeches is (mostly) owned and managed by the City of London Corporation under an Act of Parliament as open access land for informal recreation. To date there has been a range of visitor studies and other work summarising the pressures from local housing. In addition, there has also been several recent changes relating to the management of recreation at Burnham Beeches. This report has been commissioned to bring the various threads together, and to consider the potential changes in recreation from housing growth in the relevant plans.

Impacts (to the SAC interest) from increasing levels of urban development are varied and have long been a concern. These impacts include:

- Contamination (e.g. dog fouling, litter, spread of plant pathogens);
- Increased fire risk;
- Trampling/wear (e.g. loss of vegetation, soil compaction, erosion, damage to trees from climbing);
- Harvesting (e.g. fungi, wood);
- Difficulties in managing the site (e.g. maintaining the grazing regime);
- Disturbance (e.g. affecting the distribution of livestock and deer);
- Fragmentation;
- Hydrological impacts (water availability and flow);
- Air quality.

Growing levels of urban development will increase these impacts and mean increasing challenges to maintain the conservation interest of what is a relatively small, isolated and vulnerable SAC.

Using housing data provided by Chiltern District Council and South Bucks District Council we estimate the potential change in housing as a result of the anticipated growth in the joint Local Plan. We also included estimates of the levels of growth in other surrounding Local Planning Authorities and their relevant plans, namely Slough Borough, Wycombe District Council and the Royal Borough of Windsor and Maidenhead. We combine the housing data with visitor survey data from Burnham Beeches (which included home postcodes of

interviewees) to estimate the potential change in recreation use as a result of new housing. Overall, we estimate an increase of 11% in visitor numbers. This 11% is broken down as follows:

- 2% Development in Chiltern and South Bucks already with planning permission (including those under construction);
- 2% Emerging Chiltern and South Bucks Plan, of which:
 - 1% Local Plan site allocations (greenbelt sites), excluding any development with planning permission;
 - 1% HELAA sites, excluding any development with planning permission;
- 5% Slough Borough;
- 1% Royal Borough of Windsor and Maidenhead.
- 1% Wycombe District.

These estimates are indicative and approximate, providing a guide to the scale of change. They suggest, solely as a result of the development that has yet to be granted planning permission and in the emerging Chiltern and South Bucks Plan, an increase of at least 2% in the numbers of visitors to Burnham Beeches.

We use the postcode data (over 900 visitor postcodes from visitor interviews) to derive a zone of influence within which future increases in housing would be expected to result in increased recreation pressure to Burnham Beeches SAC. Based on the 75th percentile (i.e. the distance within which 75% of visitors originated), we recommend a 5.6km zone around the SAC boundary. This zone represents the core area around the SAC where increases in the number of residential properties will require Habitats Regulations Assessment and mitigation measures will be necessary to rule out adverse effects on the integrity of the SAC from the cumulative impacts of development.

New housing that is directly adjacent to the SAC will pose particular risks and recreational use of Burnham Beeches is particularly high from those who live in close proximity to the SAC. In order to reduce the risks and prevent further urbanisation around the periphery of the SAC we recommend that there should also be a presumption against development around the SAC boundary, within 500m.

We identify a range of measures which will resolve the impacts from the combined growth within the 500m – 5.6km zone and these measures will inform the development of a management and mitigation strategy. The work presented here will also underpin the relevant appropriate assessment work, providing the joint local authorities with the evidence they need to inform policies in the joint Local Plan and ensure legal compliance with the relevant nature conservation legislation.

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Acknowledgements

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1. Introduction

Overview

- 1.1 Chiltern District Council and South Bucks District Council are preparing a joint Local Plan to replace the existing Core Strategies and Local Plans for the two districts. This report has been commissioned to provide an update and 'refresh' relating to the impacts of housing growth in the two Districts on Burnham Beeches, a site internationally important for nature conservation. The report focusses on the impacts from increased recreation pressure on the site.
- 1.2 The two local authorities have been working with Natural England and the City of London (who own and manage the majority of the SAC) on a management and mitigation strategy to enable growth without an adverse effect on the integrity on the site. This report is necessary to provide a clearer understanding of the scale of likely change in housing and implications for Burnham Beeches, including options for mitigation and avoidance. This will inform the development of the management and mitigation strategy and also underpin the relevant assessment work, providing the joint local authorities with the evidence they need to inform policies in the joint Local Plan and ensure legal compliance with the relevant nature conservation legislation.

Legislative Context

- 1.3 European sites have the benefit of the highest level of legislative protection for biodiversity, stemming from European Directives. Public bodies, including local planning authorities, have specific duties in terms of avoiding deterioration of habitats and species for which sites are designated or classified, and stringent tests have to be met before plans and projects can be permitted. Importantly, the combined effects of individual plans or projects must be taken into account. For local planning authorities, this means that the combined effect of individual development proposals needs to be assessed collectively for their cumulative impact.
- 1.4 The designation, protection and restoration of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2017, which are commonly referred to as the 'Habitats Regulations.' These Regulations are in place to transpose European legislation set out within the

Habitats Directive (Council Directive 92/43/EEC), which affords protection to plants, animals and habitats that are rare or vulnerable in a European context, and the Birds Directive (Council Directive 2009/147/EC), which originally came into force in 1979, and which protects rare and vulnerable birds and their habitats. These key pieces of European legislation seek to protect, conserve and restore habitats and species that are of utmost conservation importance and concern across Europe. European sites include Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) classified under the Birds Directive. The suite of European sites includes those in the marine environment as well as terrestrial, freshwater and coastal sites.

- 1.5 The application of the European legislation needs to be made with regard for the way in which the protective requirements should be secured by public bodies. The legislation requires public bodies to be proactive, not reactive. The overarching objective is to maintain sites and their interest features in an ecologically robust and viable state, able to sustain and thrive into the long term, with adequate resilience against natural influences. This requires public bodies to put measures in place to prevent deterioration of European sites, not to wait until there is harm occurring that needs to be rectified. Where European sites are not achieving their potential, the focus of attention by public bodies should be on restoration.
- 1.6 Public bodies are referred to as 'competent authorities' within the legislation. The duties set out within the Habitats Regulations in relation to the consideration of plans and projects are applicable in situations where the competent authority is undertaking or implementing a plan or project, or authorising others to do so.
- 1.7 The assessment process for plans or projects is called a Habitats Regulations Assessment ('HRA') and it is the screening part of the HRA for the Chiltern District Council and South Bucks District Council joint Local Plan that has identified the issue of increased recreation pressure on Burnham Beeches. As a consequence, there is a need for avoidance and mitigation measures to be taken forward. The European legislation is founded on the 'precautionary principle', i.e. it is necessary to demonstrate that impacts will not occur, rather than have proof that they will.

Burnham Beeches SAC

- 1.8 Burnham Beeches SAC is designated for beech/holly woodland¹, the main importance of which is the ancient beech trees and their associated invertebrates and epiphytes. The ancient trees developed in wood pasture, the ground element of which was heathland with wet flushes on nutrient poor acid soils. The SAC covers 384ha in two main ownerships. The southern 220ha (where the ancient trees occur) is also a National Nature Reserve (NNR) and is owned and managed by the City of London Corporation under an Act of Parliament as open access land for informal recreation. The remaining 160ha is in private ownership with access limited to public and permissive paths. Much of this part is coniferous forestry under conversion to broadleaved woodland.
- 1.9 The location of the SAC in relation to surrounding local authorities is shown in Map 1.

Previous work

- 1.10 Concerns about the impacts from the levels of recreation growth and the impacts of urban growth have long been raised and there is a body of previous work on Burnham Beeches that has considered the issues. Relevant material, much of which has been commissioned or undertaken by the City of London includes:
- A series of visitor surveys providing counts of visitors and estimates of the annual number of visits and trends in visitor use (e.g. Wheeler & Cook 2003, 2012, 2016);
 - A hydrological study (Wallingford HydroSolutions Ltd. 2013);
 - A visitor survey of Burnham Beeches SAC involving face-face interviews with visitors (Liley, Floyd & Fearnley 2014);
 - Two reports considering impacts of urban development at Burnham Beeches (Liley *et al.* 2012; King & Liley 2014);
 - A study comparing soil samples in different parts of Burnham Beeches SAC, comparing areas with heavy trampling to areas with less trampling pressure (Fay 2014).
 - A further visitor survey involving face-face interviews and recording routes of visitors using GPS units (Panter & Liley 2016);

¹ For full details of the site interest see the citation and conservation objectives (including supplementary advice) on the [Natural England website](#)

- A visitor survey to inform the potential introduction of Public Space Protection Orders relating to dogs (Liley & Panter 2017);
- Tree health monitoring and other ecological data collected by Corporation of London.

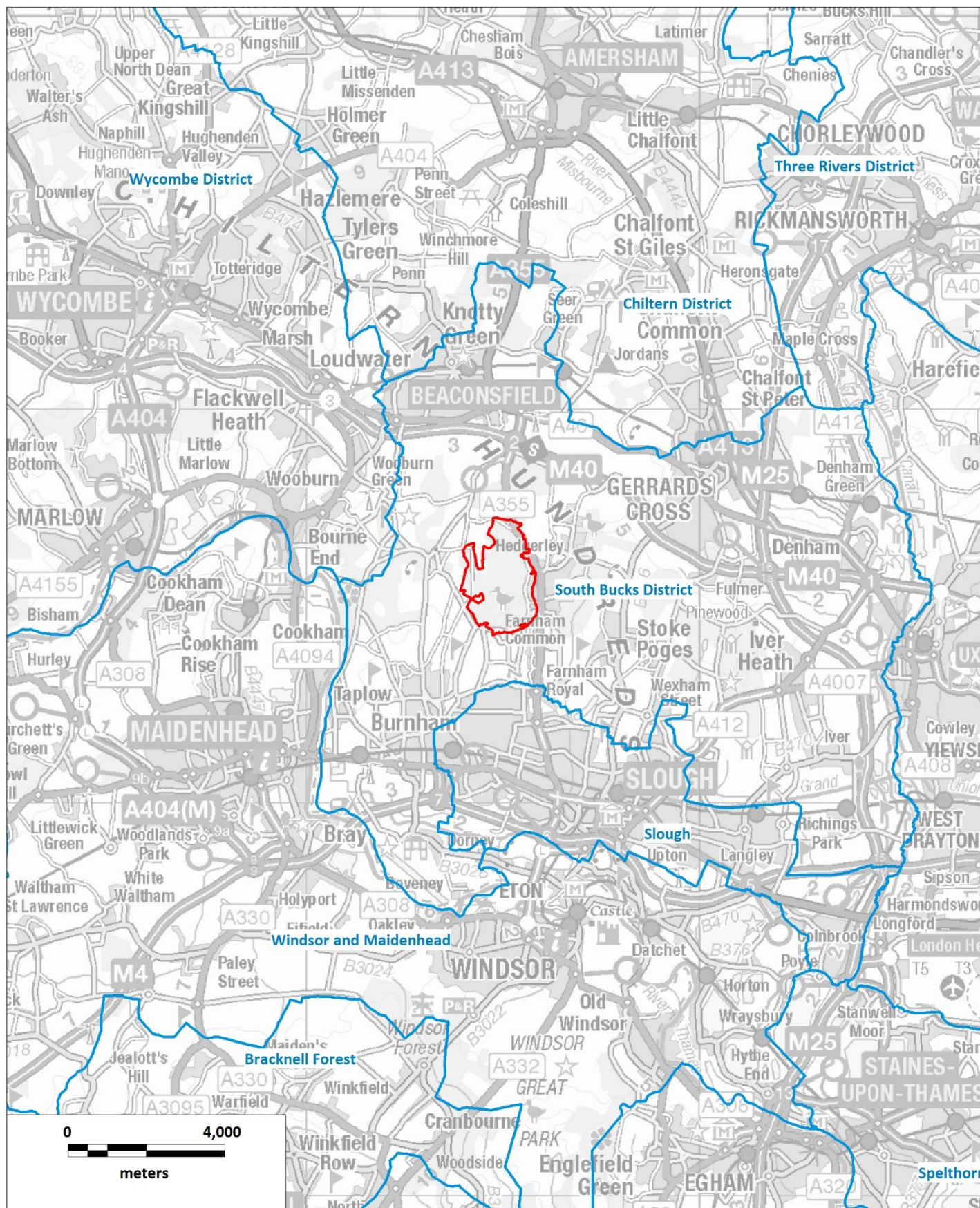
1.11 Some of these studies are now slightly dated, and while there are summaries of urban impacts (Liley *et al.* 2012; King & Liley 2014), these do not represent the current best available evidence. Changes in how access is managed at Burnham Beeches, with the introduction of Public Space Protection Orders (PSPOs) relating to dogs, has changed access patterns and visitor use since the summary of evidence produced in 2014.

Aim of this report

1.12 As such a 'refresh' of the evidence is required, bringing together information from existing studies and new data on visitor numbers and then placing this into context with housing completions and anticipated housing growth. The refresh will inform an emerging mitigation approach and provides information on:

- Plan growth around Burnham Beeches, based on the emerging spatial strategy;
- Consideration of the effects of other relevant Local Plans in combination with the Chiltern and South Bucks joint Local Plan;
- The relative success of management measures already in place, including the introduction of Public Space Protection Orders (PSPOs);
- Identification of, and justification for, the zone of influence within which development is likely to have a negative impact on the SAC and would therefore require mitigation;
- Recommendations on the appropriateness of an exclusion zone, within which the impacts of development would be so significant that effective mitigation would be unlikely to be achievable, and justification for its extent;
- Recommendations for appropriate and defensible management and mitigation measures for the SAC.

Map 1: Overview and location of Burnham Beeches SAC



Burnham Beeches SAC

Local authority boundaries

2. Impact of urban growth on Burnham Beeches SAC

2.1 Impacts of urban growth include issues associated with increased recreational use of Burnham Beeches from local residents, along with issues relating to the built environment around the site, such as loss of supporting habitats, contamination, changes in water availability etc.

2.2 A summary of potential impacts is provided in Table 1. This provides context for the later parts of this report. A detailed review of impacts is beyond the scope of this report; series of general reviews provide much more detailed information and further context (see Underhill-Day 2005; Corney *et al.* 2008; Ryan 2012; Liley, Read & Barnard 2016; Saunders *et al.* 2019) and there are also a range of studies specific to Burnham Beeches (Barnard 2003; Read 2011; Liley *et al.* 2012; Wallingford HydroSolutions Ltd. 2013; King & Liley 2014; Moffat 2019).

Table 1: Summary of potential nature conservation impacts (to the SAC interest) linked to increased levels of surrounding development at Burnham Beeches. Impacts drawn from a range of studies and work at Burnham Beeches (see accompanying text for references).

Type of impact	Examples
Contamination	Dog fouling (nutrient enrichment from faeces and urine)
	Litter
	Fly-tipping
	Spread of disease (e.g. plant pathogens)
	Spread of non-native species (can be both unintentional and deliberate)
	Pollution from run-off (surrounding roads and hard surfaces)
Fire	Increased fire incidence linked to increased recreation use (BBQs, camp fires etc.)
Trampling/wear	Soil compaction from high levels of footfall
	Loss of vegetation cover
	Erosion
	Direct damage to veteran trees from climbing
Harvesting	Collection of wood for firewood
	Collection of fungi
Difficulties in management	Challenges in maintaining grazing regime with high levels of access and dogs
	Public pressure for more facilities, path surfacing, cafes, events, different management etc.
	Management of veteran trees potentially made more challenging due to need for more regular checks and need to ensure public safety
Disturbance	Distribution of deer and grazing livestock within site affected
Fragmentation	Loss of supporting habitats
	Isolation (lack of connectivity with other woodland or semi-natural habitat)
Hydrology	Changes in water availability and flow linked to increased hard surfacing in surroundings
Air quality	Changes in air quality (e.g. from local traffic increases)

- 2.3 Some examples of these impacts are illustrated in Figure 3, which includes a selection of images from Burnham Beeches and some other sites.
- 2.4 It is important to note that the above impacts can potentially interact and may also work in synergy. While individually some of the impacts may potentially be minor, or relatively rare (e.g. damage from fires), taken together the impacts are substantial and a wide range of studies clearly show that the conservation importance of woodlands in urban compared to more rural settings is compromised (e.g. Sadler *et al.* 2006; Vergnes *et al.* 2014; Lintott *et al.* 2014; Rayner *et al.* 2015; Sanz & Caula 2015; Fornal-Pieniak, Ollik & Schwerek 2019). For Burnham Beeches specifically, the site improvement plan produced by Natural England for the SAC² lists air quality, public access/disturbance, habitat fragmentation, deer species decline and invasive species as the prioritised issues for the site: all factors potentially linked to urban growth. Furthermore, dog fouling and trampling pressure from footfall are both cited as issues in the detailed supplementary conservation advice³ produced by Natural England.
- 2.5 These various impacts are more complex when considered in the wider context of the issues facing Burnham Beeches. For example, climate change will result in more stormy weather, increased risk of droughts and greater risk/incidence of wildfires. These will all add to the issues facing the trees, increasing stress and potentially interacting with recreation and urban pressure to exacerbate the problems.
- 2.6 Many of the impacts set out above are linked to recreation use. Recreation use is therefore important to consider in depth and is a focus of subsequent sections of the report. It is however important to note that some of the urban impacts are not related to recreation, and management of recreation pressure/visitor numbers will not necessarily address all the issues identified. We have also included air quality in the list above, however it should be noted that air quality issues are likely to be linked to a range of factors, not least traffic use on the motorways and nearby Heathrow airport. This is a critical issue for Burnham Beeches and is being considered by the Chiltern and South Bucks Councils through other studies/modelling work. As such air quality is outside the scope of this report.

² See the relevant page on the [Natural England website](#)

³ Which can be downloaded from the [Natural England website](#)

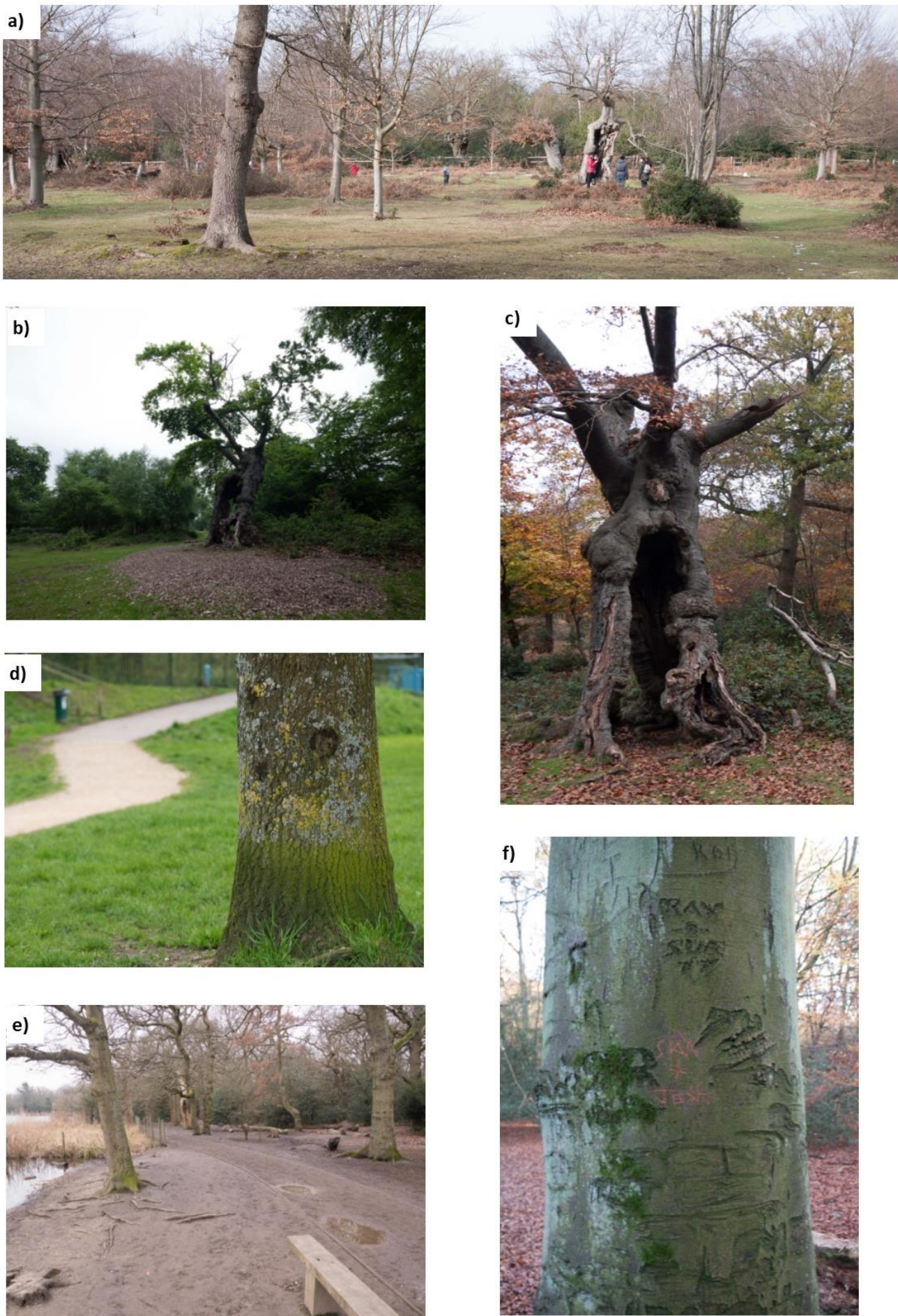


Figure 1: Illustrations of impact. a) Veteran trees at Burnham Beeches draw adults and children alike; b) veteran at Burnham Beeches where bark mulch has been used to protect the roots and minimise soil compaction; c) an earlier picture of the same tree as in b: note the loss of bark and damage around base of tree; d) example from Dorset of tree in area with high dog walking use, note the loss of lichens around base from urine spray; e) example of heavy trampling exposing roots and resulting in vegetation loss, from Epping Forest SAC; f) vandalism to beech trunk at Burnham Beeches.

