

**PHASE 1 HABITAT VERIFICATION  
BROADWATER, WELWYN GARDEN CITY, AL8 6UN**

**SEPTEMBER 2017**

BMD.17.023.RP.901

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**Bradley Murphy Design Ltd**

5 The Courtyard  
Hatton Technology Park  
Dark Lane  
Hatton  
Warwickshire  
CV35 8XB

Company No. 7788475

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## EXECUTIVE SUMMARY

This is a brief summary of the findings and recommendations of the 2017 walkover verification survey carried out at Broadwater Road, Welwyn Garden City, Hertfordshire (centred on OS Grid reference: TL 24172 12863) on the 1<sup>st</sup> September 2017.

Bradley Murphy Design were commissioned to undertake a verification survey in relation to the current development proposals.

The work comprised a desk study review and a walkover survey to verify and map habitats occurring on the site and indications of, or the potential for, protected and notable species.

Proposed works include demolition, site clearance and implementation of a mixed-use development, with associated access, car-parking provision and landscape planting.

The 2015 conclusions in relation to desk study data are considered to remain valid. Since the site lies within an Impact Risk Zone for two SSSIs, it is highly likely that the LPA will need to consult with Natural England as part of the planning process.

There were some changes to the habitats present on site since the 2013/14 surveys. These changes predominantly include a shift in the grassland habitats (which have been unmanaged) and to the habitats in the north-west (resulting from the construction of a new access road along the north-west boundary).

There were no significant changes to the results of the 2015 assessment in relation to species.

However, since the 2014 reptile translocation work, and the construction of the access road, the habitat where the majority of slow-worm were captured has changed significantly:

- The access road now separates the railway corridor from the former north-west grassland / ruderal / scrub mosaic.
- The north-west area now only offers sub-optimal habitat for reptiles.

This report is considered to be valid for 12 months from the date of issue.

## 1. INTRODUCTION

- 1.1.1 The purpose of this document is to provide an update of the ecological assessments made at Broadwater Road, Welwyn Garden City, Hertfordshire in 2013/14 (Bradley Murphy Design, 2015) in relation to developing the land for a mixed-use development, with associated access, car-parking provision and landscape planting. The site is located on land at the former Shredded Wheat Factory, in Hertfordshire (National Grid Reference: TL 24172 12863). It is understood that this updated baseline is required to support the submission of a new single detailed planning application.
- 1.1.2 The site has planning approval under two applications:

**N6/2015/0294/PP: Former Shredded Wheat Factory, Bridge Road, Welwyn Garden City, AL8 6UN.**

Outline planning permission for part demolition, repair, restoration, extension and conversion of the former Shredded Wheat Factory complex to include demolition of all buildings and structures except the original 1920's silos, production hall, grain store and boiler house. Refurbishment and change of use of the retained listed buildings to provide 2 class C3 residential units, a class C1 boutique/budget hotel, class B1 (a) offices, a class A4 pub/bar, a class D1 crèche and a class D2 Gym/dance/exercise studio. Erection of up to 850 class C3 Dwellings to potentially include up to 80 class C2 (and/or C3 Assisted living units), class A1 retail, class A3/A4 restaurants/café's/bars/pubs, class D1 community use and healthcare and class D2 gym/dance/exercise studio floorspace. Provision of external space for leisure and recreation to include a linear park, external games/play area, allotments and a skate park. Creation of internal estate roads, paths, vehicle and cycle parking. Associated highway works comprising the widening of footways and the provision of cycle ways to Broadwater Road and Bridge Road, works to Hydeway, junction remodelling works and the erection of a new footbridge from Bridge Road. Phase 1 (blocks 2,3,4,5,6 & 7 on land to the north and West of Hydeway and northern part of block 1) – includes appearance, means of access, landscaping, layout and scale in addition to all associated highway works. Phase 2 (blocks 8,9,10,11 & 12 and southern part of block 1 on land to the south of Hydeway) – includes means of access with layout, scale, appearance and landscaping reserved.

**N6/2015/0293/LB: former Shredded Wheat Factory, Bridge Road, Welwyn Garden City, AL8 6UN**

Part demolition, repair, restoration, extension and conversion of the former Shredded Wheat Factory complex to include demolition of all buildings and structures except the original 1920's silos, production hall, grain store and boiler house. Refurbishment and change of use of the retained listed buildings to provide 2 class C3 residential units, a class C1 boutique/budget hotel, class B1 (a) offices, A class A4 pub/bar, a class D1 crèche and a class D2 gym/dance/exercise studio.

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- 1.1.3 Previous surveys undertaken by Bradley Murphy Design in 2013 – 2014 (Bradley Murphy Design, 2015) are as follows:
- Preliminary Ecological Survey – October 2013
  - Badger Survey - October 2013 and update October 2014
  - Bat Surveys (Trees and Buildings) - October and November 2013
  - Reptile Survey – April to June 2014
  - Botanical Survey – June and August 2014
  - Reptile Translocation – August – October 2014
- 1.1.4 Since the 2013/14 surveys an access road in the north-west of the site has been constructed and associated vegetation management undertaken in the north-west including strimming and removal of some areas of scrub. This was completed under planning permission reference number N6/2013/2305/MA. Associated mitigation measures regarding reptiles have been completed in order to address Condition 4 of this planning permission.
- 1.1.5 The update assessment involved an updated desk study for the site and a walk-over survey on the 1<sup>st</sup> September 2017. The survey results and updated desk study have been reviewed in conjunction with the 2015 report. The desk study used a 2 km search radius with data obtained from the online database (*MAGIC*) and records from the Hertfordshire Biological Record Centre (HBRC) (received on 4<sup>th</sup> September 2017).

