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**LAND AT NUNNEY**

**ECOLOGICAL REPORT,**

**NOVEMBER 2013  
AMENDED JANUARY 2014**

**For**

**BARRATT HOMES BRISTOL**

# **LAND AT NUNNEY**

## **ECOLOGICAL REPORT**

### **INTRODUCTION**

The purpose of this report is to assess any impact on biodiversity of proposals to develop this site for housing and to make mitigation and enhancement proposals as appropriate.

### **METHODS**

An Extended Phase 1 field survey was carried out on 7th November 2013. It covered vegetation types and vascular plants, birds and protected species. In particular the following were carried out:

- The survey site and, as far as possible, all areas within thirty metres were checked for badger setts and for signs of badger activity;
- Habitat quality for reptiles was assessed; and
- Trees were checked for holes, crevices or dense growths of ivy that could support roosting bats;

Hedges were surveyed to a level that allows assessment under the ecological criteria of the 1997 Hedgerow Regulations.

A data search was carried out at Somerset Environmental Records Centre (SERC).

### **SURVEY RESULTS**

#### **Site Description**

The bulk of the site consists of a single arable field, with a much smaller field of reseeded grassland in the south-eastern corner. There are hedges on most of the site boundaries.

Neither the survey site, nor any area within 1km of the site, has any nature conservation designation. There is a cluster of sites of geological interest over 1km to the north-west, which includes the Holwell Quarries Site of Special Scientific Interest (SSSI).

## Vegetation

### Fields

The main field had been used in 2013 for growing maize. Few weed species were recorded in the field. Those present include corn mint (*Mentha arvensis*), sun spurge (*Euphorbia helioscopia*) and hairy bittercress (*Cardamine hirsuta*). A small uncultivated patch adjacent to a telegraph pole has a clump of dogwood (*Cornus sanguinea*).

The grassland in the south-eastern part of the site is dominated by perennial ryegrass (*Lolium perenne*), with smaller quantities of Italian ryegrass (*Lolium multiflorum*), rough-stalked meadow grass (*Poa trivialis*) and creeping bent (*Agrostis stolonifera*). The only frequent herb species are creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum vulgare agg*) and white clover (*Trifolium repens*). Other species present in smaller quantity include rough-ratstail plantain (*Plantago major*), curled dock (*Rumex crispus*) and broad-leaved dock (*Rumex obtusifolius*).

### Hedges

The composition of the hedges shown on the attached map is as follows:

Hedge number	Structure	Woody species	Woody species in a 30m length	Herbaceous species	Notes
1	Tall, dense	Blackthorn, hawthorn, field maple, hazel	Blackthorn, hawthorn, hazel	Hedge woundwort	
1a	Tall, dense	Ornamental dogwood, field maple, wayfaring tree, dog rose, wild privet, spindle, hazel	n/a	Ivy	Recently planted on bund around car park
2	Tall, gappy	Hazel, hawthorn, blackthorn, ash, dog rose	Hazel, hawthorn, blackthorn,	Ivy, cuckoo-pint, wood false-brome	Group of immature ash at eastern end
3	Thin, moderately tall	Sycamore, elder, blackthorn, hazel, hawthorn, ash, holly, blackthorn, apple	Elder, blackthorn, hazel, hawthorn, ash, blackthorn, apple	Wood false-brome	
4	Low, dense	Dogwood, hazel, guelder rose, blackthorn, ash, field maple, pedunculate oak	Dogwood, hazel, guelder rose, blackthorn, ash	Cuckoo-pint	Largely dominated by bramble at southern end

The northern boundary of the site and the boundary between the two fields both have fences with scattered bushes of bramble (*Rubus fruticosus agg*).

## **Birds**

Pied wagtail, starling and wood pigeon were present in the main field.

The following species were present in the hedges:

- 1 Blackbird and dunnock
- 1a Robin
- 2 Blackbird, chaffinch and robin
- 4 Chaffinch, dunnock, goldfinch, house sparrow and robin

## **Invertebrates**

Leafmines of the micro-moths *Stigmella aurella*, *Stigmella microtheriella*, *Stigmella floslactella*, *Phyllonorycter coryli*, *Phyllonorycter nicellii*, *Phyllonorycter messaniella* and *Lyonetia clerkella* were seen in the hedges around the site.