Updates on current condition and recent monitoring

SSSI condition

- 2.7 There are four units within Burnham Beeches SSSI and the condition monitoring information for these varies from 2006-2010⁴. Three units were recorded as favourable and one as favourable recovering. The commentary notes the good quality management in place and measures in place to manage public access and control potential damaging impacts due to trampling and dog walking.

Number of tree pollards

- 2.8 Old pollards are logged on a database and these trees are checked at regular intervals⁵. These trees are part of the key interest at Burnham Beeches. In 1990 there were 540 trees that were tagged and counted and in subsequent years and a further 37 old pollards have been found on the site. In 2018 the total number of these 577 trees still alive was 377, indicating a decline in old trees over time. Estimates from before the formal monitoring began suggest there were around 1300 old pollards in 1956 and over 2000 in the late 1800s. Targeted very careful management for each tree has resulted in a reduced mortality rate in recent years, however the figures still suggest a mortality level of around 0.13% of trees per annum (2007-2018).
- 2.9 A report by Moffat (2019) is a significant piece of additional evidence since the previous reviews of urban effects at Burnham Beeches. Moffat's review, commissioned by the City of London Corporation considered the possible influence of climate change, atmospheric pollution, visitor pressure and existing management on the future condition of the Beech *Fagus sylvatica* trees at Burnham Beeches. Moffat acknowledges the possibility of localised soil compaction where woody vegetation has been cleared and where footfall was high. Climate change projections indicate that the climate will be less suitable for Beech, adding to the stresses on the site and its trees.

⁴ SSSI condition from [Natural England website, SSSI site detail page](#). Viewed April 2019.

⁵ Monitoring data presented in this paragraph has been provided by Helen Reid for the City of London Corporation.

3. Housing change around the SAC

Change in recent years

- 3.1 In 2018 there were around:
- 1317 dwellings within 500m of the SAC;
 - 13,760 within 2500m;
 - 59,148 within 5km; and
 - and 184,893 dwellings within 10km.
- 3.2 These data are extracted from postcode data held by Footprint Ecology giving the number of residential properties per postcode.
- 3.3 Housing change data for the period 2003-2018 are shown in Figure 2, with each graph showing a different extent out from the SAC (i.e. 0-500m, 0-2500m, 0-5000m and 0-10,000m). These distance bands (buffers) are shown in Map 2. It should be noted that the data from 2003 (the earliest year of data held by Footprint Ecology) are of a lower resolution (postcode centres mapped to the nearest 100m), whereas that from 2013 onwards are directly comparable.
- 3.4 The plots are at different scales and on none of them does the y axis go to zero, allowing the difference between years to be seen. It is clear from the plots that there has been a marked increase in housing in the area surrounding Burnham Beeches over the past 15 years or so. It can be seen that it is within 500m of the SAC that the scale of change (2013-2018) has been most marked, with an overall change of 6% (76 additional properties) over a five-year period. Housing directly adjacent to the European site boundary is likely to have a greater effect on the SAC due to the close proximity.

Burnham Beeches SAC & urban development

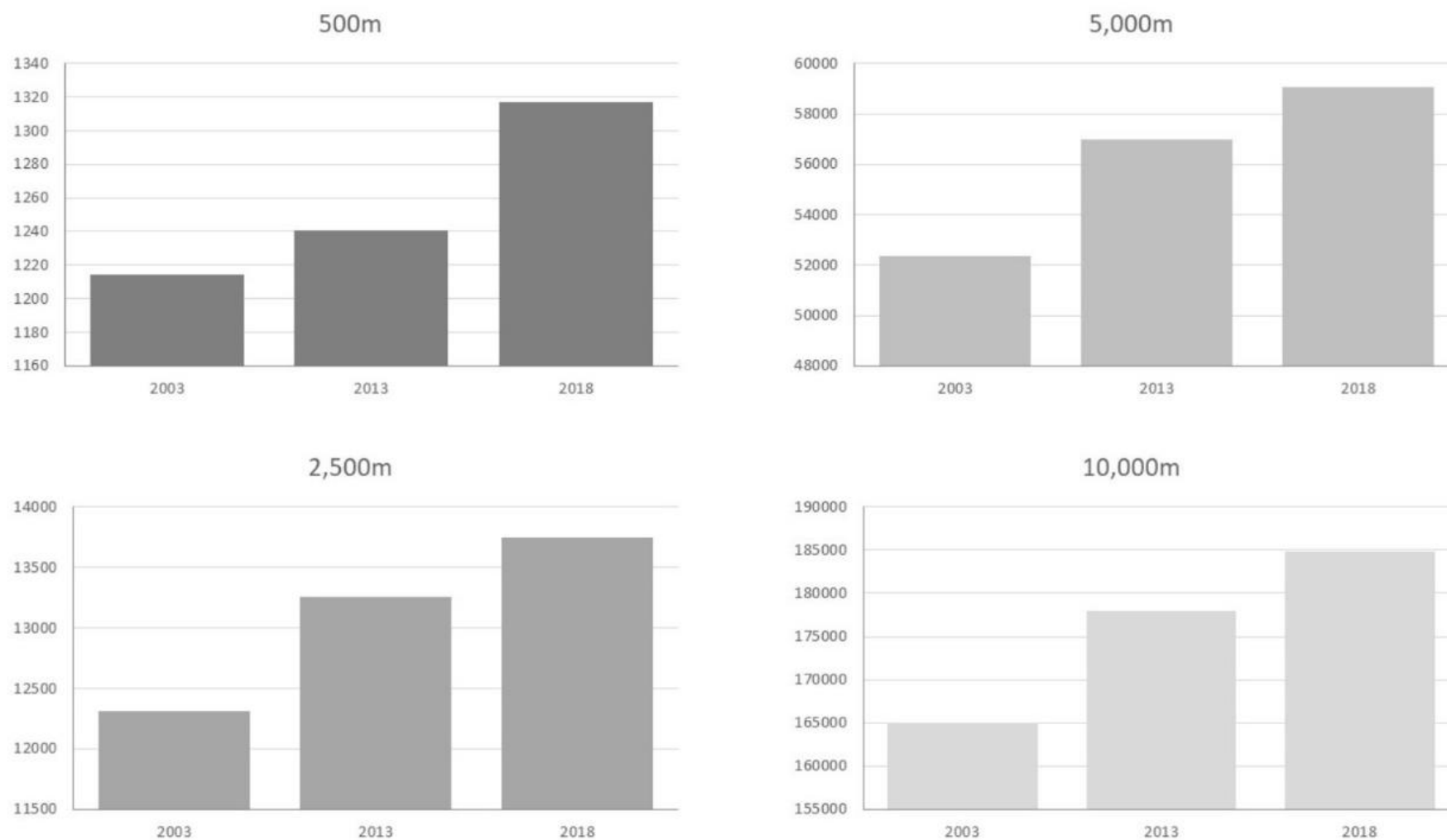
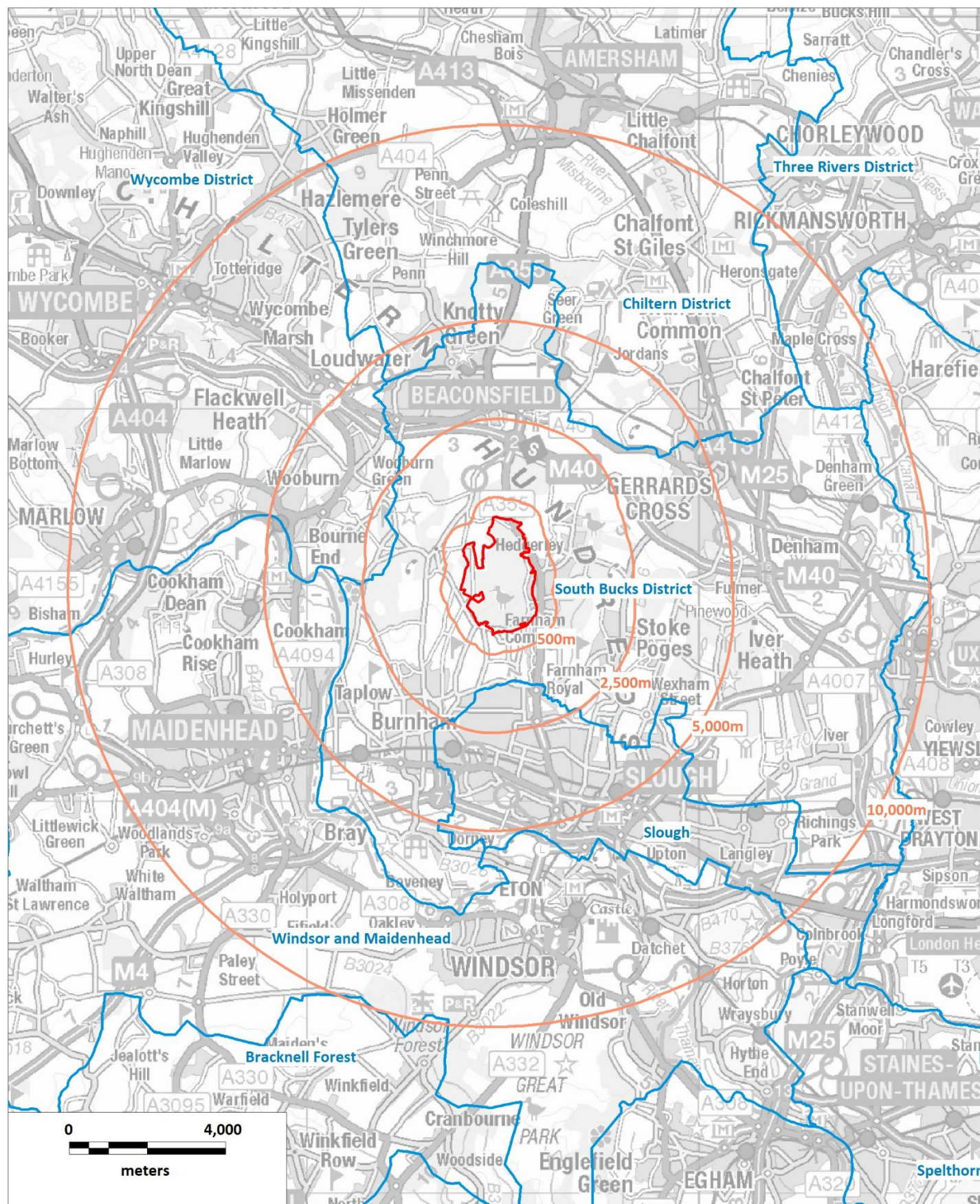


Figure 2: Housing change 2003-2018 for different distances away from the SAC (0-500m, 0-2500m, 0-5000m and 0-10,000m). Data from postcode data held by Footprint Ecology giving the number of residential properties per postcode.

Map 2: Selected distance bands around Burnham Beeches SAC



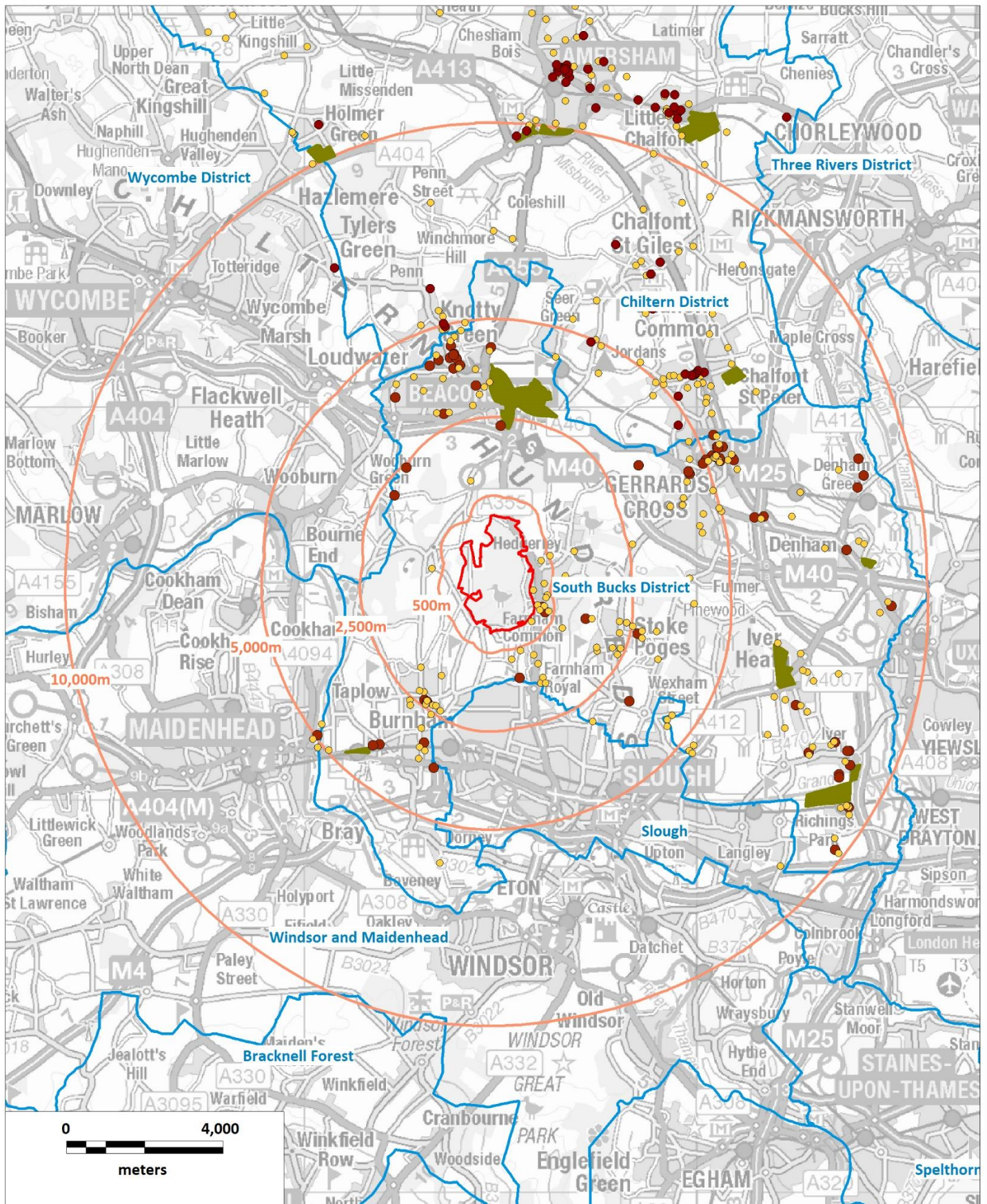
Burnham Beeches SAC

SAC buffers



Local authority boundaries

Map 3: Potential future development (Chiltern & South Bucks)



0 4,000
meters

- | | | | | | |
|---|---------------------|---|--------------------------------|---|------------------------------|
|  | SAC Buffers |  | Local authority boundaries |  | Green belt sites |
|  | Burnham Beeches SAC |  | HELAA sites (residential only) |  | Recent planning applications |

Anticipated growth

Chiltern and South Bucks

3.5 Housing data for 2018 are summarised above. Future growth will add new housing and it is important to understand where this might come forward in relation to the SAC. Chiltern and South Bucks Council provided GIS data relating to potential future housing; separate GIS files were provided to indicate:

- Dwellings with planning permission (not yet started/under construction);
- Local Plan site allocations (green belt sites); and
- HELAA sites (i.e. sites from the Housing and Land Availability Assessment).

3.6 We checked for any overlap between the different layers and removed any sites from the HELAA layer or Local Plan site allocations (green belt) layer that were also in the planning application layer⁶. Map 3 shows the various GIS layers and therefore summarises future development (including that with planning permission) within Chiltern and South Bucks. The same data are also shown in Figure 3, which shows potential new development levels around the Burnham Beeches SAC, based on 500m distance bands.

3.7 Some of the HELAA and Local Plan site allocations (green belt sites) were large polygons and would potentially deliver relatively large numbers of houses. Where these were spread over multiple bands, we simply assumed an even distribution of housing across the whole area.

3.8 The dark green bars and the orange bars indicate the scale of change relating to the emerging Chiltern and South Bucks Plan and relate to sites that have not yet been granted planning permission.

⁶ Note that this means, for example, that there were sites in the HELAA layer and that already had planning permission that were therefore excluded from the HELAA totals and appear on Map 3 as yellow dots rather than red ones.

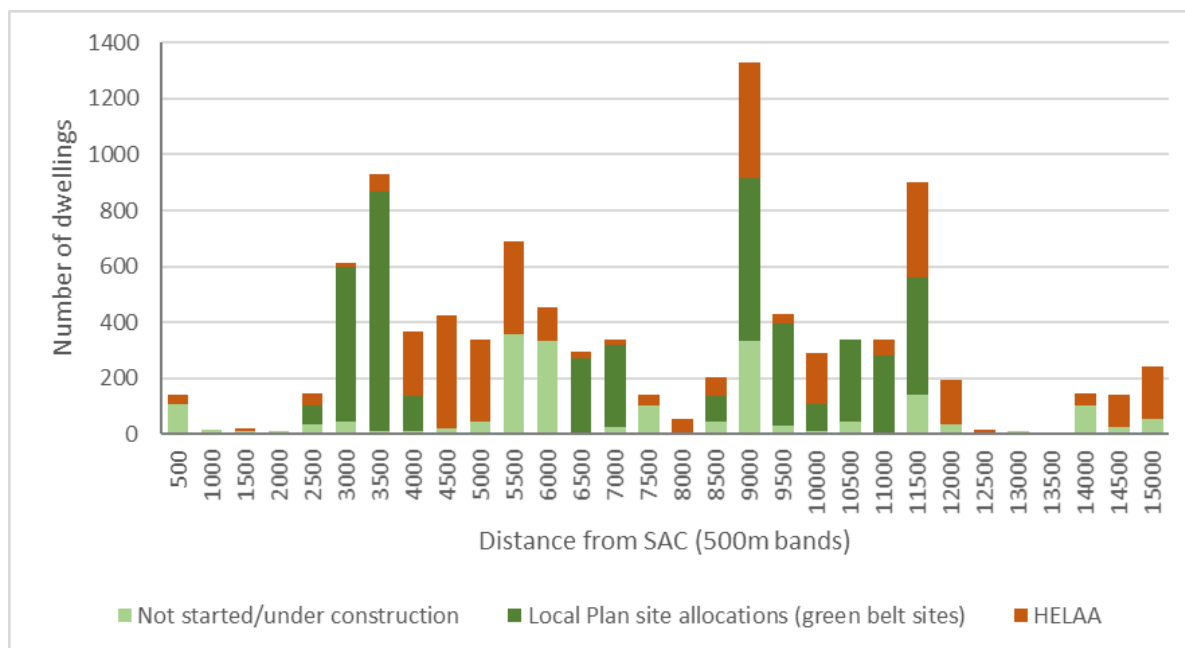


Figure 3: Summary of total numbers of dwellings that may come forward in the future, based on site allocations (green belt sites) and HELAA provided by Chiltern District and South Bucks District Councils and also showing housing currently with planning permission but not yet started or currently under construction.