## 2. DESK STUDY

- 2.1.1 This section provides a review and update of desk study data pertaining to the site and surrounding area.
- 2.1.2 Aerial Photography and OS Maps: No change.
- 2.1.3 Statutory protected sites (as shown on *MAG/C* database): Sherrardspark Wood LNR and SSSI and The Commons LNR.
- 2.1.4 The site lies within the outer Impact Risk Zone for Sherrardspark Wood (900 m north-west), Tewinbury SSSI (2 km north-east) and Wormley-Hoddesdonpark Woods SAC (9.6 km south-east). In brief, potential impacts relate to the following:
- Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
  - Minerals, Oil & Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
  - Air Pollution - Any industrial/agricultural development that could cause AIR POLLUTION (including: industrial processes, pig & poultry units, slurry lagoons > 200m<sup>2</sup> & manure stores > 250t).
  - Combustion - General combustion processes >20MW energy input. Including: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
  - Waste - Landfill. Including: inert landfill, non-hazardous landfill, hazardous landfill.
  - Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Including: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
  - Discharges - Any discharge of water or liquid waste of more than 5m<sup>3</sup>/day to ground (i.e. to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).
  - Water Supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m<sup>2</sup> or more.
- 2.1.5 Non-statutory protected sites: No change.
- 2.1.6 Biodiversity Action Plans: No change.

- 2.1.7** Protected and notable species: Since 2013 when the last desk study was undertaken there have been some additional records for protected species within 2 km of the site. An updated summary of protected and notable species is provided in Table 3.1. It is worth noting that the majority of the updated bird records have come from two sites, one of which is within an industrial area 700m east of the site, and the other an urbanised area 1700m east.

**Table 3.1 Protected and notable species records within 2 km of site and recorded since 2013**

Species	Level of protection¹	Summary of records		
		No. records	Nearest	Most recent
Birds				
Common crossbill	UK	1	1250 m NW 2015	1250 m NW 2015
Curlew	S41	1	700 m E 2014	700 m E 2014
Firecrest	UK	1	1700 m E 2015	1700 m E 2015
Green sandpiper	UK	1	700 m E 2014	700 m E 2014
Hawfinch	S41	1	1700 m E 2015	1700 m E 2015
Hen harrier	UK, S41	2	700 m E 2015	700 m E 2015
House sparrow	S41	2	700 m E 2015	700 m E 2015
Harrier sp.	UK	1	1700 m E 2015	1700 m E 2015
Lapwing	S41	1	1700 m E 2015	1700 m E 2015
Red kite	UK	1	825 m NW 2015	825 m NW 2015
Skylark	S41	1	1700 m E 2015	1700 m E 2015
Spotted flycatcher	S41	1	1700 m E 2015	1700 m E 2015
Tree sparrow	S41	1	700 m E 2015	700 m E 2015
Mammals				
Hedgehog	S41	7	330 m SE 2014	1400 m W 2015

**Notes:** E = European. UK = UK. S41 = Species of Principal Ecological Importance under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act

- 2.1.8** The 2015 conclusions in relation to the desk study data are considered to remain valid.



### **3. EXTENDED PHASE 1 HABITAT SURVEY**

#### **3.1 Introduction**

- 3.1.1 A walk-over Phase 1 Habitat Survey was conducted on 1<sup>st</sup> September 2017 to check for any significant changes in terms of habitats since the last surveys in 2013/14. The survey focused on the works footprint and immediate area. The survey was completed by Jodie Twose MSc GradCIEEM. Access on the day was restricted to areas north of building two (the former Polycell building). It was not possible to access areas south of building two, although it was possible to see much of this area through the fence. Restrictions to access have not had any implications on the overall conclusions of the survey.

#### **3.2 Habitats**

- 3.2.1 There were some changes to the habitats present on site since the 2013/14 surveys. These changes predominantly include a shift in the grassland habitats (which have been unmanaged) and to the habitats in the north-west (resulting from the construction of the new access road), as illustrated on the plan in Appendix A. The variations to the 2015 report have been discussed below. Unless otherwise stated the comments in the 2015 report remain valid and reflect the current condition of the site.

#### ***Buildings***

- 3.2.2 The buildings as assessed in 2013/14 are still on site and their condition remains as described. The brickwork of building B1a (former Shredded Wheat building complex) was described as concrete and felt-lining and in a good state of repair.
- 3.2.3 The walls of building B1b (factory structure - former Shredded Wheat building complex) were described as being in a reasonable state of repair, whilst the roof was intact, but is in a poor state of repair.
- 3.2.4 The external condition (concrete and render) of the silos of building B1c (grain silos - former Shredded Wheat building complex) were described as in a good state of repair. The large single-storey structure across the top of the silos were previously described as containing a large number of windows along the northern and southern elevations, which were in place and closed at the time of survey.
- 3.2.5 Building B2 (former Polycell factory building) was described as supporting a flat, felt-lined roof, which was under repair in 2013. The external brickwork was in a reasonable state of repair, however some of the bricks around sections of the pipe-work were water damaged and a number of the window lintels were crumbling. Some of the windows in the single-storey section of B2 were smashed during previous surveys and others had been in-filled with concrete. The multi-storeyed sections of B2 were described as missing ceilings tiles which had exposed the concrete ceilings above.

- 3.2.6 Internal inspections were not undertaken as part of the 2017 update; however, the internal condition is not anticipated to have changed significantly. Externally a greater extent of vegetation growth, particularly buddleia, is dominating building B1 and it would appear that the buildings are now in a greater state of disrepair than previously described. The condition of building B2 was in a similar condition as previously described, although the single-storey section of the building did not appear to be in use anymore.

