Ecological considerations in relation to the proposed allocation for 300 houses on land adjoining Odd Down.

1. Introduction

Detailed ecological surveys of land adjoining Odd Down have been carried out throughout this year and are continuing. The surveys, which were scoped by Kestrel in consultation with Natural England and B&NES, covered land on the plateau which was identified as a broad strategic location for housing in the Proposed Changes 2013, B&NES Core Strategy. The interim results of these surveys across the whole plateau are presented in Appendix 1. The results are illustrated in Figures 1 to 9 in Appendix 1.

More recently, the Council have signalled their intention to propose further changes to the Core Strategy by way of the allocation of land to accommodate 300 homes and associated local employment on land adjoining Odd Down. This new ecological survey data has therefore been used to assist in the identification of the most appropriate area for such an allocation. In compiling this report and recommendations, Kestrel has been directed to Core Strategy Policy B3A land adjoining Odd Down.

2. Summary

Surveys have shown that the arable fields to the east of Sulis Manor are of lower ecological sensitivity compared with other parts of Odd Down plateau. A proposed allocation for up to 300 residential homes and associated infrastructure with links to the nearby business units and to Odd Down could be accommodated in this location with minimal impact on biodiversity, and no adverse impacts on the greater horseshoe bat interest of the Bradford on Avon SAC.

The residual impacts are low, and largely confined to the loss of breeding habitat for skylark. A suitable mitigation site has been identified nearby; this is in secure ownership and can be delivered in the appropriate timescale and managed specifically for skylark.

The principles for biodiversity mitigation and enhancement for this scale of development have been set out and can be secured through an ecological mitigation and management scheme.

3. Ecological factors influencing allocation

Broadly speaking, the ecological interests of the surveyed area at Odd Down increases as you move towards the southern edge of the plateau and westward across the plateau. (see Interim Results 2013). The larger arable fields on the eastern part of the plateau are of lower ecological sensitivity than the fields to the west of Sulis Manor and Sulis Manor itself. However, in seeking to allocate an area capable of accommodating 300 homes, it has not been possible to avoid all

ecological impacts as these arable fields are of recognised value for Skylark (see Figure 3). Bird surveys showed up to 4 pairs attempting to nest on the arable fields to the east of Sulis Manor/ Sulis Meadows, however successful breeding is likely to be compromised by disturbance from local dogs using public and permissive footpaths. In the light of this, a suitable undisturbed mitigation site of comparable size has been identified in the South Stoke valley for this species.
An allocation site located to the east Sulis Manor and Sulis Meadows is considered to be the area of lowest ecological sensitivity on the plateau. Such a location would:

a. Avoid impacts on existing bat commuting routes and foraging areas for greater and lesser horseshoe bats, thus safeguarding the integrity of the Bradford upon Avon SAC. (See Figures 4 and 5).
b. Avoid the main areas for reptiles (slow worms and common lizards) along the southern and western margins of the plateau (See Figure 8).
c. Avoid direct impacts on badger setts and minimise disruption to their foraging areas (See Figure 6).
d. Avoid impacts on species rich hedgerows on the plateau (See Figure 2).
e. Maintain habitat connectivity along the southern margin of the site.

A new access road running across the north eastern part of the plateau, from the Cross Keys junction to the proposed allocation area, would be similarly located in an area of low ecological sensitivity. Such a road could eventually allow the existing access road from South Stoke Lane to the business units, to be closed to vehicular traffic. This will protect and enhance the tree corridor and hedgerow along the existing access route, which is a known bat flyway and enhance habitat connectivity along the southern margin of the site.

4. Policy considerations

The emerging site specific policies relating to ecological interests at Odd Down are set out in Policy B3A of Draft Core Strategy, these are:

Point c) Green infrastructure:

The Wansdyke SAM, whilst being of limited ecological interest does provide a green corridor along the northern boundary. Its enhancement to provide improved biodiversity connectivity as part of the Wansdyke Heritage Greenway is identified in policy through the Green Infrastructure Strategy 2012. Such enhancement could be provided through appropriate grassland management including creating pockets of wildflower meadows, suitable for reptiles and invertebrates. Tree planting could be confined to land immediately adjoining the development thus creating an open linear park that enhances the setting of the Wansdyke.
Similarly, along the southern and eastern boundary of the arable fields, wide tree plantations are well established and supplement more mature trees on the edge of the plateau. These tree belts are a main bat commuting route, whilst the sheltered stone walls and track along the southern edge of the plateau is one of the main sites for reptiles.