3.9 It is important to recognise that the sites in Map 3 reflect sites in the emerging plan and are not finalised. As such the locations and totals may change, however their use allows us to estimate an approximate likely level of change in housing levels associated with the new plan. These totals are summarised in Table 2. It is notable that within 500m of the SAC, although there are no site allocations (green belt sites), there is a relatively high proportion of dwellings that have been granted planning permission but have not yet been started or are currently under construction, indicating (with the HELAA sites) an in-combination increase in housing of 11% within 500m.

Table 2: Summary of numbers (%) of current housing (2018) and additional housing from recent planning applications (approved and either not started or under construction) and potential future housing on site allocations (green belt sites). Percentages reflect the change from 2018.

Distance	2018	Not started/under construction	Greenbelt sites	HELAA sites	Total growth
0-500m	1317	108 (8)	0 (0)	32 (2)	140 (11)
0-2500m	13,760	184 (1)	70 (1)	84 (1)	338 (2)
0-5000m	59,148	321 (1)	1600 (3)	1087 (2)	3008 (5)
0-10,000m	184,893	1574 (1)	3697 (2)	2362 (1)	7233 (4)

Other local authorities

3.10 Burnham Beeches SAC is in close proximity to a range of other local authorities, besides South Bucks District and Chiltern District. It is therefore important to consider the in-combination effects of development in these other authorities. Of particular relevance are Slough, Windsor and Maidenhead and Wycombe. These authorities are at different stages in their local plans, and potential levels of growth are summarised in Table 3.

Table 3: Summary of plans and possible levels of growth for other local authorities in proximity to Burnham Beeches SAC.

LPA	Status	Plan timing	Annual growth	Total dwellings over plan period	Total dwellings post 2018	Source
Slough	Emerging	2013-2036	912-927 ¹	20,000	15,652 ²	Report to planning committee, 1/11/2017;
Windsor & Maidenhead	Submitted 2018	2013-2033	420-850	14,240	11,420 ³	Submission version
Wycombe	Submitted 2018	2013-2033	550	10,925	9,900 ⁴	Publication version

¹ See para 5.36 in linked report to planning committee

² Calculated as $(20,000/23)*18$; i.e. 20,000 dwellings over 23 years with 18 years of plan remaining

³ from table 4 in submission version of plan

⁴ Annual growth of 550 multiplied by 18, the remaining years

3.11 In order to make very broad predictions of in-combination change around Burnham Beeches SAC, we drew on the figures in Table 3 for Slough, Windsor & Maidenhead and Wycombe. No attempt was made to accurately map all allocations or key sites. Instead we spread the levels of development across the relevant 500m distance bands around the SAC.

3.12 Given the emerging status of Slough's plan, it is difficult to anticipate growth scenarios. We therefore simply spread the 15,652 dwellings evenly across the local authority area. For Windsor and Maidenhead, the submission version of the plan sets out allocations totalling around 8,286 dwellings, mostly focussed on Maidenhead⁷. These allocations include 5125 dwellings in or around Maidenhead (i.e. around 6-9km from Burnham Beeches SAC) and around a further 1000 dwellings in the vicinity of Windsor (including west of Windsor and Datchet). These would fall around 7-8km from

⁷ See Policy HO1.

Burnham Beeches SAC. For Wycombe, we drew on Figure 6 (housing distribution) of the Wycombe submitted local plan which sets out around 800 dwellings at Bourne End and Wooburn (i.e. 3-4500m from the SAC); 6350 dwellings in the Wycombe area (7-11km from the SAC) and 350 dwellings around Marlow (8.5-9km from the SAC).

- 3.13 The resulting potential housing growth around Burnham Beeches is shown in Figure 4.

Burnham Beeches SAC & urban development

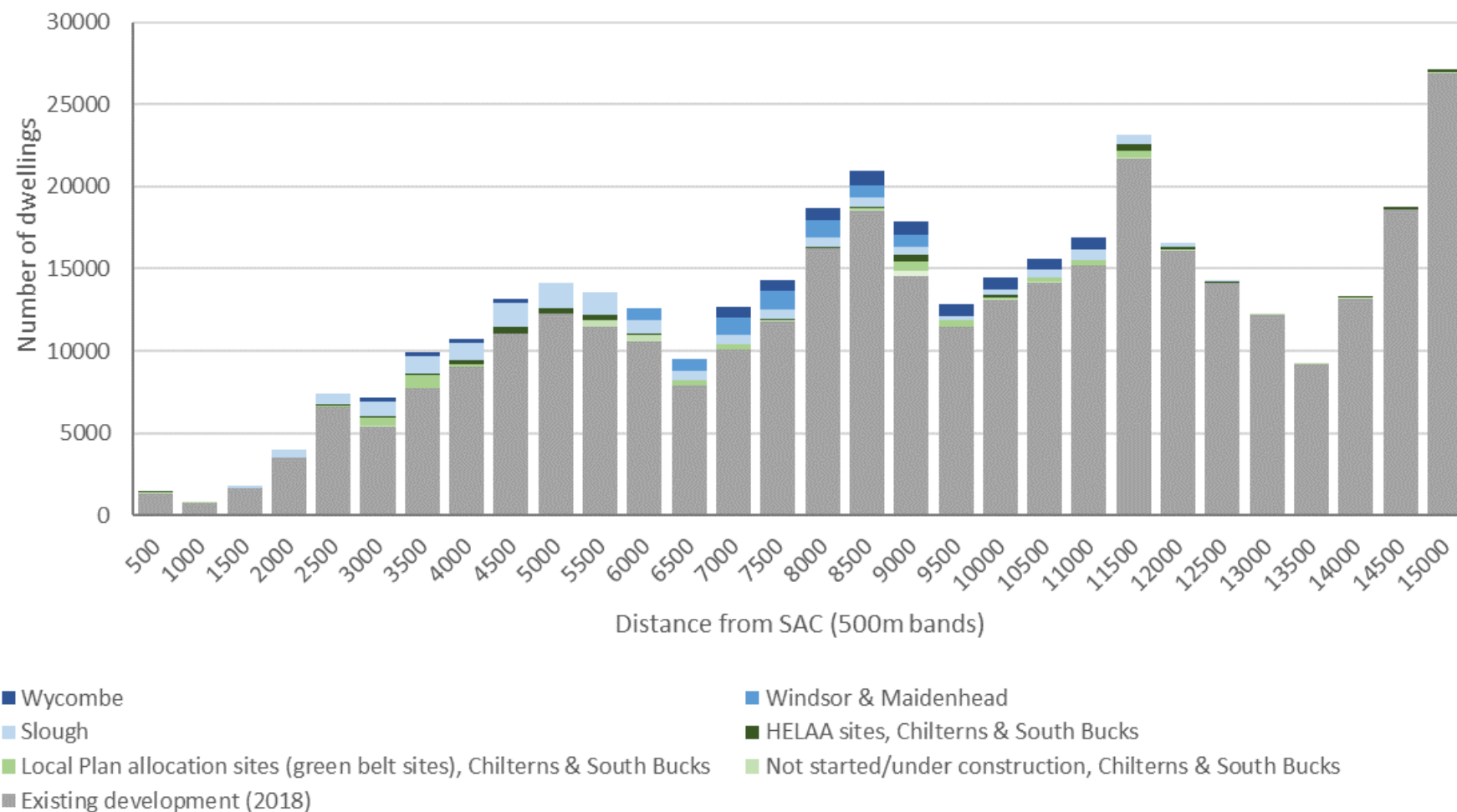


Figure 4: Approximate levels of future growth around Burnham Beeches SAC. Grey shading represents current levels of development with the bright colours reflecting anticipated growth in relevant local authorities (see accompanying text for details as to how estimated). The dark green and pale green data from Chiltern and South Bucks is the same as shown in Figure 3.

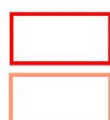
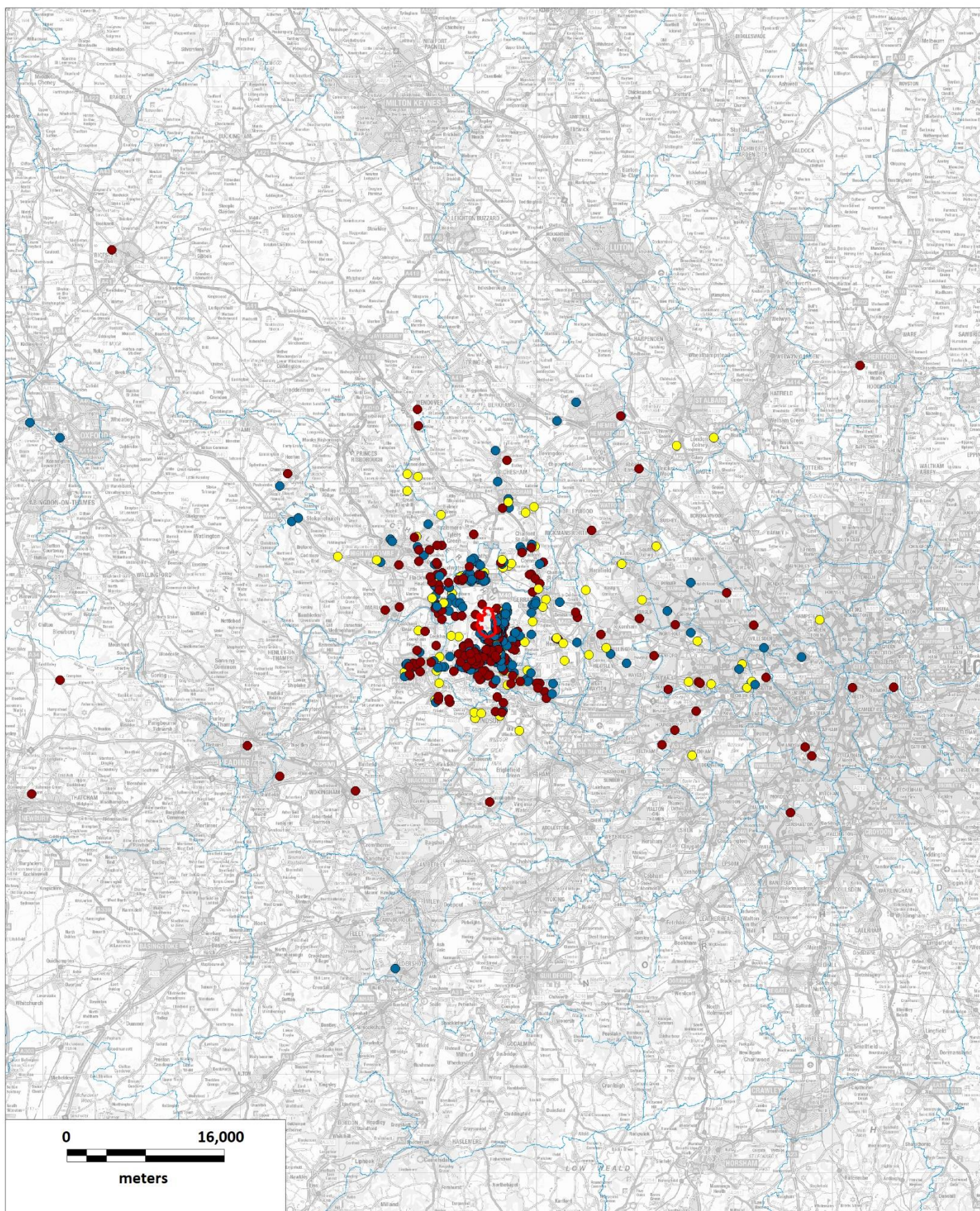
Predictions of future changes in visitor numbers

- 3.14 Using the data on housing numbers summarised in the previous sections it is possible to use visitor survey data to make predictions about future changes in visitor use.
- 3.15 Visitor postcode data are shown in Maps 4 and 5. These data are drawn from three separate surveys undertaken by Footprint Ecology:
- The 2013 visitor survey of Burnham Beeches SAC involving face-face interviews with visitors (Liley, Floyd & Fearnley 2014);
 - A further visitor survey involving face-face interviews and recording routes of visitors using GPS units (Panter & Liley 2016);
 - A visitor survey to inform the potential introduction of Public Space Protection Orders relating to dogs (Liley & Panter 2017).
- 3.16 Each of these three surveys involved slightly different survey points, times of year and involved different questions, however they all generated postcodes from a sample of visitors using the site. Together these three surveys provide a total of 906 visitor postcodes. In Map 4, the majority of interviewee postcodes are shown (10 visitor postcodes lie outside the area shown). Map 5 shows the same data, however zoomed into the area around Burnham Beeches SAC (the outer orange line showing 10km radius around the SAC). There is a concentration of visitor postcodes directly around the SAC and in the closer distance bands.
- 3.17 Pooled, these data show interviewees lived between 50m and 377km of the SAC (distances measures as the distance to the nearest main access car-park⁸). The median distance was 2293m. The medians did differ significantly between the three surveys (2013 survey median = 2546, 2016 survey=2397 and 2017 survey= 2045, Kruskal-Wallis H=14.20, p<0.001), indicating that people interviewed in the 2013 had travelled significantly further and those from 2017 significantly less. These differences may relate to changes in housing, changes in the patterns of use or different interview locations, times of year or other methodological differences.
- 3.18 The data are plotted in Figure 5 (frequency distribution) and Figure 6 (cumulative frequency). Figure 5 shows the percentage of interviewees that originated from each distance band and demonstrates the high proportion

⁸ For simplicity we used the Moat, the Stag, the Dell and the main car-park and took the distance from the home postcode to the nearest of these car-parks.

of local visitors – 26% living within 1km of the SAC. Figure 6 shows the same data, but cumulatively, enabling a check of the percentage of visitors that originate from within a certain radius.

Map 4: Visitor postcodes from different visitor surveys (all Footprint Ecology)



Burnham Beeches SAC

SAC buffers

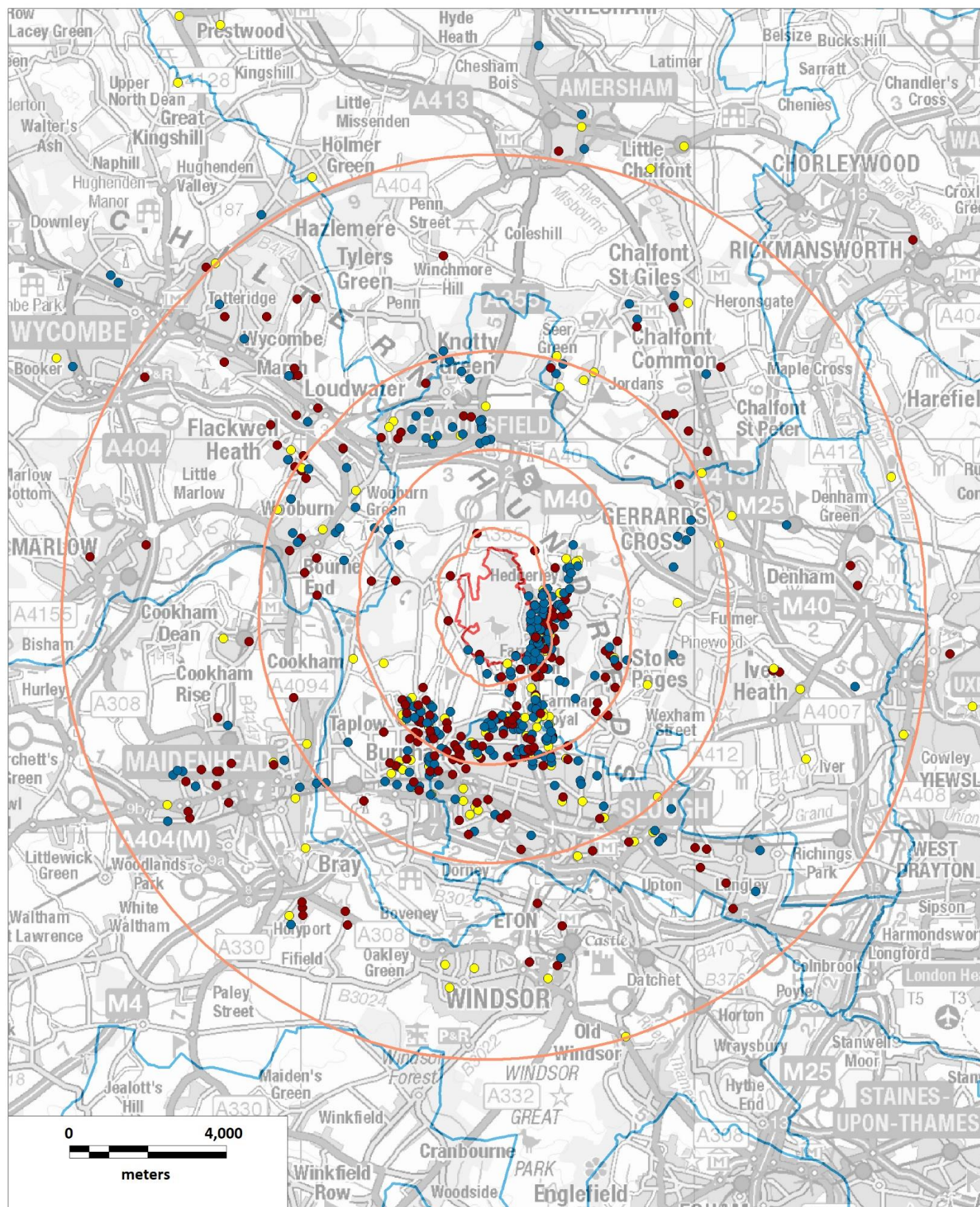


Local authority boundaries

Visitor postcodes

- 2013 visitor survey (327)
- 2016 GPS routes survey (223)
- 2017 PSPO survey (356)

Map 5: Visitor postcodes from different visitor surveys (all Footprint Ecology)



Visitor postcodes

-  2013 visitor survey (327)
-  2016 GPS routes survey (223)
-  2017 PSPO survey (356)

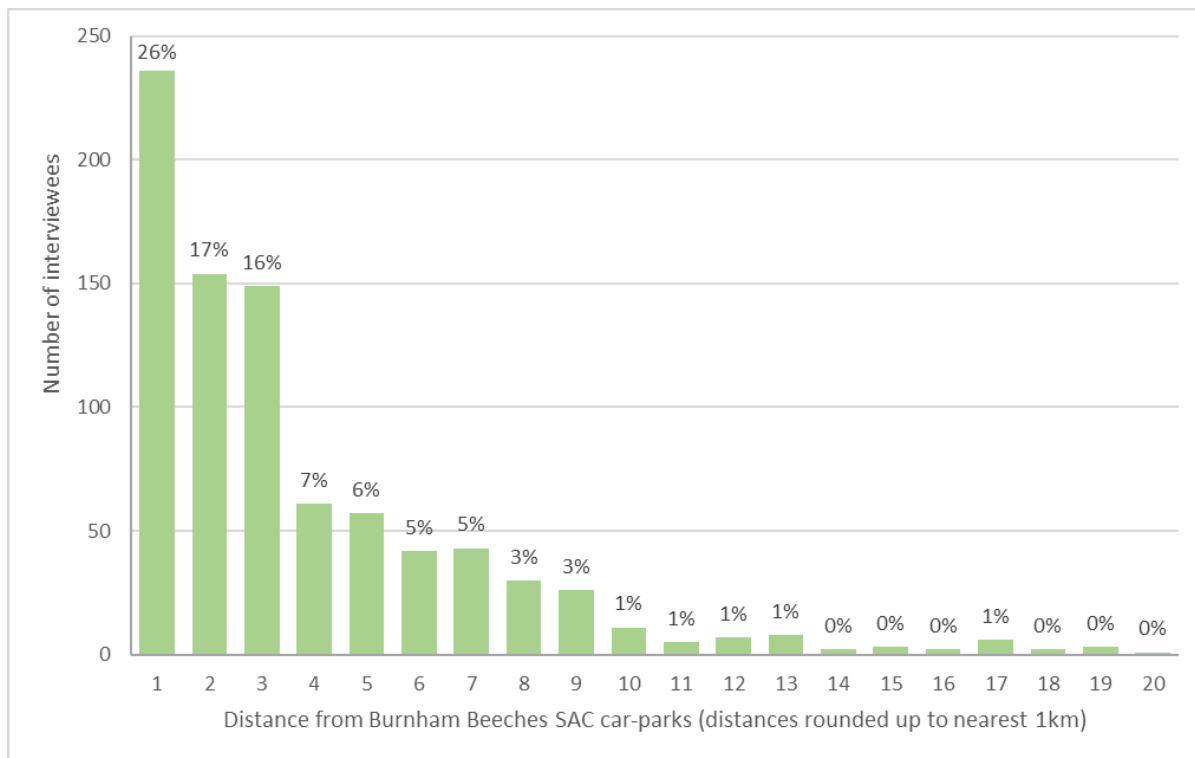


Figure 5: Frequency distribution showing number of interviewees and distance to nearest car-park. Data in 1km bands. Data for all 906 interviewee postcodes.