### ***Hardstanding***

- 3.2.7 Hardstanding continues to dominate the habitat on site. The largest area situated within the southern section of the site could not be accessed during the 2017 verification survey, however, it was possible to see this area from a distance and no significant changes were apparent.
- 3.2.8 The second largest area of hardstanding is situated immediately to the west of the former Shredded Wheat building complex and is a former carpark. The eastern boundary of this hardstanding is dominated by buddleia, with some smaller stands growing in the cracks of the hardstanding.
- 3.2.9 To the south of the former carpark is a third area of hardstanding. It was described in the 2015 report as being in a good state of repair, with re-colonizing species such as rank grassland, tall ruderal and scrub being present. These habitats are still present and do not appear to have changed significantly.
- 3.2.10 Hardstanding is also present around the periphery of both B1 and B2, and again, no significant changes have taken hold. Scrub habitats continue to colonize the cracks of all areas of hardstanding, and scattered buddleia dominates in all areas.

### ***Grassland / Ruderal / Scrub Mosaic***

- 3.2.11 The north-west area of the site was described in the 2015 report as supporting a grassland / tall ruderal / scrub vegetation mosaic, with a small number of immature and semi-mature trees present around its margin. However, following strimming and vegetation clearance associated with the construction of the new access road (as documented in the 2015 Ecological Assessment BMD.219.EA.00), this habitat is now better described as ephemeral / short perennial with a limited number of taller ruderal species.
- 3.2.12 Species recorded within the habitat mosaic in the north-west of the site included, birds foot trefoil, black medick, creeping buttercup, broadleaved dock, bristly ox-tongue, creeping cinquefoil, creeping thistle, dandelion, greater plantain, hardhead, oxeye daisy, perforated St John's wort, red clover, lesser trefoil, mignonette, ribwort plantain, rose, silverweed, spear thistle, white clover, white dead nettle, yarrow and traveller's joy. Ruderal species included, teasel, hogweed, wild carrot and willowherb. Scattered and occasional continuous scrub on the eastern boundary included, bramble, buddleia, elder, goat willow, and two stands of Japanese knotweed.

- 3.2.13 The patches of rank grassland previously described in this habitat were no longer present although there were some very limited patches where rough meadow grass, false oat and red fescue were present, again along the eastern boundary.

#### ***Shrub / Tree / Ruderal Mosaic (Northern Embankment)***

- 3.2.14 To the north of the area of ephemeral / short perennial detailed above is an embankment described in the 2015 report as comprising shrubs / immature and semi-mature trees / ruderal vegetation, with some limited patches of rank grassland. This description of the vegetation was still valid following the walk-over survey, however, since the 2013/14 surveys, the site access road has been constructed and now separates the northern embankment from the former grassland /ruderal /scrub mosaic.

#### ***Scattered and Continuous Scrub***

- 3.2.15 Scattered and continuous scrub is present throughout the site and the greatest extent of scrub described in the 2015 report was situated within the north-west section of the site adjacent to the railway line. However, the majority of this scrub is no longer present and was likely removed when the access road was put in. There are still areas of dense scrub to the west of the new access road, and scattered and continuous scrub along the northern embankment and on the east boundary of the ephemeral / short perennial area, although to a lesser extent than previously described.
- 3.2.16 Scattered and occasionally dense bramble scrub was previously described as encroaching on the areas of former amenity planting around the boundaries of the building complexes. This encroachment has continued due to a lack of management with less of a distinction between the amenity planting and the scattered scrub. In all of these areas buddleia dominates with bramble and occasional saplings of sycamore, oak and ash.
- 3.2.17 In the north-west corner of building B1a natural succession has resulted in a change of habitats since the previous surveys. This area was previously described as amenity planting and scattered scrub, but is now impenetrable and dominated by dense bramble and buddleia.
- 3.2.18 The areas of scattered scrub in the south of the site were only viewed from a distance, but little change was apparent. Although it would be anticipated that scattered scrub has continued to colonize and it is likely to be a greater extent than previously described.
- 3.2.19 Scattered scrub, in the form of buddleia, has also colonised external areas of the buildings, particularly the security and contractors hut associated with building B1.

#### ***Bare / Re-colonizing Ground***

- 3.2.20 Areas of bare / recolonizing ground were described throughout the site in the 2015 report and this habitat type has not undergone any significant changes.

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### **Ruderal Vegetation**

- 3.2.21 Ruderal vegetation is still present in the north-west area of the site as well as in the former amenity planting and grassland areas around the boundaries of the buildings.
- 3.2.22 In the 2015 report the eastern margin of the former car-parking area associated with Building B1 was described as tall ruderal, however, this area is now dominated by buddleia and bramble and would be better described as continuous scrub. Furthermore, the north-west corner of the Shredded Wheat building complex (B1a) was also described as tall ruderal, however, succession has resulted in the loss of this habitat, which is now dominated by dense buddleia with occasional bramble scrub.
- 3.2.23 Tall ruderal vegetation continues to be associated with other habitats on site, including the areas of hardstanding, former amenity planting and former amenity grassland, and scattered within a number of the areas of bare / re-colonizing ground. Species around the site include hogweed, willowherb, teasel, creeping thistle, spear thistle, ragwort and great mullein.

### **Trees**

- 3.2.24 Three distinct tree belts were described in the 2015 report; the largest along the south-west boundary of the site. The trees listed along this belt in the 2015 report included hybrid black poplar, bird cherry and sycamore, with occasional horse chestnut, whitebeam sp., ash, English elm and red oak. Only five of these trees could be assessed, whilst the rest of this belt was beyond the point of access. However, the belt was confirmed as still being present, and the age and condition of the trees are unlikely to have changed significantly since the previous report.
- 3.2.25 The belt along the north boundary was also still present and the species condition as described. Species recorded in the 2015 report included semi-mature lime and a single semi-mature bird cherry, which were confirmed in the verification survey.
- 3.2.26 The third belt in the former car-parking area associated with the Shredded Wheat building complex, comprised semi-mature sycamore, Norway maple, hornbeam, horse chestnut and semi-mature copper beech.
- 3.2.27 The six 'immature' sycamore trees described in the 2015 report in hedgerow two (H2) were present, however, their age and height (<5 m) makes it difficult to identify them as six individual trees. No main stems could be identified and this habitat may have been subject to management, resulting in a scrubby regrowth. As such, they have been removed as 'trees' from the updated Phase 1 Habitat map and replaced with 'scattered scrub'.
- 3.2.28 In 2015 the trees on site (particularly semi-mature) were described as providing a number of potential opportunities to a range of faunal species / groups, particularly birds, bats and invertebrates. This conclusion was confirmed as valid, as the age and condition of trees on site had not undergone any significant changes.