The two corridors identified are already well used by local people; retention and enhancement of these areas for biodiversity will complement public access and use of the area.

Point d) Addressing potential ecological impacts:

- **Bradford on Avon and Mells SAC bat interests.**

The 2013 bat surveys have shown that the greater horseshoe bats use the southern margins of the site as a flyway and commute from east to west shortly after sunset. They follow existing tree lines and hedgerows, filtering through the young tree plantations along the southern edge of the site occasionally foraging on route, but moving rapidly westwards (presumably to forage in the fields and woodland to the west of South Stoke valley). These flyways will be retained and enhanced by careful management of the existing plantations.

A key feature of greater horseshoe bat behaviour is that they avoid lit areas preferring to fly along dark, sheltered corridors. The southern part of the proposed development site will remain unlit with light levels below 1 Lux, to protect the greater horseshoe bat flyway. This can be achieved through a combination of careful lighting design and the use of light barriers (fencing and dense shrub planting) to minimise light spill for example from vehicle headlights.

These avoidance and mitigation measures are designed to safeguard the bats and the integrity of the SAC.

Other bat species regularly use the margins of the site, for example lesser horseshoes forage along the hedgerows to the west of Sulis Manor, and these marginal habitats will be retained. Very little bat activity was recorded over the proposed development site as it is too open and exposed for insects, although pipistrelle bats were recorded foraging along the Wansdyke on still, warm evenings.

Two bat roosts were identified; a single long eared bat was recorded emerging from one of the redundant farm buildings on the south eastern corner of the site, and a small breeding roost of long eared bats was identified in the neighbouring open shed. These buildings adjoin the existing business units and could provide employment opportunities in the future. If so the bat roost could be retained in situ by creating a dedicated bat loft in the roof of the shed, providing a secure breeding site in the long term.

- **Other priority species.**

The following protected / priority species were recorded on the plateau: reptiles (slow worms and common lizard), badgers and seven bird species of conservation concern. Surveys showed that the plateau is of limited interest for invertebrates and none of the species recorded are of regional or national importance, while the

botanical survey recorded four species of arable weeds that are local or uncommon in the Bristol area.

The proposed allocation was informed by these considerations. Ecological interests are thereby avoided or minimised by careful consideration of the proposed location of development on this part of the plateau and residual impacts are confined to skylark, which would be displaced by the development, low populations of slow worms and invertebrates in the field margins and stone walls within the proposed site.

Any development proposals in this part of the plateau would be accompanied by an **ecological mitigation strategy and enhancement scheme** (usually known as a LEMP). The following key principles would be adopted in the LEMP:

i) Provision of suitable mitigation for skylarks: A suitable site has been identified in South Stoke valley. This is shown in Appendix 2 and is within the ownership the Hignett Family Trust. Rowley Top is an elevated open field that is in permanent grassland. In the longer term, grazing management can be put in place to create optimal habitat for breeding skylarks. The field has the added advantage of being more remote and therefore undisturbed by dogs.

ii) Translocation of reptiles from the proposed site in advance of development.

iii) Site clearance outside of bird breeding season

iv) Protection and enhancement of bat flyways including woodland management and lighting design

v) Retention of known bat breeding roost within the redundant farm buildings

vi) Biodiversity enhancement measures along the green corridor to the north of the proposed location (along the Wansdyke)

vii) Long term management and biodiversity enhancement of the retained southern green corridor to the south of the proposed site.

5. Conclusions

Surveys have shown that the arable fields to the east of Sulis Manor are of lower ecological sensitivity compared with other parts of Odd Down plateau. A proposed allocation for up to 300 residential homes and associated infrastructure in the arable fields east of Sulis Manor and Sulis Meadows, together with links to the nearby business units, could be accommodated in this location with minimal impact on biodiversity, and no adverse impacts on the greater horseshoe bat interest of the Bradford on Avon SAC.

The residual impacts are low, and largely confined to the loss of breeding habitat for skylark. A suitable mitigation site has been identified nearby; this is in secure ownership and can be managed specifically for skylark.

The principles for biodiversity mitigation and enhancement at this location have been set out and can be secured through an ecological mitigation and management scheme. The opportunities for the development of Green Infrastructure linked to existing features will enhance biodiversity and connectivity.