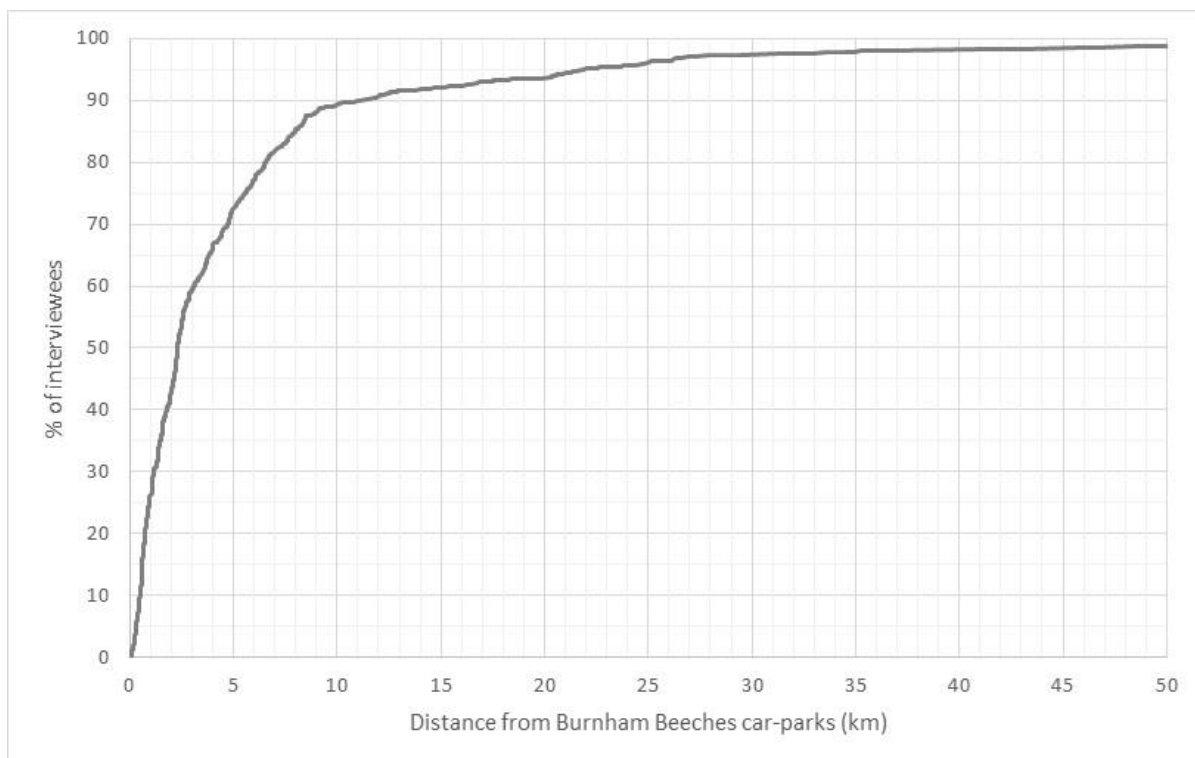


Figure 6: Cumulative percentage plot showing percentage of interviewees from different distances from the main Burnham Beeches car-park. Data for all 906 interviewee postcodes.

- 3.19 These data show that a high percentage of visitors originate from the closer distance bands, and as the housing data show (e.g. Figure 4), there is relatively little housing at the nearer distance bands (e.g. within 2km) as these bands are smaller in area and do not encompass any of the larger settlements.
- 3.20 The closer people live to Burnham Beeches, the more likely they are to visit, and this relationship is summarised in Figure 7. As distance increases away from the SAC, in successive distance bands, the proportion of residents visiting will be less and less. The plot in Figure 7 shows the number of interviewees per residential property, which is high close to the SAC and tails off with distance. The data for the 2013, 2016 and 2017 surveys are shown as separate points and the line has been fitted by eye to and shows the shape of the decay curve.

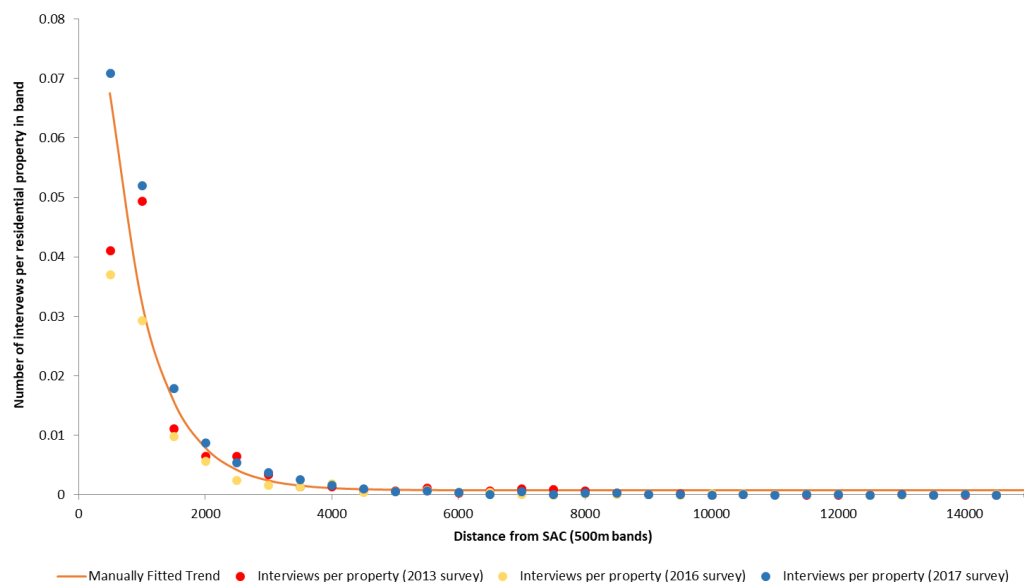


Figure 7: Number of interviewees per residential property. Data shown for the three surveys separately and the line fitted by eye based on the r^2 value (i.e. how well the line fits the data). $Y=0.14-1.48x+0.008$. $r^2=0.80$

- 3.21 Using the fitted line in Figure 7 it is possible to predict the effect of different housing scenarios. The estimate of the number of annual visits to Burnham Beeches in 2015/16 was 551,400 (Wheater & Cook 2016). We estimate the uplift in visits that would be expected (using the fitted line equation in Figure 7) under different scenarios as follows:

1. Current (we assume 551,400 visitors and use the 2018 housing figures)

2. Current plus additional housing with permission but not started/under construction (Chiltern and South Bucks)
3. As 2) but also with the addition of Local Plan allocation sites (green belt) and HELAA sites in Chiltern and South Bucks
4. As 3), but with the addition of other local authorities (Slough, Windsor and Wycombe).

3.22 The predictions are summarised in Table 4. It can be seen that development in Chiltern and South Bucks is predicted to result in an increase in visitors of 4% compared to current, with 2% of the increase attributed to HELAA sites and Local Plan allocation sites (green belt sites), i.e. the emerging Local Plan. If we assume 551,400 visitors as the current level, then a 4% change is potentially a further 23,315 visits per annum.

3.23 Looking wider to gain an in-combination perspective of the growth in Chiltern and South Bucks alongside Slough, Windsor & Maidenhead and Wycombe then the overall increase in annual visits is predicted to be 11%. This 11% increase is in the absence of any mitigation, and assumes that new development at a given distance will generate a set number of visits, i.e. not taking into account any site specific variation (such as on-site greenspace).

Table 4: Summary of predicted increases in visit rate as a result of additional growth around Burnham Beeches.

	Annual visitors	Increase in visits compared to current	% change compared to current
1) Current	551,400		
2) Current plus additional housing with permission but not started or under construction (Chiltern and South Bucks)	562,612	11,212	2
3) As 1) but also with the addition of greenbelt and HELAA sites in Chiltern and South Bucks	574,715	23,315	4
4) As 3), but with the addition of other local authorities (Slough, Windsor & Maidenhead and Wycombe).	614,311	62,911	11

3.24 This predicted in-combination level of increase of 11% is summarised in Figure 8, which shows the relative contribution from each authority. It can be seen that around half the overall increase in visits predicted is linked to development in Slough. Development in the emerging Chiltern and South

Bucks Local Plan (i.e. HELAA and Greenbelt sites, not including any development apparently with existing permission or being built) is predicated to result in a change of 2%.

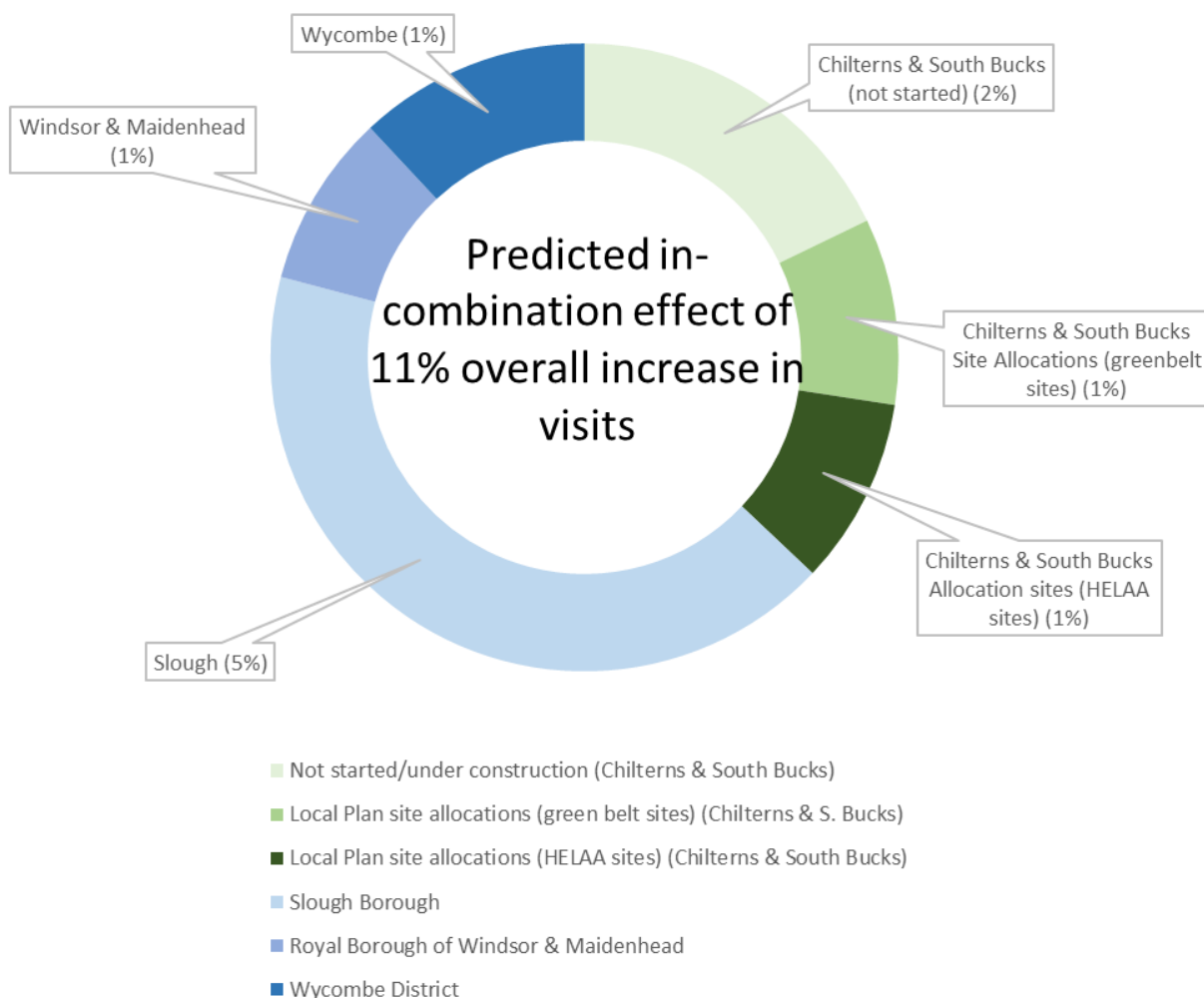


Figure 8: Breakdown of the predicted 11% increase in annual visits, by local authority. The percentages in boxes around the outside of the graphic together give an 11% increase..

Limitations with the predictions

3.25 We have predicted the in-combination effects of development across a number of different local authorities and estimate a 11% increase in annual visits. This figure is a guide, an approximate estimate only and intended to inform the necessary mitigation and avoidance required. We have apportioned additional growth to different distance bands around the SAC and used GIS data provided by Chiltern and South Bucks District Councils. We have drawn on a number of different GIS data files for the Chiltern and

South Bucks Districts and tried to capture a coherent snapshot of how future housing might change. We have not made any assumptions of growth outside the greenbelt/HELAA sites, i.e. any housing that comes forward away from these sites is not factored into our predictions. For the other local authorities, we have been more approximate, simply taking figures from the relevant local plans and estimating how this growth relates to our distance bands around Burnham Beeches.

- 3.26 It should also be noted (as described above) that our predictions do not take into account any mitigation measures, such as additional greenspace that might accompany specific developments.

4. Visitor origins and a potential zone of influence

- 4.1 Visitor data from three different visitor surveys (undertaken by Footprint Ecology in 2013, 2016 and 2017) are shown in Maps 4 and 5. In total these surveys generated 906 interviewee postcodes. In this section of the report we consider what geographic area would comprise a zone of influence for Burnham Beeches SAC, i.e. where future development will have an impact on visitor use of Burnham Beeches.

Outer zone boundary

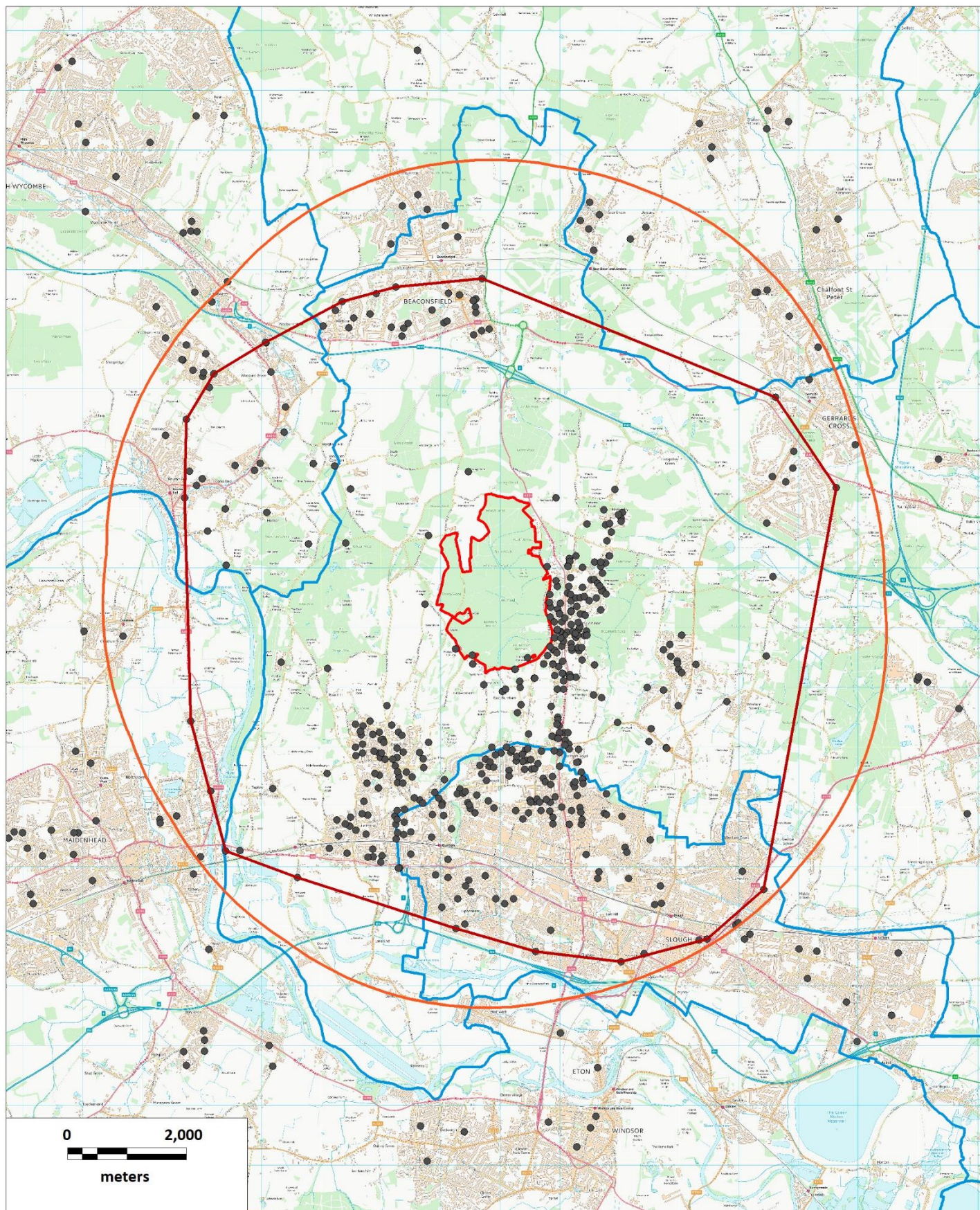
- 4.2 As previous analyses show, much of the visits originate from the area relatively close to Burnham Beeches and with increasing distance away from the SAC visit rates decrease. Such a pattern is typical and to be expected. People who live nearby will visit more than those further away. The challenge with such data is that there is no single cut-off point beyond which no-one visits. The pooled postcode data includes visitors who lived in Devon and one from Northumberland, indicating that a small proportion will have travelled some distance. In order to identify the outer boundary of any zone of influence it is necessary to be able to identify spatially the area within which visitors originate and where further housing will generate additional recreation. Any zone of influence clearly needs to exclude outlying postcodes, such as the one from Northumberland.
- 4.3 The 75th percentile (i.e. the distance within which 75% of interviewees lived) from the interview data provides a good measure of a potential overall zone of influence and this has been used widely at other sites to define a zone of influence within which additional development will be likely result in increased levels of access. The 75th percentile has been used at heathland sites (such as Cannock Chase SAC, the Dorset Heaths and the Thames Basin Heaths SPA), coastal sites (such as the Solent) and at woodland SAC sites such as Epping Forest SAC. While these sites differ in recreation use and habitat, the overall principle is sound - the use of the 75th percentile means the area within which the majority of visitors live can be identified.
- 4.4 It can be seen from Figure 5 and Figure 6 that the 75th percentile falls between 5 and 6km; the actual value is 5.6km. In Map 6 we show this as a single band around the SAC, using a uniform buffer of 5.6km.

- 4.5 In Map 6 we also show a convex hull enclosing the 75% of postcodes that are closest to the SAC car-parks. A convex hull is not necessarily an even buffer; it is created by the GIS as a polygon that encloses all the selected points and can be envisaged as equivalent to a rubber band stretched around the points. As such, the convex hull consists of a minimal set of nodes with all the relevant postcodes on or inside the polygon. The convex hull is shown as a dark red line on Map 6. The convex hull is a broadly similar shape to the even buffer and lies inside the 5.6km buffer as the latter is drawn around the SAC boundary. Both approaches broadly enclose an area from Beaconsfield in the north to the M4 in the south and from the M25 in the east to the edge of Maidenhead in the west.
- 4.6 In order to define the outer zone of any zone of influence, the even buffer is the best approach. The convex hull is a useful check, but the shape of the convex hull is defined very much by the individual postcodes and as such is more likely to fluctuate slightly over time depending on the postcode data collected. The 5.6km buffer around the SAC provides a more robust, simpler and easier to define approach. It is the approach used at other European sites, subject to detailed scrutiny and has been adopted in a wide range of plans and mitigation strategies (see Burley 2007 for background).
- 4.7 The 5.6km distance also fits well with other sites where a zone of influence has been established, for example 5km is used for the Dorset Heaths and the Thames Basin Heaths, 5.6km is used on the Solent and 6.2km for Epping Forest.
- 4.8 In paragraph 3.22 we predicted that development in Chiltern and South Bucks would result in an increase in visitors of 4% compared to current. Looking solely within the 5.6km zone, the increase is around 3.3%, i.e. the majority of access. Given development outside the zone will still generate some additional recreation pressure, large developments beyond the zone of influence may still require mitigation.
- 4.9 The overall effect of development (in terms of recreational use) at different distances from the SAC (drawing on the curve shown in Figure 7) are summarised in Table 5. This highlights that at 0.5km a single dwelling would generate a similar number of visits to 8 dwellings at 2km from the SAC and that by 5.6km the equivalent value is 81 dwellings. At a distance of 6km from the SAC a development of 82 dwellings would be expected to generate a similar level of access as a single dwelling at 0.5km.