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### ***Amenity Grassland (Rank)***

- 3.2.29 Linear strips of former amenity grassland were described throughout the site in the 2015 report, which at the time of survey were unmanaged and becoming rank, with ruderal and scattered scrub starting to encroach. These descriptions are still valid, as the habitats do not appear to have been subject to any management. There are several herb species in these grassland areas including: perforated St John's wort, ragwort, yarrow, creeping cinquefoil, ribwort plantain, dandelion, ground ivy, red clover, birds foot trefoil, cleavers and oxeye daisy. As such the grassland areas are on the cusp of being reclassified as semi-improved grassland if lack of management continues.

### ***Amenity Planting***

- 3.2.30 The areas of amenity planting to the north of B1a described in the 2015 report are becoming less distinct. The area previously on the north-west corner of B1a is no longer visible as dense bramble and buddleia has made the area impenetrable. The areas on the north boundary are also becoming less distinct with ruderal and scattered scrub encroaching these areas. Wall cotoneaster and honeysuckle species were frequent in the area to the north of B1a. The amenity planting around B2 were more distinct with the area to the east of B2 now more dominant, including species of spindle and cotoneaster species, with bramble also colonising this area.

### ***Amenity Hedgerows***

- 3.2.31 The amenity hedgerows were found to be as described in the 2015 report in terms of assemblage and condition, however, as previously discussed, the sycamore 'trees' in H2 have been reclassified as scrub.

### ***Invasive Plants***

- 3.2.32 In the 2015 report five stands of Japanese knotweed were described. It is understood these were chemically treated ahead of the access road construction. However, during the 2017 walk-over survey two stands were identified and were found in the same vicinity as the previously labelled stands JK1 and JK2.
- 3.2.33 Cotoneaster species including wall cotoneaster were identified within the areas of amenity planting around the boundaries of the former Shredded Wheat factory, and was confirmed as still present in 2017. This invasive species was also recorded within various other locations around the site including the northern embankment, within the strip of rank grassland / scrub / trees along the southern-western boundary of the site, and within the area of hardstanding, which supports the footbridge over the railway line in the central section of the site, however not all of these areas were accessible on the day of the 2017 survey. However, if they have not been managed / removed, then it is assumed this species is still present in these areas.

- 3.2.34 Rhododendron was previously identified within the area of dense amenity planting situated adjacent to the north-west corner of Building B1. This was not confirmed during the walk-over, however, if it has not been treated, and, or removed, then it is assumed to still be present.

### ***Miscellaneous Habitats***

- 3.2.35 Three large vegetation / earth / log / rubble piles were described in the 2015 report as potential hibernacula.
- 3.2.36 One pile was located to the south of the former amenity planting in the north-west corner of B1a. This habitat was assessed during the walk-over survey and found to be unsuitable as hibernacula. The pile was made up of debris, likely from the overturned waste bin, and encroaching bramble with very little in the way of earth / log or rubble.
- 3.2.37 The pile located in the former grassland / ruderal / scrub mosaic in the north-west could no longer be described as a rubble pile. This area is now a raised embankment of compacted earth, limiting hibernation opportunities.
- 3.2.38 The pile in the south-west was not surveyed due to access constraints and could not be confirmed.

## **3.3 Species**

### ***Badger***

- 3.3.1 Two large mammal excavations were recorded at the site in 2013, however, only one of these areas could be accessed during the walk-over survey. There was no obvious entrance hole, this could have been as a result of vegetation cover, or it may have been dismantled during the access road construction. The lack of any evidence (spoil, hairs, prints, snuffle holes) indicates that this area is not being used by badgers.
- 3.3.2 The mammal excavation in the south-west boundary of the site was not reassessed however, both excavations were monitored in 2013/14 and recorded as inactive.
- 3.3.3 There were no other signs to suggest that badgers are utilising the site for foraging or commuting. The results of the 2013/14 surveys are still considered valid and badgers do not need to be considered further.

### ***Bats***

- 3.3.4 The evaluation of the buildings on site in relation to supporting roosting bats in the 2015 report are considered valid. No significant changes have taken place which would result in the need to reclassify the buildings bat roosting potential. As such the recommendation to remove 'minor' features of roosting potential under a watching brief as agreed (in principle) with Hertfordshire's Ecology Advisor is still considered appropriate.

- 3.3.5 The trees on site previously identified as having Bat Conservation Trust (BCT) 2012 category 1 / 2 (equivalent to 'moderate' in 2016 BCT guidelines) potential to support roosting bats were not re-surveyed due to restricted access, however, the trees are still present and it is assumed that no significant changes will have taken place to result in the need to reclassify these trees.
- 3.3.6 The foraging and commuting features previously described in the 2015 report are considered to remain valid. The habitats on site, will offer some limited opportunities to foraging bats in what is otherwise a very urban environment. However, habitats on site are considered only sub-optimal in the context of the habitats in the wider area such as Sherrardspark Wood SSSI which is just 900m north-west.
- 3.3.7 The adjacent railway line was described as a potential wildlife corridor in the 2015 report and recommendations to reduce impacts on this area are considered to be valid.

### ***Hazel Dormice***

- 3.3.8 In 2015, it was concluded that the small extent and sub-optimal nature of the habitats on site, along with lack of suitable habitat corridor connecting the site with Sherrardspark Wood, make it highly unlikely that hazel dormice would utilise the site. No further survey work or mitigation measures were deemed necessary. These conditions have remained the same and this conclusion is considered valid.