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October 2013

APPENDIX 1: ODD DOWN PLATEAU 2013 PRELIMINARY RESULTS

General methodology

All surveys were, and are being carried out following the methodologies outlined in our "Ecological Baseline and Scoping Report" (KWC 2013a).

Habitats

Odd Down is an open plateau on calcareous soils and consists of 7 arable fields, currently sown to winter barley, these are intensively managed and of limited ecological value.

The fields are bounded by a mixture of mature hedgerows, fences, gardens and dilapidated stone walls with some mature trees, scattered scrub, marginal coarse grassland and ruderals. The Wansdyke (a SAM) runs along the northern boundary this consists of an earth bank supporting coarse grassland, patches of nettles and bramble scrub.

In the south western part of the site there is a rectangular field, once the local cricket pitch, now overgrown with tall, semi- improved grassland and herbs. This field adjoins modern farm buildings around a concrete yard with small areas of with improved grassland and young broadleaved trees. A road and farm track runs along the southern boundary of the site with a species rich hedge bank alongside sections of the track, particularly near Sulis Manor. There is a long narrow field to the south of the track which lies between the track and the adjoining broad leaved woodland on the scarp slope to the south. This field is dominated by nettles with scattered scrub.

A series of tree plantations have been established over the last 15 years along the southern boundary of the fields and across the middle of the site running from west to east. These consist mainly of young ash with occasional beech, pines, cherry, self seeded sycamore and Dogwood. The triangular field on the western edge of the site is designated as a SNCI and forms part of the old Fuller's Earth works. Until recently the field was overgrown supporting semi- improved, rough grassland and bramble scrub but has recently been returned to arable farmland.

The main habitats are shown on pages 5 & 6, and are described in more detail in KWC (2013a).

Birds

Details of the bird surveys carried out can be found in KWC (2013b).

Our surveyors found that twenty-five bird species are likely to be breeding within the site boundary. Of those, seven species of conservation concern have been identified as key species present at this site in the breeding bird season. Their distribution can be seen on page 7.

Of these 7 species, only the skylark (*Alauda arvensis*) has been confirmed breeding over the open fields to the east of the site; surveyors estimated that up to 4 pairs could have been present during their surveys.

Of the remaining six key species, four are likely to breed there; common whitethroat, dunnock, song thrush and possibly starling. These birds are strongly associated with hedgerow and scrub habitats and, in the case of the song thrush and starling, also with trees.

Bats

The bat activity recorded so far shows that, all species considered, most bat activity is around the perimeter of the eastern half of the site, and more evenly distributed across the western sector. Nevertheless, bat activity generally increases from the northern side to the southern side of the site, and also from the eastern to the western side of the site. The areas most frequently used by bats include the plantations along the access road and track running along the southern edge of the site.

As would be expected, common and soprano pipistrelles dominate the bat fauna, with good numbers of serotines also encountered across the site. Greater and lesser horseshoe bats were encountered mainly commuting along the southern edge of the site, and associated plantations and shelter belts. However, occasional encounters with both species were also made outside of these areas (see pages 8 & 9).

Walked transect and static logger information showed that greater and lesser horseshoe bats are using the commuting routes along the southern edge of the site throughout the year, and the main observation is that of an E to W movement of bats soon after sunset. It can be difficult to determine foraging behaviour in these species, as they do not produce a "feeding buzz". However, repeated encounters along specific areas of the site indicate that bats are spending more time in those areas than they would need if they just travelling through, and it is likely that they also forage in these areas

We recorded two areas (one each for each species) where horseshoe bats were observed foraging;

- 5 perch-feeding sites (total across three encounters) were identified along the southern edge of the plantations in the western sector of the site, which were used by greater horseshoe bats in late summer,
- and one foraging area used simultaneously by at least 5 lesser horseshoe bats, for at least 30 minutes, on one occasion in early summer, along the western edge of the cricket pitch.

Long-eared, myotid and noctule bats were recorded occasionally on site, with the latter only indentified in the earlier parts of the year (from walked transect data) flying across the site over the western sector. We have yet to finish the static logger analyses, so this may change in due course.

Pipistrelle bats and the occasional myotid bat were the key species identified flying along the Wansdyke, with one encounter with a lesser horseshoe found foraging just along the eastern edge of the school, in a sunken footpath. (see page 9).

No tree roosts were found, but an individual long-eared bat was recorded roosting in one of the farm buildings, and a breeding roost for that species (2 flying juveniles identified) was found in another of the farm buildings.