Table 5: Equivalent numbers of dwellings that would generate similar levels of access to the SAC

Distance from SAC boundary	0.5km	2km	4km	5.6km	6km	10km
Equivalent numbers of dwellings	1	8	57	81	82	84

Map 6: 5.6km buffer around SAC and convex hull



- | | | | |
|---|----------------------------|---|--|
|  | Burnham Beeches SAC |  | 5.6km buffer around SAC boundary |
|  | Local authority boundaries |  | Convex hull enclosing the closest 75% of the postcodes |
| | |  | Pooled visitor postcode data |

Development close to the SAC boundary

- 4.11 A development exclusion zone has been established around many other European sites to reflect the particular risks with development directly adjacent to the boundary. Local plans and strategic mitigation schemes include a presumption against development within these areas and such zones have become an established policy approach.
- 4.12 Examples of areas where a zone is in place include:
- Across the Thames Basin Heaths (11 local planning authorities)
 - Around the Dorset Heaths (five local planning authorities)
 - In the Brecks (e.g. Breckland District)
 - Around the East Devon Pebblebed Heaths (East Devon District Council)
 - Around Cannock Chase SAC (e.g. Cannock Chase Council Local Plan)
 - At Ashdown Forest SPA/SAC (e.g. Wealden District's Core Strategy Local Plan)
- 4.13 All the above examples are heathland sites and a 400m zone is used. For heathland sites the issues relate to recreation, increased cat predation, fire risk and other urban effects. The approach is widely accepted and reduces the risks from increasing urbanisation. It provides greater certainty that mitigation measures (such as access management) for the cumulative levels of urban growth will be successful as such measures can be targeted to those travelling some distance.
- 4.14 The appropriateness of such a zone was considered in detail at the Thames Basin Heaths Technical Sessions, carried out to assist the examination of the South-East Plan (see Burley 2007 for detail and discussion), and found to be a robust approach. In Dorset, a critical review of the 400m zone (Riley et al. 2016), found no substantive argument to fundamentally depart from its use.
- 4.15 The general principle is that development in the areas directly adjacent to the European site boundary pose a higher risk due to the proximity. Recreation use is much higher and local residents are able to walk from their house directly onto the European site. People accessing on foot from nearby housing can do so through numerous small paths and as such can by-pass the main entry points. As such they are not likely to pass rangers, interpretation, dog bins etc; instead they can simply use the easiest route available. Desire lines and informal routes can form, away from the main paths. Opportunities to intercept/engage with very local visitors or deflect them to other locations are much reduced compared to those travelling by

car to main car-parks. People living very close to the site will use the space as their de facto greenspace and are likely to use it in a very different way to those who make a choice to visit and travel some distance.

- 4.16 Urban impacts such as dumping of garden waste and increased fire incidence (e.g. Kirby & Tantram 1999) are likely to relate to housing in close proximity and are harder to address because the impacts can occur spread over a wide front, rather than around main car-parks (which is where those travelling to the site by car are most likely to have barbeques etc.).

Table 6: Potential nature conservation impacts from nearby development (see Table 1) and discussion of how development close to SAC boundary will exacerbate risks to the SAC. Grey shaded rows highlight impacts where there is uncertainty that development close to the SAC boundary might have a disproportionate impact.

Type of impact	Examples	Issues related to development close to SAC boundary
Contamination	Dog fouling	Dogs accessing site from multiple access points instead of car-park. Fouling therefore along range of different paths. Harder to ensure dog bins etc in correct locations.
	Litter	Risk of littering as an issue more widely on site, due to local users using multiple access points and small paths and not passing bins.
	Fly-tipping	Garden rubbish etc potentially likely to be dumped within short radius of where people live.
	Spread of disease	Visitor flow more spread around site and through multiple access points, possibly increasing risk.
	Spread of non-native species	Greater risk of garden escapes, deliberate planting etc. from people living nearby.
	Pollution from run-off	Only relates to roads directly around and through site – clearly linked to local housing.
Fire	Increased fire incidence linked to increased recreation use (BBQs, camp fires etc.)	Evidence shows greater fire incidence where more housing nearby. Greater likelihood of informal barbeques, kids playing etc. directly close to housing.
Trampling/ wear	Soil compaction from high levels of footfall	Housing close to SAC will generate more recreational use than housing further away and therefore more footfall.
	Loss of vegetation cover	Housing close to SAC will generate more recreational use than housing further away and therefore more footfall.
	Erosion	Housing close to SAC will generate more recreational use than housing further away and therefore more footfall.
	Direct damage to veteran trees from climbing	Local children more likely to play on-site and visit without parents; access levels higher and more dispersed – with more trees at risk.
Harvesting	Collection of wood for firewood	Greater risk from very local housing as ability to carry wood more easily (e.g. by wheel barrow) and avoid rangers.
	Collection of fungi	Uncertain whether greater risk from local housing, risk may relate to levels of access?

Type of impact	Examples	Issues related to development close to SAC boundary
Difficulties in management	Challenges in maintaining grazing regime with high levels of access and dogs	Visitors from local housing more likely to treat site as nearest greenspace and therefore different types of access. Access more spread and potentially wider range of times of day.
	Public pressure for more facilities, path surfacing, cafes, events, different management etc.	Uncertain whether greater risk from local housing, risk may relate to levels of access? Pressure for better path surfacing etc. perhaps more likely to be linked to local regular users?
	Management of veteran trees potentially made more challenging due to need for more regular checks and need to ensure public safety	Visitor flow more spread around site and through multiple access points, increasing risk/issues.
Disturbance	Distribution of deer and grazing livestock within site affected	Visitor flow more spread around site and through multiple access points, increasing risk/issues.
Fragmentation	Loss of supporting habitats	Development adjacent to the SAC much more likely to result in loss of land with links to SAC.
	Isolation (lack of connectivity with other woodland or semi-natural habitat)	Development adjacent to the SAC much more likely to result in loss of land with links to SAC.
Hydrology	Changes in water availability and flow linked to increased hard surfacing in surroundings	Only applies to nearby development.
Air quality	Changes in air quality (e.g. from local traffic increases)	Will relate to roads around periphery and through SAC, use of which will be linked to local housing.

4.17 The visitor survey data shows that residents living very close to Burnham Beeches SAC are very much more likely to visit. From Figure 7, it is clear that visitors living within 500m are much more likely to visit the SAC and (based on Figure 7): one house within 500m of the SAC would be expected to generate a similar number of visits to 57 dwellings at 4km (see Table 5). Development directly adjacent to Burnham Beeches SAC therefore poses a very particular risk.

4.18 In Figure 9 below, we show the visitor survey data and show how visitor rates decline with distance. This is a similar plot to Figure 7, however this time we have used 100m bands around the SAC out to 1000m and only used the postcode data from those people who walked or cycled to reach the SAC. At this spatial resolution it is important to recognise that there are some challenges with the data, as postcodes are treated as point data from a specific location, yet can cover multiple dwellings, for example along a street.

Using bands of 100m is approaching too fine a scale to be confident that a visitor originated in a particular band, but the pattern is useful to see. The plot suggests a decline in visitor rates out to 300m, beyond which the pattern is less clear. There is clearly a much higher visit rate (visitors on foot and bicycle) from the first 200m around the SAC.

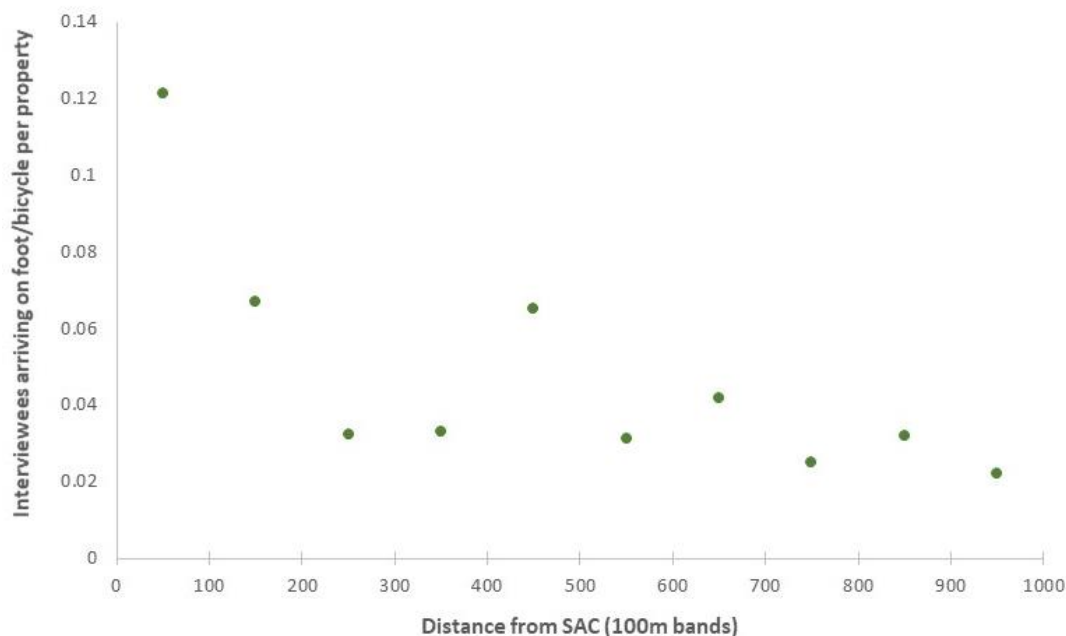


Figure 9: Number of interviewees per residential property, visitor postcodes from pooled Footprint Ecology data, where mode of transport was recorded.

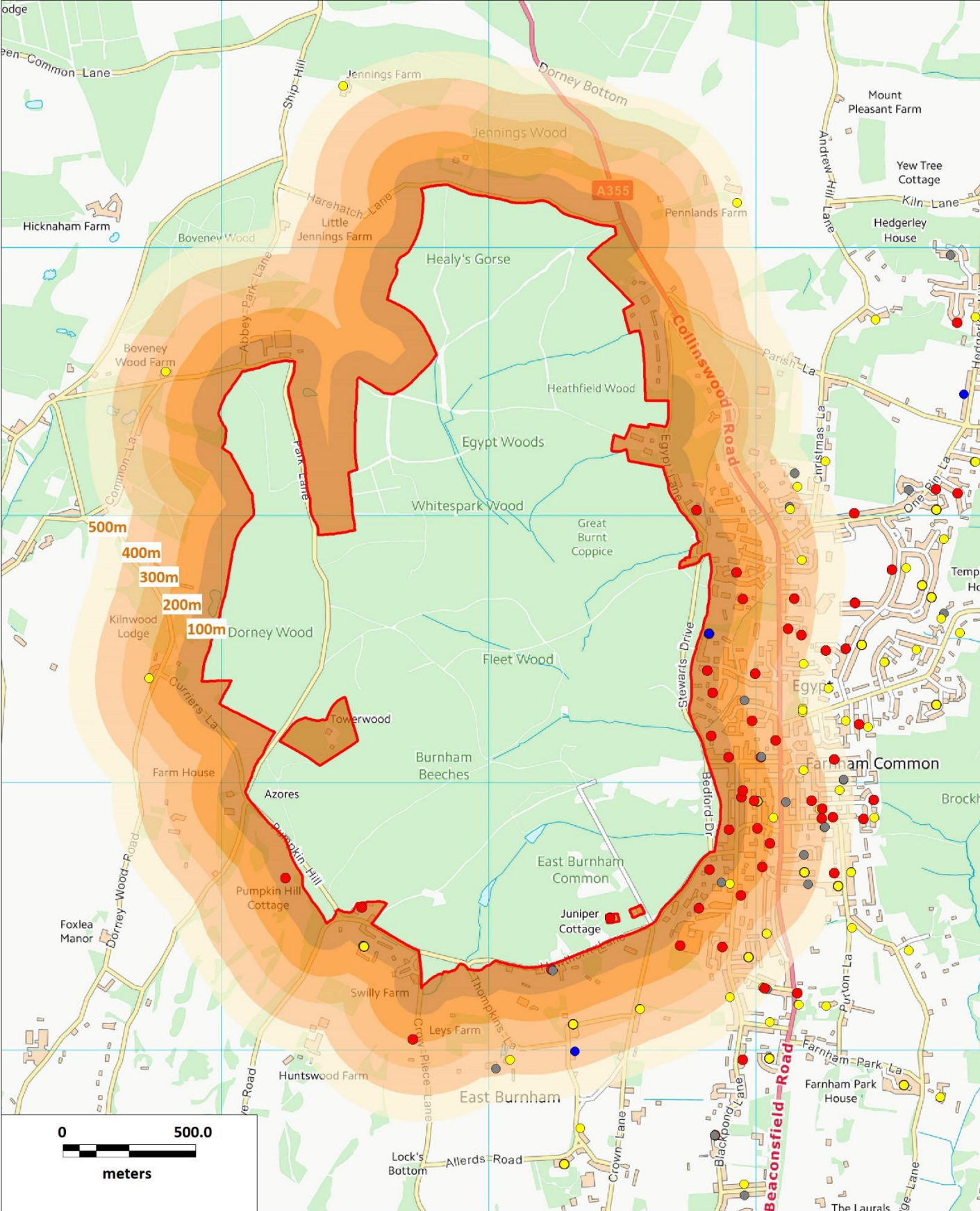
4.19 The area in close proximity to Burnham Beeches SAC is shown in Map 7, which illustrates the first 500m around the SAC boundary, with the orange shading representing 100m bands out to 500m. It can be seen that it is Farnham Common, Farnham Park and East Burnham that are of particular concern and relevance, as nearby urban areas. Visitor postcodes are also shown, with the shading reflecting the mode of transport of interviewees (i.e. the data used to generate Figure 9). The GPS routes survey from 2016 did not ask about mode of transport so that information is not available for all postcodes shown. It can be seen that the shaded orange bands do reflect the area from which people walk from their homes. It can also be seen that yellow dots (i.e. car-born visitors) are starting to predominate around the 400-500m band.

4.20 In line with a wide range of other European sites, which provide context and case examples, we recommend a zone should be established around the SAC within which there would be a presumption against development. It is

difficult to identify a definitive cut-off point, however taking a precautionary approach and based on Map 7, 500m would seem an appropriate choice. This reflects the zone within which many residents clearly walk to the site. As a further check, in Map 8 we show the same visitor data (as in Map 7), this time just those people who had travelled to the site on foot and with the shading of the dots reflecting the frequency of visit. The darker red shading reflects those visitors who are visiting most frequently on foot. In order to capture these frequent foot visitors, 500m would seem appropriate.

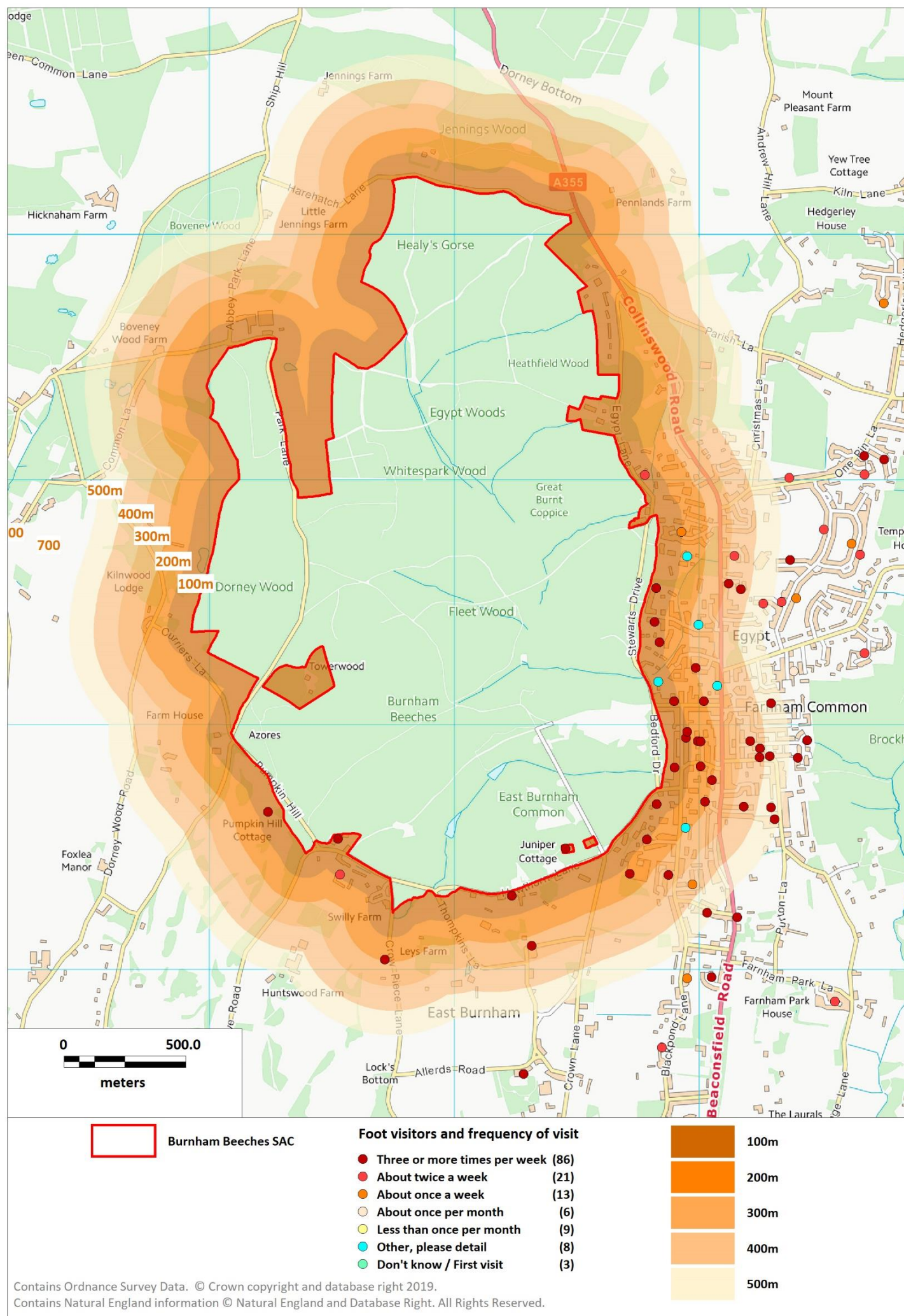
- 4.21 Establishing such a zone would provide much more certainty that cumulative impacts from recreation and urban pressures can be mitigated successfully and would result in a marked reduction in the risk to the SAC. Development just beyond 500m, particularly any large developments from which there is direct and easy access to the SAC may also warrant particular scrutiny and will need to demonstrate no adverse effects on integrity to the SAC.
- 4.22 Our suggestion for 500m is based on the analysis above and the parallels with other European sites where there are risks from urban effects. While other European sites have used a 400m zone, the visitor data presented here appear to justify a slightly wider zone which we recommend based on the specific circumstances.
- 4.23 There are no site allocations (green belt sites) that are relevant to the 500m but there are a small number of HELAA qualifying sites that fall within 500m, some of these already have planning permission. The HELAA qualifying sites are:
- SB0198, residential, 0 net dwellings, completed.
 - SB0183, residential, 8 remaining dwellings net, status: completed
 - SB0184, residential, 6 remaining dwellings net, status: completed
 - SB0285, 8 net dwellings, status: accepted at Stage 2
 - SB0419, 7 net dwellings, status: accepted at Stage 2
 - SB0389, 18 net dwellings, status: accepted at Stage 2

Map 7: 100m bands around the SAC, to 500m



Mode of transport		Burnham Beeches SAC	100m band around SAC
● no information (225)	● Car / van (523)		
● Bicycle (12)	● On foot (146)		200m
			300m
			400m
			500m

Map 8: 100m bands around the SAC, to 500m and frequency of visit by foot visitors



5. Management of recreation at Burnham Beeches

- 5.1 The City of London Corporation carefully manages access and carefully balances the need to provide for recreation with the management of the site for nature conservation. There are three car-parks (including the main parking area at Lord Mayor's Drive), a café, information hut and toilets and a range of trails through the site. Other infrastructure includes signage, interpretation, dog bins and litter bins. Rangers patrol the site and directly engage with visitors and there is also detailed visitor information available on the internet. A programme of events includes guided walks, 'meet the ranger' events etc. There is a volunteer group and a consultation group which involves the local community.
- 5.2 Over the years, key measures to manage and enhance access at Burnham Beeches have included the closure of the private roads that run through the site to control traffic, the introduction of conservation grazing to enhance biodiversity, control of mountain biking and the introduction of a 'honey pot' access policy (that focusses visitor activity on those parts of the site most able to accommodate the pressures).
- 5.3 The vision for the site, background to current management and management targets are set out in the Burnham Beeches Management Plan (Read 2010).
- 5.4 In this section of the report we summarise visitor data and consider recent management interventions in more detail. In particular we consider:
- The effect of car-parking charges;
 - The effect of the introduction of Dog Control Orders and Public Space Protection Orders ('PSPOs') primarily relating to dog fouling, dogs on leads and the number of dogs per person;
 - Other management.