### ***Other Mammals***

- 3.3.9 The site was highlighted in the 2015 report as providing suitable opportunities for hedgehog, a Section 41 (S41) listed species. However, the area considered of particular suitability was the mosaic of habitats in the north-west as it was connected to the railway corridor which could be used for dispersal. The north-west of the site now only offers sub-optimal habitat. However, the hedgerows, scrub and rank grassland areas continue to offer some limited opportunities for this species.
- 3.3.10 Whilst undertaking the walk-over survey in 2017, a fox was recorded in the hedgerow (H2) in the north-west, and reinforces conclusions from previous surveys that the site is used by fox, particularly the areas in the north-west. Foxes are not listed as protected or notable species in the legal or planning sense although are covered by the general Wild Mammals (Protection) Act 1996 which is outlined in Appendix B.

### ***Birds***

- 3.3.11 The habitats on site, such as the scrub, hedgerows, trees and the buildings are still considered to offer nesting opportunities to a small number of bird species. There have been no significant changes to the habitats, and as such the 2015 conclusions are considered valid. The pair of peregrine falcons recorded in 2014 were not seen during the 2017 walk-over survey. It is our



understanding that while they have not been confirmed as nesting on site in recent years they were at least investigating the silo towers this breeding season (*pers comm*).

### **Reptiles**

- 3.3.12 Extensive reptile work was undertaken on the site in 2014, including surveys and subsequent translocation. The translocation work was considered necessary at that time due to the imminent construction of the site access road under Planning Permission N6/2013/2305/MA, which is now complete. The results of this survey work found a low / very low population of slow-worm. During translocation works 274m of reptile exclusion fencing was installed along the western and northern boundaries of this section of the site. It was also installed along a short section of the south-eastern boundary of this area. Captured slow-worm were translocated to a receptor site outside the development footprint, but adjacent to the railway corridor. The majority of slow-worm were captured within the western section of the site, which previously abutted the railway corridor. No other reptile species were seen or captured at the site during the reptile translocation exercise.
- 3.3.13 Since the 2014 translocation work, the access road has been constructed and the habitat where the majority of slow-worm were captured has changed significantly:
- The access road now separates the railway corridor from the former north-west grassland / ruderal / scrub mosaic.
  - The north-west area now only offers sub-optimal habitat for reptiles.
  - The habitat as discussed above has been reclassified as an ephemeral / short perennial and thus offers less opportunities to reptiles.
  - The former amenity grassland habitat on site, now rank in nature could offer some very limited opportunities to reptiles, however, previous survey and translocation work did not record any reptiles in these areas, and it seems highly unlikely that they would have colonised these areas in the interim period.

### **Amphibians**

- 3.3.14 Great crested newts were scoped out during the 2013/14 survey work due to a lack of suitable breeding ponds within 250 m of the site, and a lack of suitable habitat on site. Since this survey work, there have been no significant changes to the habitats to change this conclusion and as such is still considered valid.

### **Invertebrates**

- 3.3.15 It was concluded in previous surveys that it would be unlikely that any protected, rare or notable invertebrate species would inhabit the site and no further survey work or mitigation measures were considered necessary. It was also acknowledged by HBRC that further survey for



invertebrate species at the site was not warranted given the habitats present. Given that no significant changes have taken place on site, these conclusions are considered to remain valid.

### **3.4 Summary**

- 3.4.1 While there have been some changes to the habitats on site resulting from a lack of management and from the construction of the site access road in the north-west, the overall conclusions reported in the 2015 assessment are still considered appropriate.

## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Introduction

- 4.1.1 Following the review of the 2015 report and completion of an updated desk study and site survey, it is considered that the conclusions and recommendations from 2015 remain valid. The key considerations (from the 2015 report) are discussed below in relation to the current proposals.

### 4.2 Habitats

#### ***Semi-mature Trees***

- 4.2.1 Previous recommendations in relation to the retention of semi-mature trees on site are considered to remain valid. Any trees that are removed must be replaced with native tree species of local provenance as per previous advice.

#### ***Invasive Plants***

- 4.2.2 The Japanese knotweed in the north-west of the site was likely to have been chemically treated prior to the construction of the access road. However, two stands have returned and will need to be retreated until eradicated.
- 4.2.3 Due to the nature of Japanese knotweed, there is a risk it could have spread to other areas of the site. In order to reduce further spread and contamination during site works, dense areas of scrub should be thoroughly checked to ensure no other emerging areas of knotweed are present.
- 4.2.4 Cotoneaster sp. / wall cotoneaster is still present around the site and as per previous advice will need to be either chemically treated with a glyphosate herbicide or mechanically removed. The rhododendron is assumed to be present and will also require eradication, which includes cutting back all vegetative growth and treating the stumps with herbicide or removal of roots.

### 4.3 Protected Species

- 4.3.1 The 2015 report concluded that some species and species groups may be adversely affected as a result of development. The National Planning Policy Framework (NPPF) requires that developments should “*contribute to conserving and enhancing the natural environment*”. Thus, where appropriate, recommendations were made to enhance the sites biodiversity for these species. There remains potential for species and species groups to be adversely affected by the current proposals; these are discussed below.

#### ***Bats***

- 4.3.2 The buildings on site were deemed to offer only negligible-low opportunities for bats and further survey work was considered unnecessary. However, a precautionary approach was

recommended that involved maintaining a watching brief during demolition works. This recommendation is considered appropriate and remains valid.