Badgers

Badger activity was recorded throughout the site, with numerous feeding signs and badger pathways recorded during our surveys. One main and one subsidiary sett have been identified on site. These can be seen on page 10). Another main, and subsidiary setts, have also been recorded in the western half of South Stoke Valley (outside the site boundary). Badger survey work is continuing and the areas immediately below the Millenium viewpoint, will be mapped once the vegetation has died back.

Dormice

The transects of dormouse tubes set out across the site can be seen on page 11. So far, no dormouse activity has been recorded on site.

Reptiles

Reptile surveys were carried out in two phases in 2013. Tiles were laid across the whole site in spring, but following removal of the tiles on part of the site the surveys on the western half of the site were re done in late summer.

The main reptiles found on site were slow worms, these occurred around the boundaries of the site and along the dividing hedge banks and stone walls , with a strong population along the stone wall adjoining Combehay lane on the western boundary of the site. Good numbers of common lizards have also been found along the extreme western edge of the site with a few populations next to the track along the southern edge of the site . Both slow worms and common lizards show a patchy distribution across the site (see page 12), possibly due to the gradual fragmentation of their habitats, and reduced connectivity between the latter, over the years.

One grass snake was recorded during our surveys, but we have also collected anecdotal observations of more grass snake and adder activity in the locality.

Invertebrates

Fourteen key areas for invertebrates were identified during the assessment. These can be seen on page 13, and are detailed in KWC 2013c.

A total of 40 invertebrate species was recorded, of which none were of national or regional significance.

The main value of the site for invertebrates is associated with linear features including the hedgerows, woodland edge habitat, stone walls and rides/footpaths. These create a mosaic of open and sunny conditions for basking insects, alongside more sheltered areas of longer vegetation, as well as a variety of larval food plants and nectar plants.

Bibliography

Kestrel Wildlife Consultants Ltd. 2013a. *Odd Down, Bath: Ecological baseline and Scoping Report*. Draft v2 dated 01/08/2013.

Kestrel Wildlife Consultants Ltd. 2013b. *Odd Down, Bath: Breeding Bird Survey May-July 2013.* Draft v1, dated 20/07/2013.

Kestrel Wildlife Consultants Ltd. 2013c. *Odd Down, Bath: Invertebrate Assessment July 2013.* Draft v1, in prep.

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10th October 2013.