Visitor numbers and types of access

- 5.5 There were an estimated 551,400 visits to Burnham Beeches in 2015/16 (Wheater & Cook 2016). These visits were made by an estimated 32,764 individuals (23,138 adults and 9,626 children) accompanied by 8,482 dogs. Around half (52%) of visitors arrive by car (Wheater, *pers comm.*).

- 5.6 Visit numbers have fluctuated over recent years and shown some changes in relation to management interventions. The numbers of dogs entering the site has shown a decline since 2010 (when the car-parking charges were first introduced).
- 5.7 The main activities taking place on the site (taken from Liley, Floyd & Fearnley 2014) are:
- Dog walking (56% of groups interviewed);
 - Walking without a dog (28% of groups interviewed);
 - Family outing (9% of groups interviewed);
 - Running (3% of groups interviewed); and
 - Cycling (1% of groups interviewed).
- 5.8 The relative proportions of different activities does vary slightly between different surveys, reflecting differences in survey locations, time of year, weighting of survey effort to different times of day etc.

Public Space Protection Orders ('PSPOs')

- 5.9 Dog control orders ('DCOs') were introduced at Burnham Beeches in December 2014, in line with a Dog Management Strategy produced for the site in that year. The DCOs were introduced to:
- Ensure a fair and proportionate balance between the needs of visitors so that all can enjoy the NNR;
 - Reduce the number of dog related incidents and complaints recorded each year;
 - Reduce the impact of dog control management on the resources available to manage the NNR;
 - Improve the welfare of wildlife and habitats, meeting the City of London's obligations under various legislations.
- 5.10 The national legislation relating to DCOs was repealed and replaced with Public Space Protection Orders ('PSPOs') and in line with the legislation, the DCOs at Burnham Beeches were converted to PSPOs in 2017. The PSPOs are as follows:
1. The Fouling of Land by Dogs (Burnham Beeches) Order 2017. This requires visitors to Burnham Beeches to remove dog faeces deposited by a dog for which they are responsible.
 2. The Dogs on Leads (Burnham Beeches) Order 2017. This requires visitors to keep a dog for which they are responsible on a lead of not

more than five metres in length. The order applies to specified parts of Burnham Beeches

3. The Dogs on Leads by Direction (Burnham Beeches) Order 2017. This requires visitors to put and keep a dog for which they are responsible on a lead of not more than five metres in length when directed to do so by an authorised officer. The order applies to a specified part of Burnham Beeches.
4. The Dogs Exclusion (Burnham Beeches) Order 2017. This excludes dogs from the café enclosure at Burnham Beeches.
5. The Dogs (Specified Maximum) (Burnham Beeches) Order 2017. This limits visitors to Burnham Beeches to four dogs per person.

5.11 Order 1 (fouling) and order 5 (four dogs per person) apply across the whole site. Order 2 (all dogs on leads) applies across the south-western half of the site, south of Haise Drive and Sir Henry Peeks Drive, while order 3 relates to the remaining (north-eastern) part of the site. The main car-park and café fall within the area covered by order 3. There is however a small fenced area around the café where dogs are excluded at all times (order 4).

5.12 The introduction of the orders has apparently resulted in a decrease in the numbers of dogs being brought to the site and a shift in the distribution of access within the site. The distribution of visitor footfall within the site are shown in Panter & Liley (2016) including presentation of route data collected using GPS units handed out to visitors. These data show a shift in access towards the north-east of the site, including Egypt, Fleet Wood and also around the Moat. There has been a reduction in footfall in areas such as the Dell, Lord Mayors, New Coppice Ponds and Stag, reflecting a focus in use away from the area where dogs are required to be on leads. The route data show a wide dispersal of visitors and a wide range of routes used.

5.13 City of London Corporation staff log all incidents, fines and prosecutions (see Table 1). The approach taken by the City of London is not a zero tolerance one, such that the majority of incidents simply result in a dialogue where the person involved is asked to put the matter right and provided with information or guidance from the ranger team. Formal investigation and further action are only taken where the person involved repeatedly breaks the rules or refuses to comply.

Table 7: Summary of annualised figures relating to PSPO/Dog Control Orders, adapted from report to Epping Forest & Commons Committee, 14th May 2018.

Incidents detail	2015/16	2016/17	2017/18
Total DCO/PSPO incidents	517	386	334
Order 1 - Fouling	11	11	7
Order 2 - Dogs off lead in the on-lead area	453	329	285
Order 3 - Dogs not under effective control in the off-lead area	46	30	27
Order 4 - Dogs taken into the dog free area	4	16	15
Order 5 - More than 4 dogs/person	3	0	0
Number of incidents resulting in a formal report/investigation	8	15	15
Number of formal action /letters written warnings issued	2	8	9
Number of Fixed Penalty Notices ('FPN's) issued	0	0	0
Number of FPN prosecutions	0	0*	1*

* Incident occurred in 16/17 - prosecution through magistrate court 2017/18

- 5.14 From the figures in Table 7 there is a general indication of a year-on-year reduction in the number of incidents - but this is not consistently the case. The data do show that despite the legislation in place there is a need for a strong ranger presence to further reduce non-compliance. The number of formal actions and fixed penalty notices is perhaps likely to increase with time as repeat offenders are increasingly identified over time.

Car-park charging

- 5.15 Car-parking is allowed at three car-parks only: the main car-park on Lord Mayor's Drive, and other car-parks at the Dell and the Stag. Gates to the car-parks are opened at 8am and they remain open until dusk. Car-park charges were introduced in August 2011 and increased in 2016 to the current level which is a daily charge of £3 per motor vehicle and £18 per coach, which applies on weekends and bank holidays with donations at all other times. Disabled visitors correctly displaying a valid blue badge are exempt. All revenue raised is used by the City of London Corporation for the management of Burnham Beeches.
- 5.16 Following the initial introduction of the charges there was a dip in the level of access, with numbers then appearing to stabilise before rising again. Numbers dropped again a little after the increase in parking charges. There has been a marked decrease in the number of dogs brought to the site following the introduction of parking charges.

Other management

- 5.17 The management of Burnham Beeches is in many ways exemplary, with carefully planned interventions set out in a detailed management plan and backed up by long-term monitoring data.
- 5.18 Other relevant management measures and interventions that relate to resolving issues from recreation and urban development to the SAC include:
- Mulching around the base of veteran pollards to protect the roots and minimise erosion;
 - 'Dead hedging' around sensitive trees, using brash to create obstacles to deter visitors from trampling too much in particular areas;
 - Fencing around certain very sensitive trees, such as the Druid's Oak;
 - Active management of pollards to prolong their life;
 - Encouraging the use of tarmac roads for cycling and walking;
 - Surfacing of paths (to encourage their use and reduce pressure on adjacent land);
 - Increased patrolling from Rangers (to assist and inform visitors);
 - Careful selection of grazing livestock (to minimise issues with visitors); and
 - Temporary and permanent signage to inform visitors about work being carried out and the impact of their activities.
- 5.19 Measures such as the mulching, dead headging and fencing provide some additional protection to vulnerable trees but are limited in scope. Mulching does not limit people accessing the trees, simply provides some protection to the roots. Dead hedging may deter some people, but is dependent on dead wood and brash being available and a lot of material is necessary to provide a ring around a tree. The old, gnarled trees do have a particular draw and visitors will always want to go right up to them.

6. Recommendations avoidance and mitigation measures for the SAC.

Introduction

- 6.1 Burnham Beeches is vulnerable to pressures from recreation and urban development, these will be exacerbated by other issues facing the site, including climate change. The previous sections highlight the range of impacts and show that, as a result of planned housing growth, recreation levels could increase by around 11%, in the absence of any mitigation. A relatively small proportion of this (a 2% overall change) relates to development in the emerging Chiltern and South Bucks Plan and overall around 4% of the increase is linked to development within Chiltern and South Bucks. Visitor management at Burnham Beeches over recent years has involved a number of interventions which help reduce the impacts, however these are not sufficient to absorb the impacts identified.
- 6.2 A strategic and plan led approach to protecting European sites from the impact of recreation is now widely recognised as being more effective than dealing with these impacts on a development by development basis. For example, educating visitors, reinforcing messages with site-based staff, and providing the right infrastructure to meet visitor needs and influence visitor behaviour cannot all be funded through an individual development. Mitigation for recreation pressure needs to be a multi measure approach, with measures working together in an integrated way (i.e. as a package of different measures) to give confidence that adverse effects can be ruled out.

Other sites and approaches

- 6.3 Burnham Beeches is not unique in facing these challenges; however, the small size of the site and its isolation mean it is particularly vulnerable. Many other European sites, including a range of SAC sites, have strategic mitigation approaches in place to ensure adverse effects on integrity from the cumulative in-combination effects of urban growth can be resolved. Notable and relevant examples include the Dorset Heaths, the Thames Basin Heaths, South Devon (including Dawlish Warren SAC), Cannock Chase and Ashdown Forest.
- 6.4 Perhaps of particular relevance to Burnham Beeches, given their nature conservation interest, are the New Forest, Epping Forest and Hatfield Forest.

Planning authorities around the New Forest have received funding from central government to undertake a major study (currently on-going) to identify how to resolve the issues of recreation from urban growth around the New Forest SPA/SAC. At Epping Forest SAC, adjacent planning authorities have signed a Memorandum of Understanding to progress a mitigation approach that will deliver a range of on-site management measures and potentially also new green space around the SAC. Hatfield Forest is not an SAC, but is a relatively small site with many ancient pollard trees. The National Trust (who manage the site) have been facing growing issues from recreation linked to urban development around the site and approaches to resolving these issues in the long-term are being explored with the relevant local authorities and Natural England (see Saunders *et al.* 2019 for background). These examples provide a range of useful background and potential approaches to resolving the issues identified at Burnham Beeches.

- 6.5 Examples of approaches used in other sites are summarised in Table 8 and some are also illustrated in Figure 10. In Table 8 we have listed the approaches under four headings: Infrastructure/SANG, Access Management, Education and Monitoring. SANGs are Suitable Alternative Natural Greenspace, a positive approach, providing an alternative destination and drawing visitors away from the European sites. Most strategic mitigation schemes simply split measures into Infrastructure/SANG and 'SAMM' (Strategic Access Management and Monitoring), with SAMM essentially covering all the non-infrastructure elements. The land and costs of maintenance of SANGs and new green infrastructure need to be secured in-perpetuity and this can be delivered by developers (e.g. as part of a single large development), through a local authority (potentially managing a site strategically and collecting revenue from different developments) or by a third party.

Table 8: Overview of some of the mitigation approaches at other sites

Infrastructure/SANGs	Access Management	Education	Monitoring
Improvements to other greenspaces to deflect access	Rangers/wardens/volunteer ambassadors on the European site	Community events	Visitor counts on greenspace sites and European sites
Provision of new semi-natural greenspaces to deflect access	New signage and interpretation	Guided walks	Interviews with visitors to greenspace and European site
Other infrastructure (e.g. BMX parks)	Path management/maintenance	School visits and education material	Path monitoring
	Changes to parking on European site (limiting verge parking, changes to car-parks etc.)	Dog project to work directly with dog walkers	Ecological monitoring
	Leaflets and orientation/way finding maps		
	Provision of marked routes		
	Codes of conduct		
	Vegetation management (e.g. to close desire lines or enhance routes)		
	Creation of refuge areas where no recreation use		
	Erosion control on paths etc.		



- a) Ranger employed by the Solent Bird Aware Project;
- b) Upton Country Park SANG;
- c) Dog bins on the Pebblebed Heaths;
- d) Dorset Dogs awareness raising event;
- e) Interpretation and viewing area on the Exe Estuary SPA;
- f) Dog training area at Upton Heath Country Park;
- g) Ranger employed by the Thames Basin Heaths Partnership.

Figure 10: Examples of mitigation and avoidance measures at other locations

Recommended mitigation and avoidance measures at Burnham Beeches

- 6.6 Drawing on measures implemented at other sites and discussion with both the City of London Corporation staff and South Bucks Council staff, we suggest the following as potential measures for a strategy. These measures would relate to any development coming forward within 5.6km, and may be necessary for large developments beyond 5.6km:

Presumption against development close to the SAC

- 6.7 Limiting new development adjacent to the SAC is a key measure and zone of 500 is recommended (see previous section).

Measures relating to increased footfall, erosion, general 'wear and tear'

- 6.8 With a potential 11% increase in access (4% from housing growth in Chiltern and South Bucks), impacts from footfall, erosion etc. will increase. This will mean additional management to simply maintain the existing infrastructure, let alone providing additional infrastructure. The following are mostly undertaken routinely/already by Burnham Beeches staff, but there will be additional work necessary as a result of further visitors:

- Path repairs and maintenance, including both easy access paths/surfaced routes and the rest of the path network within the site;
- Repairs to car-parking areas and internal tarmac road, with works including resurfacing and maintenance of edges etc;
- Management of entrances, with the multiple foot access points requiring checks and maintenance including path surfacing, kerbing, formalising/removing desire lines.

Dealing with litter and waste

- 6.9 Increased visitor use will mean a potential for greater levels of waste, for example with bins filling up more frequently. Litter collection draws staff time away from other work and has a nature conservation impact through contamination. These issues could be resolved through:

- Provision of dog waste bags, additional dog waste bins and additional dog waste collection, as required;
- Provision of funding to pay for some additional staff time for litter collection and dealing with fly tipping.

Interpretation and events

6.10 Raising awareness about the site and the issues relating to recreation is important and should involve influencing behaviour. Dog focussed events such as dog training, guided walks for dog walkers, creating dedicated dog projects have been successful at other sites. Potential measures at Burnham Beeches could include:

- Provision and maintenance of interpretation boards, potentially including regularly updated panels and messages about positive steps visitors can take to minimise their impact;
- Literature for visitors, including leaflets and orientation maps;
- Update/refresh of information point at the café – this is likely to be more effective if regularly updated, changed and up-to-date;
- Events, including those targeted at ‘new’ residents and groups such as dog walkers where particular concerns regarding impacts. Events can include dog training, guided dog walks, open days etc.
- SAC Engagement Ranger, an additional part-time post with a focus on visitor engagement, running events, talking to visitors and helping with the promotion of sustainable transport, enforcement of PSPOs etc.

Other aspects of increased visitor numbers

6.11 Specialist veteran tree management is undertaken to prolong the life of trees and regular checks are made for health and safety issues, where there may be risk to the public. Increased recreation may mean an increased need for interventions relating to particular trees, for example bark mulching around the base. Livestock are an important component of the management of the site and increased access can cause issues with grazing animals, for example through dogs off-leads or people approaching animals, feeding them etc. Potential mitigation work could include

- Targeted tree safety work and specialist veteran management where risks/issues from increased recreation;
- Livestock management, including more regular checks; replacement of individual livestock and liaison with visitors.

Monitoring

6.12 Monitoring is an important component of the mitigation and avoidance as it ensures any particular issues can be picked up quickly and resolved. Access patterns are not static and will change over time, for example different activities can become popular or types of visitor change. Changes can be

triggered by a range of factors, such as publicity, media promotion, social media, changes at other sites (e.g. car-park charges changed) etc.

Monitoring results can inform and update future mitigation interventions and allow a shift of resources to different elements. Key monitoring components are:

- Visitor numbers;
- Visitor feedback and interviews (including postcode data from interviewees);
- Route data within the site (i.e. where people go);
- Visitor behaviour (e.g. dogs on leads);
- Ecological impacts (potentially covering tree health and condition, soil sampling and condition, vegetation cover/wear and possibly some selected species, such as epiphytic lichens);
- Log of incidents, collected in a standardised way to allow comparison over time, covering fly-tipping, fires, illegal activity, fixed penalty notices relating to the PSPOs, cycling off-tracks, vandalism etc.

SANGs (Suitable Alternative Natural Greenspace)

- 6.13 SANGs work to create additional space for recreation, providing green infrastructure that can absorb increased recreation use without adding pressure to the European sites. SANGs provide recreation space for local residents and can be designed to draw recreation use that would otherwise occur on the European sites. SANGs work as part of a mitigation package, dovetailing with measures (such as access management on the European sites), which can help deflect damaging activities to the alternative destinations. As such SANGs cannot be relied on in isolation but can play an important role.
- 6.14 The ideal SANG-type approach could well be provision of land near the periphery of Burnham Beeches, providing a dedicated area for dog walking and further visitor facilities, essentially buffering the core part of the SAC. If managed by the City of London Corporation there could even be the scope for some redistribution of visitor facilities and infrastructure away from the SAC.
- 6.15 Such an approach would depend on suitable land becoming available. Recent evidence from the Thames Basin Heaths has suggested that SANGs are most effective with new residents, potentially indicating that once visitor patterns become established it is hard to deflect them (Allinson 2018). This places greater emphasis on the need for SANGs to be ‘up-front’ and this

creates a particular challenge. Any suitable land should be secured in advance and established as SANG prior to occupation of the development being mitigated for. A challenge for reliance on SANGs as strategic mitigation for multiple small developments is therefore confidence that suitable land in the right location would be available, could be acquired and it would need to be available for recreation use prior to occupation. As such, it may be necessary for an advance purchase as opportunities allow.

- 6.16 For large developments⁹, SANGs can be delivered by the developer at the development location, providing dedicated recreation space of suitable quality on the new residents' doorstep. In such cases the challenge is ensuring sites are of suitable quality (given the proximity to urban development) and size. There also has to be confidence that the sites can be secured and appropriately managed in perpetuity. Large greenbelt sites are likely to be best able to provide substantial areas of greenspace as part of a development.
- 6.17 Small sites and brownfield sites are unlikely to be able to accommodate the scale of space required for a SANG and would therefore have to make a contribution towards some strategic SANG provision. This would clearly depend on the opportunities available, and one option could be the enhancement of existing sites.
- 6.18 In the Thames Basin Heaths and other areas, new sites are provided at a rate of 8ha per 1000 new residents, equivalent to 0.0192ha per dwelling (assuming 2.4 occupancy). There is no reason to suggest any alternative rate of delivery would be more appropriate for Burnham Beeches. A key component of new greenspace will be the overall size, as interview data from Burnham Beeches suggests an average walk of 3.6km (Panter & Liley 2016); 30-40ha are likely to be the minimum overall size necessary to provide enough space for such a route.