- 4.3.3 Four trees present at the site were identified as offering limited roosting opportunities to bats. It was not possible to reassess these trees; however, they are assumed to be in a similar condition. If the trees are to be impacted, and, or felled further inspection was recommended during the bat active season. In line with this, it is recommended that an aerial tree climbing inspection of potential roost features (PRFs) is undertaken at least 24 hours prior to their removal. If any evidence of bats is found, then works will need to stop and a full suite of emergence / re-entrant surveys will need to be undertaken in order to characterise the potential roost.
- 4.3.4 It was acknowledged in the 2015 report that Highways requirements and public health and safety requirements mean new artificial lighting columns will be required at the site including in the immediate vicinity of the railway. It was recommended that this lighting take consideration of the locations, aspect, and / or type of new artificial lighting columns installed. Specific recommendations which are still valid were made in consideration of:
- *The type of lamps utilized.*
  - *The size and number of the lighting columns utilized.*
  - *The luminaire and light spill (i.e. could hoods, cowls, louvers or shields be utilized)*
  - *The timing of the lighting (i.e. could the new lighting columns be switched off during part of the night to provide some dark periods over the summer months).*
- 4.3.5 In addition to this, it is also recommended that during construction and operational phases of the development, the use of artificial lighting should follow the guidelines in the Institute for Lighting Engineers document 'Guidance for the Reduction of Obtrusive Lighting' (2005) and BCT's 'Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting' (2014).
- 4.3.6 Enhancements for bats included the erection of bat boxes (Schwegler 2F and 1FF) on retained trees as well as the incorporation of bat features (e.g. bat bricks, roosting units, bat tubes, and/or bat tiles) into a number of the new buildings proposed at the site. It was also recommended that that new landscaping be provided along the north-west boundary of the site to help ameliorate potential lighting impacts upon the adjacent bat foraging / commuting corridor. These enhancement recommendations are still considered appropriate for the site and no further recommendations are made.

### **Hedgehog**

- 4.3.7 Some of the habitats on site were considered suitable for hedgehogs, although the north-west area of the site is now considered to be sub-optimal. However, given the extensive desk study records for this species, it was recommended in the 2015 report that a watching brief is

maintained during vegetation clearance works, this is still considered to be valid recommendation.

- 4.3.8 Furthermore, it was recommended that a number of Schwegler woodcrete hedgehog nesting domes be provided, which is also still considered appropriate.

### **Fox**

- 4.3.9 The 2015 report recommended a watching brief for fox during clearance of dense scrub vegetation, particularly in the north-west of the site where this species has been recorded. This is still considered to be valid.

### **Birds**

- 4.3.10 Although there was no confirmed evidence of peregrine falcons during the 2017 walk-over survey, it is strongly recommended that the site is re-assessed for its use / likely future use by peregrines; a de-risking exercise may be necessary to reduce potential nesting on site next year. This would aim at minimising any potential development delay, especially if it is anticipated that works would be taking place in breeding seasons.
- 4.3.11 With regards to other areas of the site and suitability for nesting birds, the conclusions and recommendations made in 2015 are still considered valid and appropriate, notably the following:
- Any clearance of suitable nesting habitat (particularly the mature scrub /semi-mature and mature trees) should be undertaken outside of the nesting season (outside of late February–August inclusive).
  - If this is not practicable, then it is recommended that all suitable nesting habitat scheduled to be removed, should first be inspected by a suitably qualified ecologist no more than 48 hours prior to removal. Should any active nests be found to be present, these should be cordoned off and protected until the chicks have fully fledged or nest naturally abandoned.
- 4.3.12 Enhancement recommendations made in 2015 in relation to birds remain appropriate and include the following:
- Nesting opportunities for house sparrow UK BAP listed species to be provided with a number of Schwegler 1SP Sparrow Terraces installed upon the new buildings.
  - A number of Schwegler No.3S starling boxes to be installed given that this UK BAP / RSPB Red-listed species was recorded within the site during 2013/14 survey work. Records were also returned from the local area in the data searches.
  - Install a number of Schwegler 1B standard bird boxes which are suitable for a wide variety of bird species.

- Install a number of Schwegler 2H open-fronted nest boxes which are often utilized by species such as wren (recorded during 2013/14 survey work).
- New areas of dense shrub planting to be incorporated into the landscape proposals to provide natural nest sites for species such as song thrush, which is a UK BAP Priority Species.
- It was recommended areas of new tree and shrub planting incorporate a number of native fruit and seed-bearing species to provide an additional foraging resource for birds at the site.

### **Reptiles**

- 4.3.13 Following the 2014 reptile translocation works it was considered that no further reptile survey or mitigation works would necessary after completion of the access road works and prior to commencement of further development.
- 4.3.14 Following the 2017 walk-over assessment, it is agreed that no further survey effort is required at the site however, some minor mitigation is recommended as a low risk remains of reptiles being on site. Mitigation should include controlled habitat manipulation, with a watching brief maintained during clearance of dense scrub vegetation, particularly in the north-west of the site where this species was recorded.
- 4.3.15 The 2015 report recommended provision of hibernacula in the north-west area of the site, which is appropriate.

### **Invertebrates**

- 4.3.16 Although no further action was deemed necessary on site with regards to invertebrates, enhancement measures were recommended which remain valid and include the following:
- Alternative foraging habitat be provided for bumblebees and butterflies, as per Natural England's 2007 publication entitled 'Plants for Wildlife-friendly Gardens'.
  - A stag beetle loggery be created within one of the new areas of boundary planting.
  - A number of potential nesting sites be created for bumblebees at the site including areas of deadwood / log piles partially covered with a topsoil cap.
  - Arisings from tree works used to create brashwood and log piles within vegetated areas around the boundaries of the site, whilst standing or fallen deadwood in these areas should be retained *in situ* assuming health and safety considerations allow.