Figure 1: Site/survey red line boundary

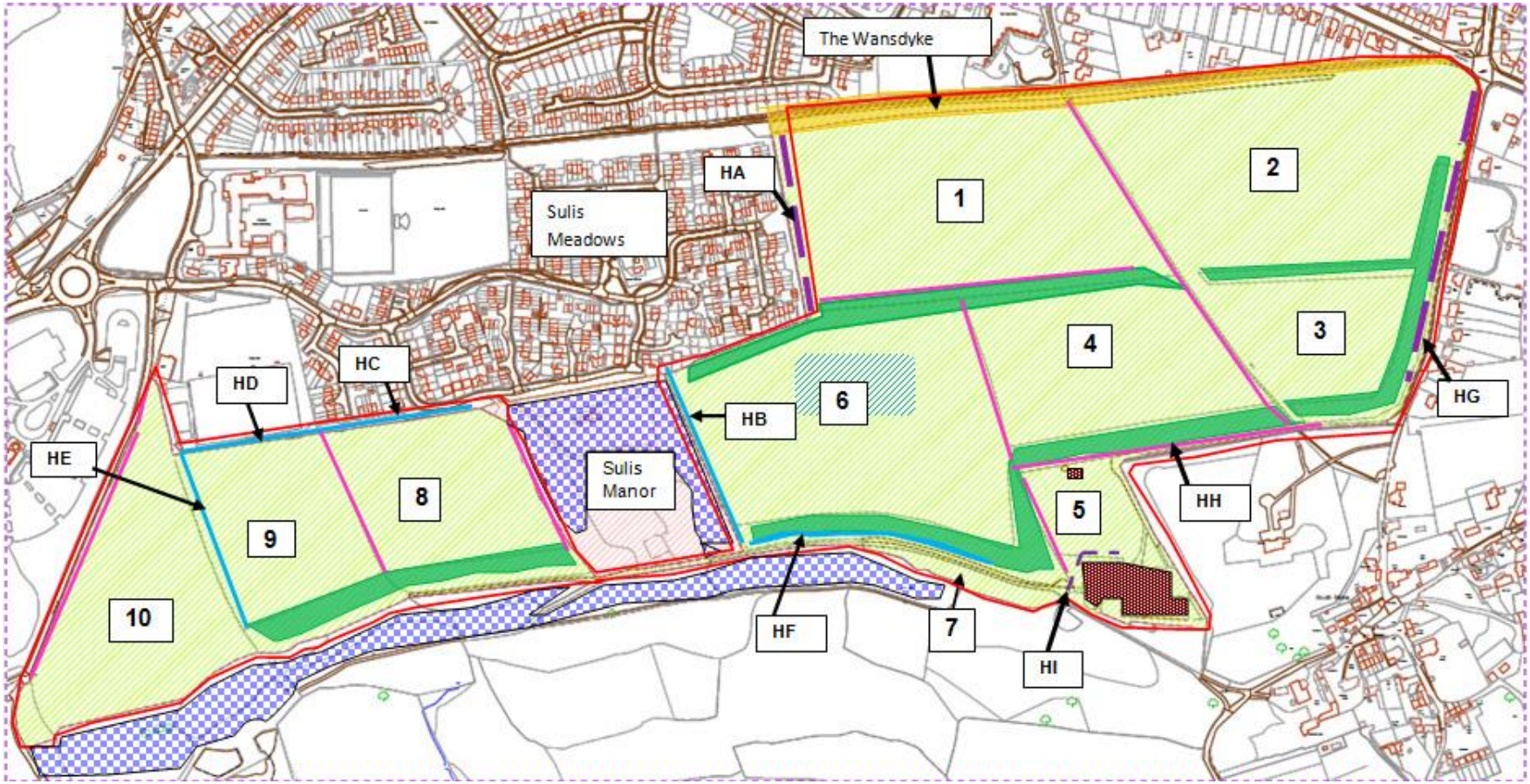
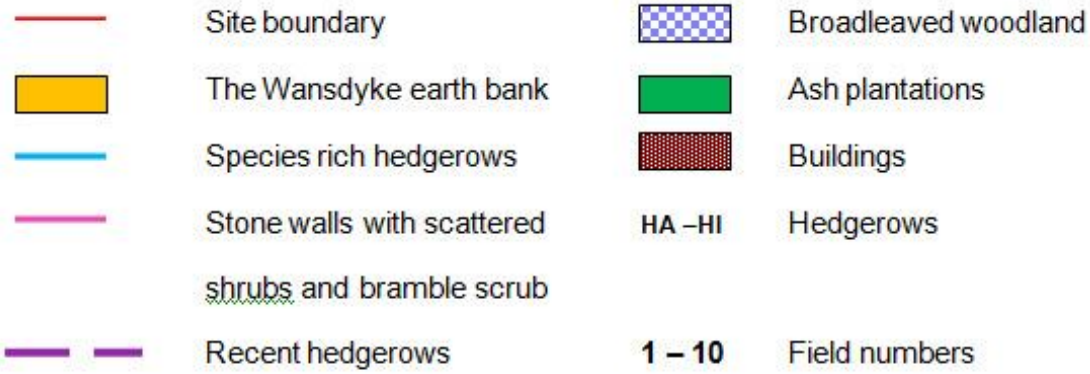


Figure 2: Habitats

Please see key overleaf.