⁹ Around the Dorset Heaths, developers of sites of around 50 or more dwellings are expected to deliver their own SANGs (see South-east Dorset LPAs 2016)

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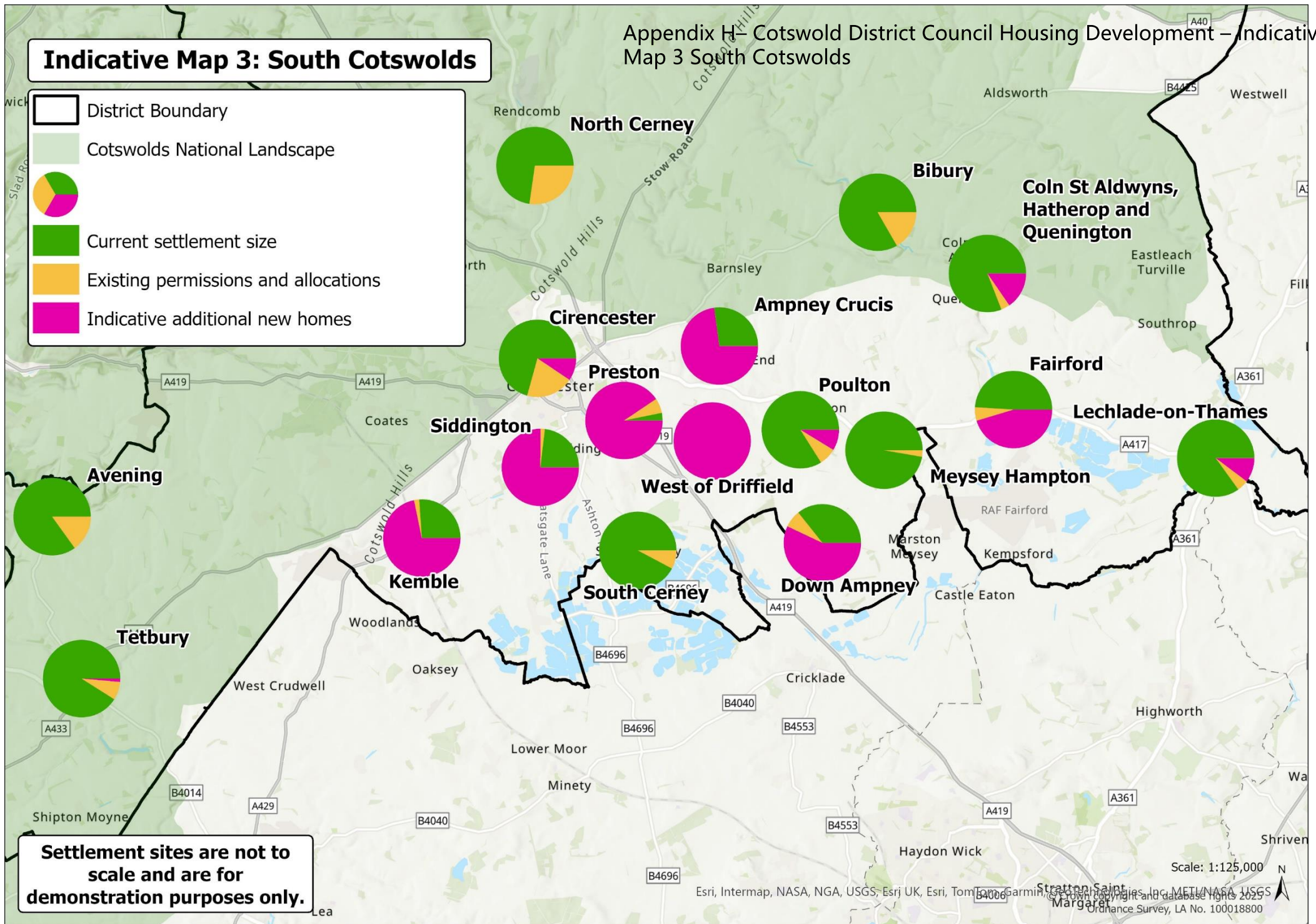
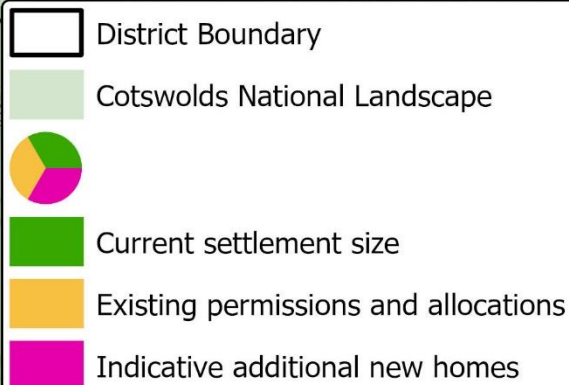
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Glossary

HELAA	Housing and Economic Land Availability Assessment
GIS	Geographic Information System (mapping software)
HRA	Habitats Regulations Assessment
SAC	Special Area of Conservation
SAMM	Strategic Access Management and Monitoring
SANG	Suitable Alternative Natural Greenspace
SSSI	Site of Special Scientific Interest

Appendix H – Cotswold District Council Housing Development – Indicative Map 3 South Cotswolds

Indicative Map 3: South Cotswolds



Settlement sites are not to scale and are for demonstration purposes only.

Wiltshire Council Planning Consultation Response

ECOLOGY

Officer name: Mary Holmes MCIEEM

Date: 26/02/2024

Application No: PL/2022/02452

Proposal: Outline application for the erection of up to 140 dwellings, a habitat support area and associated landscaping and works. Access not reserved.

Site Address: Land at Stones Farm, West Mill Lane, Cricklade, SN6 6JL

Case Officer: Joe Richardson

Recommendations:

☐	No Comment
☐	Support
☐	No objection
☐	Condition (no objection subject to conditions)
☒	Objection - further information required
☐	Objection in principle
☒	HRA to be completed

Further Information Required

	Issue	Policy/Legislative Compliance	Date information requested & Further information required	Satisfactorily addressed (Document & Date)
1.	Habitat Support Area	Habs Regs	26/02/2024 Submission of a costed management plan and confirmation that Natural England's National Nature Reserve Team (NNR) are happy to take on the responsibility of the Habitat Support Area.	Outstanding
2.	Ecological Parameters Plan (EPP).	W&C, Habs Regs	26/02/2024 An Ecological Parameters Plan must be submitted to clearly identify those areas of the site which are unconstrained, those areas where sensitive design or restrictions may be required. Further information below.	Outstanding

The outstanding document(s) listed above are needed to enable the council's ecology team to consider all the impacts and benefits of the proposed scheme. The council's ecologists will provide a further response once all the above information has been submitted via the case officer. **Please note: Any changes to the documents previously submitted must be highlighted, otherwise they will not be considered.**

Matters Considered:

Thank you for consulting me on the above application in relation to ecology. I have reviewed the submitted information against mapping (OS and aerial) along with photographs of the site and surrounding area, together with GIS layers of statutory and non-statutory designated sites and existing records of protected species.

The application is supported by:

Ecological Impact Assessment (Ethos, January 2022).
Shadow HRA and Habitat Support Area Strategy. V2. (Ethos, August 2023).
Planning Layout. Drwg. No. 824.06. First Issue (Newland Homes, November 2021).
Planning Statement (Vision Planning, March 2022).
Habitat and Landscape Strategy. Drwg no. 1379-04-P13. (David Wilson Partnership, 07/01/2019)
Landscape and Ecology Management Plan, Ethos Environmental Planning, March 2022
Biodiversity Net Gain Results (Ethos, March 2022)
Biodiversity Metric 4.0 Excel spreadsheet (Katie Munday, 25th July, 2023).
Arboricultural Impact Assessment (Barton Hyett, January 2022)
Landscape and Ecology Management Plan (Ethos, August 2023).

Ecological Parameters Plan (EPP)

All outline applications must be accompanied by an EPP to clearly identify those areas of the site which are unconstrained, those areas where sensitive design or restrictions may be required. An EPP should comprise:

1. A scaled drawing showing existing ecological features distinguishing between those to be retained, and those which will be lost e.g. hedgerows, trees, water features etc.
2. Specify the minimum distance from each feature to the footprint of development e.g. to curtilage of properties, car parks, roads.
3. Specify the buffer distance from light sensitive ecological features where the increase in lux levels will be zero or, if lux contours have been modelled, show contour lines for 1, 0.5 or 0.1 lux depending on the sensitivity of ecological features.
4. Identify where new habitats will be created on site, include minimum area in hectares or length in metres and habitat type.
5. Identify areas where habitat enhancement will be undertaken, include minimum area in hectares or length in metres and habitat type, e.g. defunct hedgerow to be grubbed up and replanted.
6. Provide stand-off distances to the footprint of development e.g. curtilage to properties, car parks, roads for each tree to be retained, sufficient to ensure the tree will survive throughout the operational phase without risk of it being removed for health and safety, loss of amenity or liability reasons.
7. Provide cross-sectional drawing to show profile of SuDs, ponds or wetland features to demonstrate there is adequate room for these features to have gently profiled sides and thereby maximise their biodiversity potential.

In addition, any areas of the site which are to be retained, remain undeveloped, enhanced, form part of the landscaping for the purposes of protecting and enhancing biodiversity and any areas to be used as compensatory habitat in line with the submitted ecology documents should also be marked up on the EPP.

The EPP will become an 'approved document' of any outline permission granted and any reserved matters application must be in compliance with the plan.

The Habitat and Landscape Strategy. Drwg no. 1379-04-P13. (David Wilson Partnership, 07/01/2019) could be amended in line with the above additional detail to cover the requirement for an EPP (see final comments at the end of this response).

Protected Habitats & Species

The site is located in within the Parish of Cricklade. The River Thames County Wildlife Site (CWS) runs adjacent to the northern boundary of the site, with North Meadows National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) located to the north of the River Thames. North Meadows SSSI comprises one of two SSSIs which make up North Meadow and Clattinger Farm Special Area of Conservation (SAC).

Ecology surveys were undertaken in 2016 to support an application which was eventually withdrawn. Ecology surveys for this 2022 outline application which includes an additional area to the north-west (total area of site is 17.6ha) have included habitats (walkover undertaken 2020 and an update habitat survey using UK Habs mapping undertaken in 2022). Habitats comprised three modified grassland fields intersected and bordered by hedgerows (hedgerows (H) 1-5) to the north-west and south-west. All hedgerows apart from H2 are stated as being likely important under the Hedgerow Regulations. All trees within the red line were assessed for potential roost features and 4 trees were classed as have a moderate potential. Three trees were located along the north-western boundary and one tree was located along hedgerow 3 (centre of the site running south-west/north-east. All four trees are to be retained away from development under the outline proposals.

Bat activity at the site was assessed during 2020 to be low-moderate, with ten species recorded with key activity areas along the western, southern and northern boundaries. Lesser horseshoe was the only Annex II species recorded but in low numbers on the static detector deployed along Hedgerow 1(south-west boundary). However, bat surveys in 2016 (as detailed in the Ecological Assessment (Ethos, November 2016)) recorded Bechstein's bats using Hedgerow 3 during August/September.

No badger setts were identified on or adjacent to the development site but signs of foraging/commuting were noted and a badger was seen commuting through the northern field during a bat activity survey in 2020.

Otter and water vole surveys undertaken in 2022 did not identify any signs of otter but likely water vole burrows were recorded along the River Thames corridor.

North Meadow and Clattinger Farm SAC

This is a speculative outline application, and the proposals are for up to 140 residential houses and associated infrastructure.

North Meadow and Clattinger Farm SAC is underpinned by North Meadow SSSI near Cricklade and Clattinger Farm SSSI near Ashton Keynes and Somerford Keynes. Both SSSI's lie within Wiltshire but are very close or adjacent to the Gloucestershire and Swindon boundaries.

North Meadow SSSI and Clattinger Farm SSSI are examples of lowland hay meadow. The grassland habitats present are on typical floodplain soils and very restricted in distribution, thus forming the basis for the SAC designation. North Meadow also contains a very high proportion of the surviving UK population of snake's head fritillary *Fritillaria meleagris*, a plant highly characteristic of damp lowland meadows in Europe and now rare throughout its range. The snake's head fritillary is also present at Clattinger Farm in lower abundance.

North Meadow is open to the public and includes almost 4km of designated pathways around the site to facilitate access, including the Reedbed Walk, the River Walk and the Willow Walk. In addition to these, the Thames Path, a 298km national trail, passes along the southern boundary of the SAC adjacent to the river. There is no official car park associated with North Meadow, but there is unrestricted on-street parking locally. North Meadow is also readily accessible on foot from the settlement of Cricklade.

The Clattinger Farm SSSI is managed by the Wiltshire Wildlife Trust. Access to the area is through a visitor centre and is carefully managed by the Trust. However, North Meadow is Common Land and can be accessed by the public throughout. The habitats at Clattinger Farm are not considered to be subjected to damaging recreational pressures at present. However, Natural England has highlighted that

growing visitor numbers in recent years have led to an increase in recreational impacts at North Meadow and considers that the increase in visitors is driven by increases in local population as well as an increased propensity to visit the countryside. As a result, an Interim Recreational Mitigation Strategy has been jointly prepared and agreed by Cotswold District Council, Swindon Borough Council and Wiltshire Council in partnership with Natural England (NE).

As the exact level and type of adverse recreational impacts on North Meadow NNR/SSSI has not been determined, it has been concluded, following the precautionary approach, that an Interim (5-year) Recreational Mitigation Strategy is the appropriate way forward. Data collected, as part of the monitoring elements of the Interim Recreational Mitigation Strategy will enable the approach to be reviewed after 5 years.

A visitor survey was commissioned by the Local Authorities (lead Authority – Swindon Borough Council) and undertaken in 2022/2023 identified two main user groups of the North Meadow NNR/SSSI: local, year-round users and those that come specifically to see the display of fritillaries during their flowering period. These data have been used to define two revised Zones of Influence (Zoi), based on visitor type and hence timing of visit during the year, with different levels of mitigation being appropriate to each.

The two zones are:

- Inner Zone (local users arriving on foot and by car all year round) is set at 0 - 4.2km from the boundary of the SAC.
- Outer Zone (fritillary visitors) is set at 4.2 - 9.4km from the boundary of the SAC.

Due to proximity of this application to North Meadow, it is located within the Inner Zone.

Within the Inner Zone (0 – 4.2km) and in line with the Interim Recreation Mitigation Strategy, all large scale developments (50+ residential/holiday units) will normally be expected to provide both on-site (Strategic Access Management and Monitoring (SAMMs)) and an off-site (Infrastructure Mitigation Projects (IMPs) and/or Suitable Alternative Natural Greenspace (SANG)). The Interim Recreation Mitigation Strategy stipulates that 8ha of SANG per 1000 people should be provided.

Natural England were engaged through their Discretionary Advisory Service (DAS) and several meetings have taken place (dates included: 27/01/2021; 17/06/2021 and 08/12/2021 as detailed in the aforementioned Planning Statement).

During one of the meetings between the applicant and Natural England, it was discussed that a SANG was not appropriate mitigation for this development; while it might be used by some local dog walkers, it was unlikely to be used by people driving some distance to see the fritillaries at North Meadow.

As a result, it was agreed that an on-site Habitat Support Area (HSA) would be created between North Meadow and the development to mitigate impacts of the development on North Meadows SSSI.

The Habitat Support Area proposed by Natural England has been designed to provide the following:

- An extension/recreation of the North Meadows habitat type, with fritillaries planted in the flood plain;
- Some elements of a SANG, e.g. an area for dog walking, but this will be a secondary purpose;
- Access from any residential development, with design measures to encourage new and existing residents to visit the support area rather than the North Meadow;
- Possible car parking, but location and design to encourage people to visit the support area and not North Meadow;
- The development would deliver biodiversity net gain requirements in excess of 10% but due to the mitigation required onsite surplus credits, Natural England have said that additional credits would not be able to be sold off.

The development is therefore proposing a Habitat Support Area of 8.3ha. This will include walking routes, woodland, neutral grassland, ponds and hedgerow planting. The Habitat Support Area will be created before any residential development commences.

To fund the package of mitigation required by the Interim Recreation Mitigation Strategy 2023 – 2028, in addition to providing the Habitat Support Area, all new relevant development within the inner zone of influence must pay a Strategic Access Management and Monitoring (SAMM) contribution of £323 per unit plus administrative charge for each legal agreement.

Shadow Habitat Regulation Assessment (HRA) and Habitat Support Area Strategy & Landscape and Ecology Management Plan

The Shadow HRA and Habitat Support Area Strategy ('the Strategy') provides detail on the management and maintenance of the HSA. The Landscape and Ecology Management Plan (LEMP) provides details of creation and management of habitats within the areas of public open space on site and does not focus on the habitat creation and management required within the Habitat Support Area.

The Strategy states that '*it would be practicable for the Natural England NNR team to manage the HSA. The NNR team are best placed to ensure that appropriate management is carried out and consistent visitor management is secured over the 80-year period.*' However, to date (26/02/2024) the LPA has not had confirmation that this has been agreed between the applicant and Natural England. Moreover, the Strategy also states that a costed HSA management plan will be prepared in conjunction with the management body and secured through planning condition as part of the granting of planning permission. Unfortunately, this does not provide the LPA with sufficient security to ensure the long-term survival of the HSA and this information must be provided upfront, i.e. before outline consent.

In summary, subject to submission of a costed management plan and confirmation that Natural England's National Nature Reserve Team (NNR) are happy to take on the responsibility of the Habitat Support Area and also the submission of either an updated Habitat and Landscape Strategy (see comments above) or a separate Ecological Parameters Plan, the LPA have no objection in principle to this development. Once the additional information has been submitted, the LPA must complete an Appropriate Assessment and consult Natural England.

Conditions to follow:

Ecologist	Date
Mary Holmes	26/02/2024

Date: 07 November 2023
Our ref: 447266
Your ref: PL/2022/02452



Joe Richardson
Case Officer
Wiltshire Council

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear Mr. Richardson,

Planning consultation: Outline application for the erection of up to 140 dwellings, a habitat support area and associated landscaping and works. Access not reserved.

Location: Land at Stones Farm, West Mill Lane, Cricklade, SN6 6JL

Thank you for your consultation on the above dated 22 August 2023.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Internationally and nationally designated sites

North Meadow & Clattinger Farm (SAC) and North Meadow, Cricklade Site of Special Scientific Interest (SSSI) & National Nature Reserve (NNR)

Habitats Regulations Assessment – Appropriate Assessment

The application site lies in close proximity to the River Avon SAC/SSSI and therefore has the potential to affect its interest features. European sites are afforded protection under the Conservation of Habitats and Species Regulations 2017, as amended (the 'Habitats Regulations'). In considering the European site interest, Natural England advises that you, as a competent authority under the provisions of the Habitats Regulations, should have regard for any potential impacts that a plan or project may have¹. The [Conservation objectives](#) for each European site explain how the site should be restored and/or maintained and may be helpful in assessing potential impacts.

On the basis of information provided, Natural England's advice is that this proposed development will require mitigation measures intended to avoid or reduce the likely harmful effects on a European site which cannot be taken into account when determining whether or not a plan or project is likely to have a significant effect on a site and requires an appropriate assessment (following the People Over Wind ruling by the Court of Justice of the European Union). For this reason, the proposed mitigation measures need to be formally checked and confirmed by your Authority, as the

¹ Requirements are set out within Regulations 63 and 64 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect a European site. The steps and tests set out within Regulations 63 and 64 are commonly referred to as the 'Habitats Regulations Assessment' process.

The Government has produced core guidance for competent authorities and developers to assist with the Habitats Regulations Assessment process. This can be found on the Defra website. <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

competent authority, via an Appropriate Assessment (AA).

Natural England notes that a shadow Habitats Regulations Assessment (HRA) has been produced by the applicant. As competent authority, it is your responsibility to produce the HRA and be accountable for its conclusions. We provide the advice enclosed on the assumption that your authority intends to adopt the conclusions of the sHRA to fulfil your duty as competent authority.

Natural England is satisfied with the proposed management prescriptions. We also welcome the provision of soil analysis data as evidence in support of the proposed grassland enhancement.

We are satisfied with the intention to graze the HSA as these fields are currently grazed and have a PROW route through them. Should this become impractical it will be acceptable to manage the area through mowing.

It is recommended that a planning condition is required securing a detailed management plan, to be submitted and approved by your authority and Natural England prior to commencement.

We advise that the following is secured through legally binding requirements:

- The setting up and installation/maintenance of the Habitat Support Area (HSA) infrastructure for the first 5 years
- A legal agreement to secure step in rights for the Council to manage the HSA which will be facilitated by a draw down sum equal to the annual maintenance cost
- A legal agreement to secure a suitable financial contribution to be available to the Council to defray any future legal costs of enforcing HSA management repairs

The Council is advised that the agreed Management Plan for the HSA will need to be updated and modified over the 80-year period. Natural England advise a steering group consisting of the authority, Natural England and the landowner should be established as part of the plan to agree proposed modifications.

The proposed visitor surveys should aim to confirm that new residents are using the HSA, if there are any snagging problems requiring action and also what the level of public access is and thus an indicative visitor capacity.

Please note that if your authority is minded to grant planning permission contrary to the advice in this letter, you are required under Section 281 (6) of the Wildlife and Countryside Act 1981 (as amended) to notify Natural England of the permission, the terms on which it is proposed to grant it and how, if at all, your authority has taken account of Natural England's advice. You must also allow a further period of 21 days before the operation can commence.

Landscape & Ecology Management Plan

Having reviewed the Landscape & Ecology Management Plan prepared by Ethos Environmental Planning, we have the following comments:

- We are satisfied with the proposed planting native tree mix. We advise that some locally distinctive native tree species (e.g. damson and bird cherry) are sourced and added to the mix at the 1% planting rate.
- With regards to SuDS, we advise a short drainage ditch parallel to control flows to the River Thames to slow run off and intercept silt before run off drains into the river.
- With regards to the proposed scrub planting, it is recommended that a simple fence is erected with a low density of whips, a sign saying 'tree planting area' and one or two stiles so that users can access the area if necessary without damaging the fence. The approach should allow for natural regeneration and ensure a good survival rate of whips to establish with limited intervention.
- The HSA site will require a perimeter fence with stock netting at a height suitable to ensure that most dogs remain in the HSA, with the exception being along the river frontage.
- With regards to the HSA grassland sward, it is advised that the indicators of success for the meadow grassland should be the establishment of finer grass species from the mix and an

agreed low level of invasive weed species (such as docks, teasels, ragwort etc) in the sward. The relevant species and level of cover should be detailed in the management plan and agreed with your authority's ecology team. Green hay may be available from the NNR from time to time.