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#### **4.4 Landscape**

- 4.4.1 The 2015 report made recommendations for landscape planting to incorporate a wide variety of native species of local provenance and/or wildlife friendly species as per Natural England's 2007 publication entitled 'Plants for Wildlife-friendly Gardens'. This recommendation is considered appropriate and valid. The 2015 report recommended pedunculate oak, ash, field maple, silver birch, willow sp., apple species (particularly crab apple), pear species and wild cherry.
- 4.4.2 Native shrub species of particular benefit would include seed and fruit bearing species, which would provide an abundance of additional food for wildlife, including hawthorn, elder, hazel, cherry plum, blackthorn, holly, guelder rose, wild privet and particularly willow species
- 4.4.3 In addition, it was recommended that a number of climbers be incorporated into the planting proposals, including native species such as climbing roses, honeysuckles and wild clematis species.
- 4.4.4 Advice pertaining to the limited management of grassland areas (twice-yearly mowing regime) was also considered to be valid and appropriate.

#### **4.5 Conclusion**

- 4.5.1 In conclusion, there has been some habitat change since the 2015 report. However, overall the subsequent reports are still considered to be valid with the exceptions detailed in this current document.

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## **6. APPENDICES**

### **APPENDIX A: Phase 1 Habitat Map**

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KEY:

- Site boundary
- B1** Building/structure
- Hardstanding
- A** Former amenity grassland (rank)
- Tall ruderal
- Ephemeral/short perennial disturbed land
- 1** Bare/re-colonizing ground
- Tree
- Scattered scrub
- Dense/continuous scrub
- Cultivated/disturbed introduced shrub
- Species-poor intact hedge
- JK** Japanese knotweed
- C** Cotoneaster sp
- Access restricted within dashed red line

Fauna:

- Tree with limited potential to support roosting bats (not confirmed during 2017 verification)

Rev	Description	Date

Bradley Murphy Design Ltd  
5 The Courtyard  
Hatton Technology Park  
Dark Lane  
Hatton  
Warwickshire  
CV35 8XB

t: 01926 676496  
e: info@bradleymurphydesign.co.uk  
www.bradleymurphydesign.co.uk

**BMD**  
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Project <b>LAND AT BROADWATER ROAD, WELWYN GARDEN CITY</b>			
Drawing Title <b>PHASE 1 ECOLOGY PLAN</b>			
Drawn MY	Checked RM	Approved RM	Date 20.09.17
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## APPENDIX B: Legislation and Policy

Included is a brief summary of legislation of relevance to the current report. The original texts of the relevant legislation or specific legal advice should be consulted in individual cases where appropriate.

### ***European Protected Species***

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive. The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2010. The Countryside and Rights of Way Act (CROW), 2000 strengthened the existing wildlife legislation in the UK. The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

In relation to a development a person commits an offence if they:

- deliberately capture, injure or kill a European Protected Species;
- deliberately or recklessly disturb wild animals of any such species in such a way as to be likely significantly to affect;
- the ability of any significant group of animals to survive, breed, or rear or nurture their young; or
- the local distribution or abundance of that species.
- damage or destroy a breeding site or resting place (even if unintentional or when the animal is not present); and
- intentionally or recklessly obstruct access to a structure or place used for protection or shelter.

This legislation applies, regardless of the life stage (including eggs).

**A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.**

### ***Bats***

All UK bat species and their roosts are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). All bats are also included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended) (Habitats Regulations), which defines "*European protected species of animals*" and are afforded further protection through the Countryside and Rights of Way Act, 2000. The Countryside and Rights of Way Act 2004 (CROW) (OPSI CROW, 2009) has amended the WCA in England and Wales and this act adds additional enforcement, making offences arrestable, increasing time limits for some prosecutions and increasing penalties.

The combined legislation makes it illegal to:

- Intentionally kill, injure or capture bats;

- Deliberately disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts;
- Possess or transport a bat or any part of a bat, unless acquired legally; and
- Sell, barter or exchange bats, or parts of bats.

In this interpretation, a bat roost is "*any structure or place which any bat uses for shelter or protection*". Because bats tend to reuse the same roosts, legal opinion is that the protection of bat roosts are considered to apply regardless of whether bats are present or not. There is currently no guidance on when a roost ceases to be protected if it is not used by bats.

If planned works would constitute an offence they must only be carried out under licence from Natural England. Works or mitigation activities involving interference with bats or bat shelters must be carried out by a licensed bat worker (with a Natural England Bat Licence).

**A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.**

### ***Nesting Birds***

All wild birds are protected under part 1 of the Wildlife and Countryside Act, 1981 (as amended). Therefore, in the UK it is an offence to:

- take, damage or destroy the nest of any wild bird whilst it is being built or in use;
- kill, injure or take any wild bird; and
- take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 of the Wildlife and Countryside Act receive special protection. In these cases, any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence and carries higher penalties.

### ***Wild Mammals (including Rabbits, Foxes, Deer etc)***

Mammal species not of primary conservation importance do receive a degree of protection within the Wild Mammals (Protection) Act 1996. This includes offences which have implications for site clearance (particularly in the case of burrowing species such as rabbits and foxes) such as crushing or asphyxiation of any wild mammal with intent to cause unnecessary suffering.

It is therefore recommended that where these species are present a method statement aimed at careful excavation of burrows (or undertaking efforts to exclude these animals from burrows) takes place to avoid offences under this legislation.

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## Policy

### ***The Natural Environment and Rural Communities (NERC) Act 2006***

This act places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists (Section 41 in England and Section 42 in Wales) of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales.

### ***National Planning Policy Framework***

The National Planning Policy Framework (NPPF) was published on the 27<sup>th</sup> March 2012. This policy framework has replaced many of the former Planning Policy Statements including Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9).

The NPPF contains reduced content with regards specific advice for biological conservation compared to that set out in PPS9. However, much content is comparable with regards the needs for maintaining and enhancing biodiversity within planning policies and decisions. Specific sections of particular relevance include:

- Paragraph 165: *“Planning policies and decisions should be based on up-to-date information about the natural environment”.*
- Paragraph 118: *“When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:”* including...
  - *“if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts). adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;”*
  - *“proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site’s notified special interest feature is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;”*
  - *“development proposals where the primary objective is to conserve or enhance biodiversity should be permitted”*
  - *“Opportunities to incorporate biodiversity in and around developments should be encouraged;”*
  - *“planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;”*



## APPENDIX C: Species List

Tables C.1 and C.2 list the species mentioned in the current report.