Key to habitats



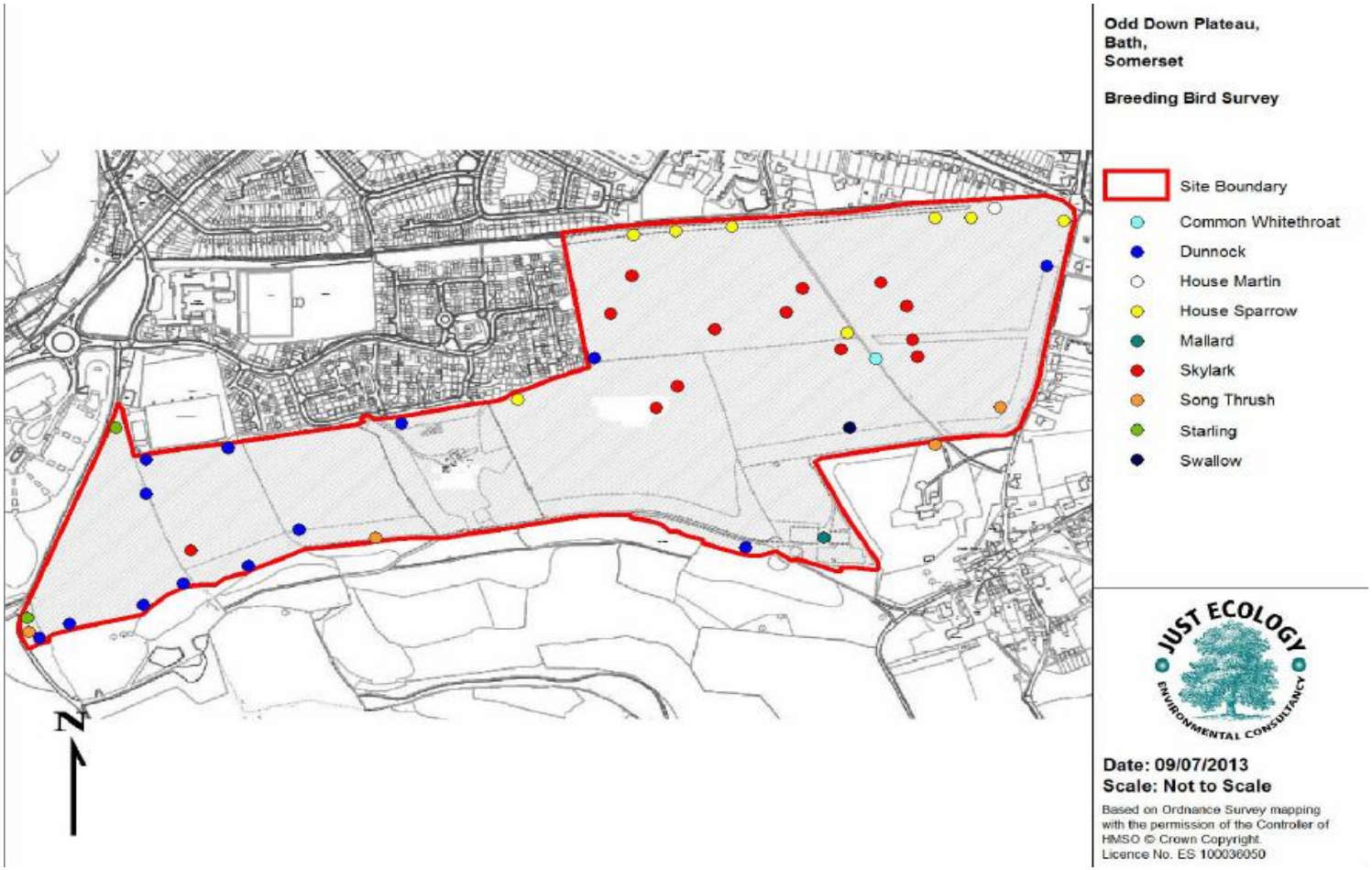


Figure 3: Birds Locations of key bird species (including other UK BAP and red or amber BoCC species) recorded during breeding bird surveys at Odd Down Plateau, Bath, Somerset

Figure 4: Bats- Greater horseshoes

Shaded area represents the main areas of the site where GHBs were recorded on a regular basis, with the exception of the two individual encounters (orange dots). The red dot shows where 5 perch-feeding sites were located in late summer.

Figure 5: Bats:- Lesser horseshoes

Shaded area represents the main areas of the site where LHBs were recorded on a regular basis, with the exception of the four individual encounters (orange dots). The red line shows where 5-6 bats were seen foraging simultaneously, for over half an hour, on one occasion in early-mid summer.

Figure 6: Badgers

Sett locations identified to date. Red dots show the location of main setts, orange ones that of subsidiary setts.

Figure 7 Dormouse

Transects along which dormouse tubes have been set. No dormouse activity has been observed so far.

Figure 8: Reptiles

Areas where reptiles were found on site. Yellow- low/ephemeral populations (primarily slow worms), orange- regular records/low populations (primarily slow worms but also the odd common lizard(s) in places), red- regular records/high population(s). The “red” population found along the stone wall at the western end of the site is particularly important for both slow worms and common lizards; the one along the office buildings access road was key for slow worms. One grass snake was found at the blue dot, and isolated individual common lizard(s) or small populations of the latter were found at the red dots.

Figure 9: Invertebrates

Key areas for insects identified during the invertebrate assessment.

Appendix 2: Proposed mitigation site for skylarks

Key

Existing area used by skylarks

Proposed mitigation site for skylarks