- The compartments of the HSA should be simple and with clearly defined objectives relating to the types of suitable public use and the uses which are unsuitable. For example, responsible off lead access for dogs and quiet enjoyment of the countryside are desirable uses; whereas, fires, off road cycles and drone use are less desirable. We suggest that the HSA might be split into three compartments – neutral grassland, HSA east and HSA west.
- During the first 5 years, the contractor will have responsibility for the removal of any invasive non native plants in the ponds and SuDS.
- Any additional infrastructure installed in the HSA during its 80 years of operation by third parties (e.g. the Town Council) will remain the responsibility of that party, as will its removal should it fall into disrepair.

Other Matters:

Biodiversity and wider environmental gains

Development should provide net gains for biodiversity in line with the NPPF paragraphs 174(d), 179 and 180. It is anticipated that major development (defined in the [NPPF glossary](#)) will be required by law to deliver a biodiversity gain of at least 10% from January 2024 and that this requirement will be extended to smaller scale development in April 2024. For nationally significant infrastructure projects (NSIPs) it is anticipated that the requirement for biodiversity net gain will be implemented from 2025.

Further information on the timetable for mandatory biodiversity net gain can be found [here](#). Further general information on biodiversity net gain can be found [here](#).

The Government's [Biodiversity Metric](#) should be used to calculate biodiversity losses and gains for terrestrial and intertidal habitats and can be used to inform any development project. For small development sites the [Small Sites Metric](#) may be used. This is a simplified version of the [Biodiversity Metric](#) and is designed for use where certain criteria are met.

We advise you to follow the mitigation hierarchy as set out in paragraph 180 of the NPPF and firstly consider what existing habitats within the site can be retained or enhanced. Where on-site measures are not possible, provision off-site will need to be considered.

Development also provides opportunities to secure wider biodiversity enhancements and environmental gains, as outlined in the NPPF (paragraphs 8, 73, 104, 120, 174, 175 and 180). Opportunities for enhancement might include:

- Restoring/supplementing neglected hedgerows.
- Planting trees characteristic to the local area to make a positive contribution to the local landscape.
- Using native plants in landscaping schemes for better nectar and seed sources for bees and birds.
- Incorporating swift boxes or bat boxes into the design of new buildings.
- Designing lighting to encourage wildlife.

Natural England's [Environmental Benefits from Nature tool](#) may be used to identify opportunities to enhance wider benefits from nature and to avoid and minimise any negative impacts. It is designed to work alongside the [Biodiversity Metric](#) and is available as a beta test version.

Further information on biodiversity net gain, the mitigation hierarchy and wider environmental net gain can be found in government [Planning Practice Guidance](#).

Further general advice on other natural environment issues is provided at Annex A.

Should the proposal change, please consult us again.

If you have any queries relating to the advice in this letter please contact me directly.

Yours faithfully,

Kyle Conroy
Planning Lead Adviser
Wessex Area Team

Annex A – Additional advice

Natural England offers the following additional advice:

Landscape

Paragraph 174 of the [National Planning Policy Framework](#) (NPPF) highlights the need to protect and enhance valued landscapes through the planning system. This application may present opportunities to protect and enhance locally valued landscapes, including any local landscape designations. You may want to consider whether any local landscape features or characteristics (such as ponds, woodland, or dry-stone walls) could be incorporated into the development to respond to and enhance local landscape character and distinctiveness, in line with any local landscape character assessments. Where the impacts of development are likely to be significant, a Landscape & Visual Impact Assessment should be provided with the proposal to inform decision making. We refer you to the [Landscape Institute](#) Guidelines for Landscape and Visual Impact Assessment for further guidance.

Best and most versatile agricultural land and soils

Local planning authorities are responsible for ensuring that they have sufficient detailed agricultural land classification (ALC) information to apply NPPF policies (Paragraphs 174 and 175). This is the case regardless of whether the proposed development is sufficiently large to consult Natural England. Further information is contained in [GOV.UK guidance](#). Agricultural Land Classification information is available on the [Magic](#) website on the [Data.Gov.uk](#) website. If you consider the proposal has significant implications for further loss of 'best and most versatile' agricultural land, we would be pleased to discuss the matter further.

Guidance on soil protection is available in the Defra [Construction Code of Practice for the Sustainable Use of Soils on Construction Sites](#), and we recommend its use in the design and construction of development, including any planning conditions. For mineral working and landfilling separate guidance on soil protection for site restoration and aftercare is available on [Gov.uk](#) website. Detailed guidance on soil handling for mineral sites is contained in the Institute of Quarrying [Good Practice Guide for Handling Soils in Mineral Workings](#).

Should the development proceed, we advise that the developer uses an appropriately experienced soil specialist to advise on, and supervise soil handling, including identifying when soils are dry enough to be handled and how to make the best use of soils on site.

Protected Species

Natural England has produced [standing advice](#)² to help planning authorities understand the impact of particular developments on protected species. We advise you to refer to this advice. Natural England will only provide bespoke advice on protected species where they form part of a Site of Special Scientific Interest or in exceptional circumstances.

Local sites and priority habitats and species

You should consider the impacts of the proposed development on any local wildlife or geodiversity sites, in line with paragraphs 175 and 179 of the NPPF and any relevant development plan policy. There may also be opportunities to enhance local sites and improve their connectivity. Natural England does not hold locally specific information on local sites and recommends further information is obtained from appropriate bodies such as the local records centre, wildlife trust, geoconservation groups or recording societies.

Priority habitats and Species are of particular importance for nature conservation and are included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. List of priority habitats and species can be found on [Gov.uk](#). Natural England does not routinely hold species data, such data should be collected when impacts on priority habitats or species are considered likely. Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land, further

² <https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals>

information including links to the open mosaic habitats inventory can be found [here](#).

Green Infrastructure

Natural England's [Green Infrastructure Framework](#) provides evidence-based advice and tools on how to design, deliver and manage green infrastructure (GI). GI should create and maintain green liveable places that enable people to experience and connect with nature, and that offer everyone, wherever they live, access to good quality parks, greenspaces, recreational, walking and cycling routes that are inclusive, safe, welcoming, well-managed and accessible for all. GI provision should enhance ecological networks, support ecosystems services and connect as a living network at local, regional and national scales.

Development should be designed to meet the [15 Green Infrastructure Principles](#). The Green Infrastructure Standards can be used to inform the quality, quantity and type of green infrastructure to be provided. Major development should have a GI plan including a long-term delivery and management plan. Relevant aspects of local authority green infrastructure strategies should be delivered where appropriate.

GI mapping resources are available [here](#) and [here](#). These can be used to help assess deficiencies in greenspace provision and identify priority locations for new GI provision.

Access and Recreation

Natural England encourages any proposal to incorporate measures to help improve people's access to the natural environment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways should be considered. Links to urban fringe areas should also be explored to strengthen access networks, reduce fragmentation, and promote wider green infrastructure.

Rights of Way, Access land and National Trails

Paragraphs 100 and 174 of the NPPF highlight the importance of public rights of way and access. Development should consider potential impacts on access land, common land and rights of way in the vicinity of the development. Consideration should also be given to the potential impacts on the any nearby National Trails. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts.

Biodiversity duty

Your authority has a [duty](#) to have regard to conserving biodiversity as part of your decision making. Conserving biodiversity can also include restoration or enhancement to a population or habitat. Further information is available [here](#).

Appendix K - Section 106 monitoring provisions

Habitat Support Area

The Council covenants with the Owner to:

8. inspect the HSA within a reasonable period of having received notification from the Owner and/or the Developer under paragraph 3.2 of Schedule 7 of this Agreement
9. If appropriate following an inspection referred to under paragraph 1 above either:(
 - a) issue the HSA Completion Certificate; or
 - (b) issue a Remedial Notice
10. inspect the HSA in the event that a Remedial Notice is issued
- 11 . If a Remedial Notice is issued then the timetable for issuing the HSA Completion Certificate under this Deed shall be deemed amended accordingly in order for compliance of the Remedial Notice to be achieved and further inspections are to be carried out by the Council as appropriate
12. In the event that a Remedial Notice is not complied with within a reasonable period agreed with the Council then the HSA Completion Certificate shall not be issued until the Remedial Notice has been complied with to the reasonable satisfaction of the Council

Maintenance and Monitoring

13. For the five year period from issue of the HSA Completion Certificate and for the Maintenance Period to monitor the implementation and operation of the HSA in accordance with HSA Management Plan by a suitably qualified ecology and environmental management professional by way of periodic physical visits to HSA and/or by remotely surveying and reviewing the Monitoring Reports that will be submitted by the Owner and/or the NNR Team and/or the NGO and/or the Management Company, as applicable and in accordance with the HSA Management Scheme
14. If following receipt of a Monitoring Report or at any other time during the Maintenance Period, it appears to the Council that the HSA Management Scheme has not been complied with, including but not limited to non-compliance as a result of works undertaken by statutory undertakers, to notify the Owner/NNR

Team/NGO/Management Company (as applicable) to that effect with such notice to specify remedial actions and timeframes within which the Owner need to remedy any defects.

HSA Bond

15. To review any submitted HSA Bond Estimate and to respond to the Owner within 10 Working Days from submission whether it approves it or not.

16. In case the Council disputes the HSA Bond Estimate to provide reasons and serve the Council's Dispute Notice and the Council's Further Dispute Notice within 10 Working Days from receipt of the HSA Bond Estimate and the Owner's Response respectively

17. After the service of the Council's Further Dispute Notice and in case of dispute, the Council may request, within ten (10) Working Days from the date of the Council's Further Dispute Notice (or other extended timeframe as agreed with the Owner in writing), that the matter be referred for determination by an Expert

18. On completion of the second (2nd) anniversary of the issue of the HSA Completion Certificate, and subject to the Council being satisfied that the relevant Monitoring Report does not reveal any remedial works to reduce the HSA Bond value by 40 per cent (40%)

19. On the fifth anniversary (5th) of the issue of the HSA Completion Certificate and subject to the Council being satisfied that the relevant Monitoring Report does not reveal any remedial works to release the HSA Bond value by a further 40 per cent (40%) of the original value

20. On the tenth anniversary (10th) of the issue of the HSA Completion Certificate and subject to the Council being satisfied that the relevant Monitoring Report does not reveal any remedial works to release the HSA Bond in full

Default Notice - Step-in Rights

21. Without prejudice to the exercise of their statutory rights under this Deed or otherwise, if a Default Event occurs, to notify the Owner of

21 .1. the reasons for alleging non-compliance;

21 .2. the steps it proposes the Owner should take to remedy any breach or noncompliance, and

21 .3. the reasonable time limits for the Owner to take these steps;

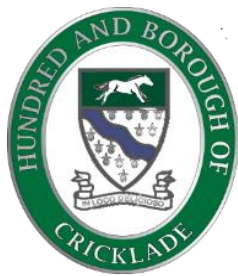
22. Where it serves a Default Notice (or the Expert determines that the Owner should take any steps within a specified time limit), it may notify the Owner of any extension of time specified in the Default Notice or Expert's determination, as it considers appropriate (in its absolute discretion);

23. In the event that the Owner fails to comply with the Default Notice the Council may (using its agents, contractors with and without workman and equipment) at any time after expiry of the said period:

23.1. enter the HSA and other land in the Owner's control needed to access the HSA to exercise the Step-In Rights on the HSA and

23.2. recover their relevant Step-In Costs from the HSA Bond

24. The provisions in this paragraph are additional to and are not intended to and do not in any way fetter or prevent the Council from exercising its statutory powers in relation to any breach of the obligations in this Deed or from enforcing the other provisions of this Deed.



Cricklade Court Leet

The Manorial Court for the Hundred and Borough

Nick Squirrell
Conservation and Planning Lead Advisor
Wessex Area Team
Natural England

25 May 2022

Dear Mr Squirrell,

Newland Homes Planning Application PL/2022/02452 Land at Stones Farm

We have read your letter to Wiltshire Council with great interest and are somewhat reassured by the advice you have provided.

We note, however, you did not ask for further work on the impact of the planning application on the sensitive hydrology of North Meadow SAC. This was raised as a concern in Natural England's comments on the 2017 planning application dated 9th February 2017 which stated, "*Further information is needed to demonstrate that the development would not result in any changes to water quality or water levels on North Meadow.*"

The current application proposes a SuDS scheme to control and filter the runoff from the 6 hectare impervious development before discharge into the River Thames next to North Meadow SAC. I attach 2 maps showing the location of the proposed Habitat Support Area and SuDS pond in relation to the wider landscape of the North Meadow SAC floodplain. It is difficult to see what support the HSA provides which is not already provided by the existing agricultural fields.

North Meadow is hydrologically linked to the river Thames by an underground gravel aquifer approximately 1 m below the surface and directly when the river Thames overtops its banks during periods of flooding (see attached picture looking towards the development which is on the left).

The Flood Risk Assessment and Drainage Strategy has focused solely on managing the runoff from the development and potential flood risk to domestic property. No consideration has been given to the impact on North meadow SAC. Can I suggest the following concerns still need to be addressed as the fresh water drains discharge directly into the North Meadow floodplain:

- The potential for all manner of chemical contaminants to be introduced into the freshwater drains from a 140 house development (albeit illegally) is not an insignificant risk. Many of pollutants are very persistent in the environment and accumulate over time. Can we be sure this is an appropriate solution for this development? Are there any alternative outfall locations which would pose a lower risk to North Meadow SAC?
- Maintenance of SuDS schemes is essential for the removal of contaminants. Poor maintenance is a known issue with this type of scheme. Can we be sure that maintenance will be carried out effectively in perpetuity? This seems a big risk next to such a sensitive site.

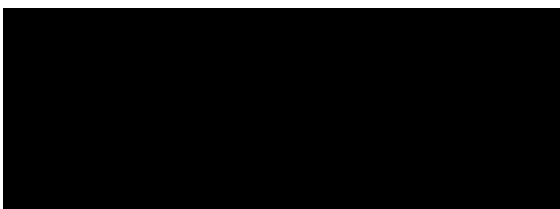
- North Meadow has been too wet and has suffered from ponded water in recent years. This has also resulted in excess nutrient deposition. Considerable work has been and is still being done to the surrounding and downstream ditches over the last 5 years to alleviate this problem. Can we be sure this development and the SuDS scheme will not adversely affect the North Meadow water levels negating the recent remedial actions?
- The rather ill-defined management of the HSA could result in contaminants reaching North Meadow via run off. Will there be adequate control over the use of nitrates, phosphates, herbicides, and pesticides? The use of seed mixes to increase biodiversity could transfer alien species seed to North Meadow SAC.
- Natural England has recently put great emphasis on Nutrient Neutrality around sensitive sites. Nutrient levels are high on North Meadow SAC. Should this be considered for North Meadow SAC, and would this scheme comply?

There is one quite important factual error in your advice, you quite rightly say the development is in easy walking distance from North Meadow SAC, but the houses are less than 400 m away not 630 m as stated in your letter. The nearest house is only 280m away. Mitigating for increased recreational pressure so close to a sensitive site is, as I am sure you are aware, extremely difficult if not impossible. This has led some Councils to introduce a 400m development exclusion zone around SACs.

We also remain very concerned about the effectiveness of mitigation by increased warden presence. North Meadow SAC is CRoW access land, which is accessible 24 hours per day, 365 days per year. It is used year-round mainly by dog walkers from dawn to dusk. It is impractical for a warden to be present for most of the time, a full-time warden permanently on site would only cover 30% of daylight hours. The warden cannot refuse access, at best they can encourage people to stick to the paths and keep their dog on a lead. This will not prevent an increase in visitors to North Meadow SAC.

We are very keen to ensure North Meadow SAC is not adversely affected by this development and would be grateful if you would consider these concerns in your future deliberations.

Yours sincerely,



John Barratt
Court Hayward

Copy to:
Lee Burman Wiltshire Council Case Officer
Bob Jones Wiltshire Councillor Cricklade and Latton
Clive Smith High Bailiff

Cricklade Court Leet Charity, a Charitable Incorporated Organisation registered in England,

Registered Charity No. 1179807,

Registered Office 19 Manor Orchard Cricklade SN6 6EA

The Manorial Court of the Hundred and Borough of Cricklade

www.crickladecourtleet.org.uk

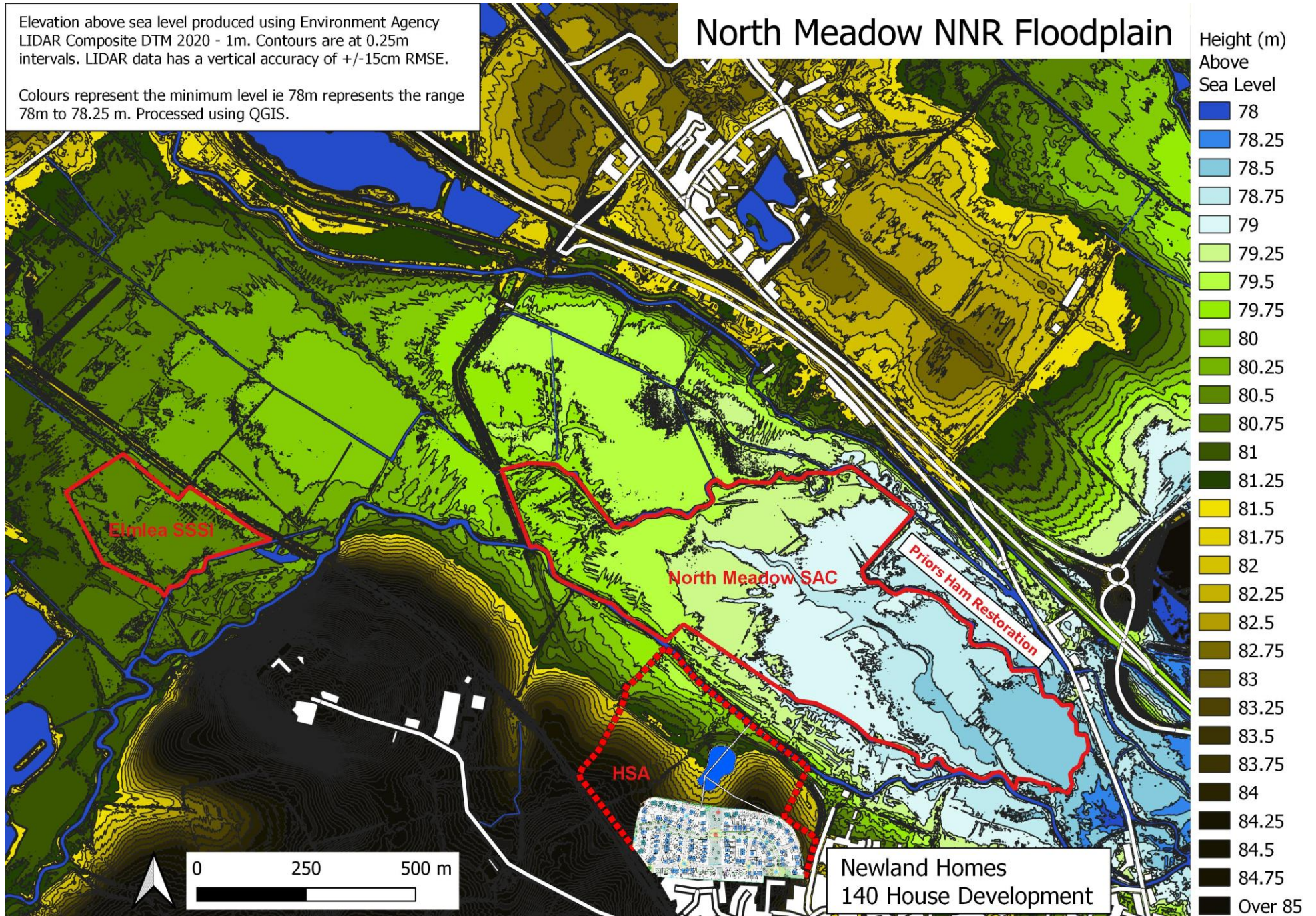


North Meadow in Flood 4th February 2021

Elevation above sea level produced using Environment Agency LIDAR Composite DTM 2020 - 1m. Contours are at 0.25m intervals. LIDAR data has a vertical accuracy of +/-15cm RMSE.

Colours represent the minimum level ie 78m represents the range 78m to 78.25 m. Processed using QGIS.

North Meadow NNR Floodplain



Newland Homes Drainage Plan