**Table C.1 Species mentioned in the current report (flora)**

Flora	Recorded during 2017 survey
Apple species. <i>Malus</i> spp.	
Ash <i>Fraxinus excelsior</i>	✓
Bird cherry <i>Prunus padus</i>	✓
Birds foot trefoil <i>Lotus corniculatus</i>	✓
Black medick <i>Medicago lupulina</i>	✓
Blackthorn <i>Prunus spinosa</i>	
Bramble <i>Rubus fruticosus</i> agg.	✓
Bristly ox-tongue <i>Helminthotheca echioides</i>	✓
Broadleaved dock <i>Rumex obtusifolius</i>	✓
Buddleia species <i>Buddleja</i> spp.	✓
Cherry plum <i>Prunus cerasifera</i>	
Cleavers <i>Galium aparine</i>	✓
Clematis species. <i>Clematis</i> spp.	
Copper beech <i>Fagus sylvatica</i> f. <i>purpurea</i>	✓
Cotoneaster species. <i>Cotoneaster</i> spp.	✓
Creeping buttercup <i>Ranunculus repens</i>	✓
Creeping cinquefoil <i>Potentilla reptans</i>	✓
Creeping thistle <i>Cirsium arvense</i>	✓
Dandelion species <i>Taraxacum</i> spp.	✓
Elder <i>Sambucus nigra</i>	✓
English elm <i>Ulmus procera</i>	
False oat grass <i>Arrhenatherum elatius</i>	✓
Field maple <i>Acer campestre</i>	
Goat willow <i>Salix caprea</i>	✓
Great mullein <i>Verbascum thapsus</i>	
Greater plantain <i>Plantago major</i>	✓
Guelder rose <i>Viburnum opulus</i>	
Hardhead <i>Centaurea nigra</i>	✓
Hawthorn <i>Crataegus monogyna</i>	
Hazel <i>Corylus avellana</i>	
Hogweed <i>Heracleum sphondylium</i>	✓
Holly <i>Ilex aquifolium</i>	
Honeysuckles <i>Lonicera</i> spp.	✓
Hornbeam <i>Carpinus betulus</i>	✓
Horse chestnut <i>Aesculus hippocastanum</i>	✓
Hybrid black poplar <i>Populus x canadensis</i>	
Japanese knotweed <i>Fallopia japonica</i>	✓
Lesser trefoil <i>Trifolium dubium</i>	✓
Lime <i>Tilia x europaea</i>	✓
Norway maple <i>Acer platanoides</i>	✓
Oxeye daisy <i>Leucanthemum vulgare</i>	✓
Pear <i>Pyrus</i> spp.	
Pedunculate oak <i>Quercus robur</i>	✓
Perforated St John's wort <i>Hypericum perforatum</i>	✓
Ragwort <i>Jacobaea vulgaris</i>	✓
Red clover <i>Trifolium pratense</i>	✓
Red fescue <i>Festuca rubra</i> agg.	✓
Red oak <i>Quercus rubra</i>	
Rhododendron <i>Rhododendron</i> spp.	

Flora	Recorded during 2017 survey
Ribwort plantain <i>Plantago lanceolata</i>	✓
Rose species. <i>Rosa</i> spp.	✓
Rough meadow grass <i>Poa trivialis</i>	
Silver birch <i>Betula pendula</i>	
Silverweed <i>Potentilla anserina</i>	✓
Spear thistle <i>Cirsium vulgare</i>	✓
Spindle species <i>Euonymus</i> spp.	✓
Sycamore <i>Acer pseudoplatanus</i>	✓
Teasel <i>Dipsacus fullonum</i>	✓
Traveller's joy <i>Clematis vitalba</i>	✓
White clover <i>Trifolium repens</i>	✓
White dead nettle <i>Lamium album</i>	✓
Whitebeam species <i>Sorbus</i> spp.	
Wild carrot <i>Daucus carota</i>	✓
Wild cherry <i>Prunus avium</i>	
Wild mignonette <i>Reseda lutea</i>	✓
Wild privet <i>Ligustrum vulgare</i>	
Willow species <i>Salix</i> spp.	
Willowherb spp. <i>Epilobium</i> spp.	✓
Yarrow <i>Achillea millefolium</i>	✓

Notes. \* Species recorded on site during 2017 survey

**Table C.2 Species mentioned in the current report (fauna)**

Fauna	Recorded during 2017 survey
Badger <i>Meles meles</i>	
Common Crossbill <i>Loxia curvirostra</i>	
Curlew <i>Numenius arquata</i>	
Firecrest <i>Regulus ignicapilla</i>	
Great crested newt <i>Triturus cristatus</i>	
Green Sandpiper <i>Tringa ochropus</i>	
Harrier spp. <i>Circinae</i> spp.	
Hawfinch <i>Coccothraustes coccothraustes</i>	
Hazel dormouse <i>Muscardinus avellanarius</i>	
Hedgehog <i>Erinaceus europaeus</i>	
Hen Harrier <i>Circus cyaneus</i>	
House Sparrow <i>Passer domesticus</i>	
Lapwing <i>Vanellus vanellus</i>	
Peregrine falcon <i>Falco peregrinus</i>	
Red fox <i>Vulpes vulpes</i>	✓
Red kite <i>Milvus milvus</i>	
Skylark <i>Alauda arvensis</i>	
Slow worm <i>Anguis fragilis</i>	
Spotted Flycatcher <i>Muscicapa striata</i>	
Stag beetle <i>Lucanus cervus</i>	
Starling <i>Sturnus vulgaris</i>	
Swallow <i>Hirundo rustica</i>	
Tree sparrow <i>Passer montanus</i>	
Wren <i>Troglodytes troglodytes</i>	