## **Protected Species**

No badger setts or other signs of badger activity were found.

There are no trees or buildings on the site that could support roosting bats. The only trees on the site boundaries, the ashes in the south-eastern corner, are immature and lack holes, crevices or dense growths of ivy.

Further details are given in the Assessment section below.

## **Data Search**

SERC does not hold records of protected or notable species from the survey site itself but there is a record of adder, dating from 2005, from a garden immediately to the north-east. Other records in the surrounding area include a roost of brown long-eared bats approximately 600m to the north-west and a large roost of serotine bats, with a single record of lesser horseshoe bat, approximately 800m to the north. There are several records of notable species along the Nunney Brook, which at its closest is approximately 600m to the north-west of the site.

A local resident reports sightings of hedgehog in the gardens to the north of the survey site.

## **ASSESSMENT**

The nature conservation value of the various habitats across the site have been assessed in order to determine whether they are of nature conservation value in a national, regional or county context, are of either high or low value in a local context, or are of minimal nature conservation value. The assessment has used standard ecological criteria, including diversity, rarity, fragility and recreatability. Reference has been made to suitable guidance, including the UK and Somerset Biodiversity Action Plans (BAPs) and the 1997 Hedgerow Regulations. The value of groups not surveyed, such as most invertebrates, has been assessed using information gathered on the nature and structure of the habitats present.

The survey was carried out late in the season and it is therefore inevitable that some groups have been under-recorded. This has been taken into account in assessing the biodiversity value of the site and, given the nature of the habitats present, it is considered that a full assessment has been possible.

### **Habitats**

The main field is intensively farmed and does not appear to support significant populations of arable plants species. It is relatively small and isolated from other similar habitats, and is therefore unlikely to be of value for farmland birds.

The grassland in the south-eastern corner of the site has been agriculturally improved and no plant species indicative of unimproved grassland or any BAP priority habitat are present. Intensive management means that the grasslands is unlikely to be of significant value for invertebrates.

The grassland is of minimal nature conservation value.

The hedges are all dominated by native species, but standard trees are largely absent and the position of the site, between an existing area of housing and roads, means that connectivity to hedgerow networks in the wider area is poor. The most diverse hedges are 3 and 4, on the eastern and western boundaries of the site respectively. These both qualify as important hedgerows under the 1997 Hedgerow Regulations.

Hedges 3 and 4 are of high nature conservation value in a local context.

Hedge 1, which continues into hedge 2, is less diverse and has been disrupted by the removal of a section of the hedge in order to form the adjacent car park, although the hedge here has been replanted.

The hedges along the southern boundary of the site are of low nature conservation value in a local context.

## **Protected Species**

No indications were seen, either during the field survey or as a result of the data search, that any protected species is present on the survey site.

Adder has been recorded from the area immediately to the north of the survey site but the adjacent part of the site, which consists of an actively managed arable field, is unsuitable for this species and the whole area appears significantly suboptimal. There is a possibility that the eastern hedgerow, which adjoins the location of this record, might be used by adders if they survive here.

There are no potential bat roosts either within the site or on its boundaries. The fields are not of potential value as foraging habitat. The potential value of the hedges around the site is severely limited by isolation from the wider hedgerow network and lighting along the road to the south. There is a possibility, however, that bats might make some use of the hedges.

Dormice have not been recorded in the surrounding area and the hedges around the site are too thin and isolated to support this species.

The data search did not produce any records of amphibians and there are no potential habitats for these species within the site or, as far as could be seen, in adjacent areas.

## **IMPACTS**

The draft layout of the site shows that the majority of the site would be occupied by housing although there would be Public Open Spaces in the central and the northern parts of the site. Access to the site would be from Glebelands to the north and would not involve any breaches to hedgerows.

There would not be any significant ecological impact associated with the loss of either the arable land or the grassland.

It would be necessary to remove hedge 4 (the western hedgerow) in order to allow widening of the adjacent road. This hedge is rather isolated and has suffered from adverse management but the northern part of the hedge is reasonably diverse in woody species. Overall, there would be some minor impact as a result of its removal.

The other hedges would be retained and would not suffer any direct impact. There would be some potential for an adverse impact where hedges would be incorporated into gardens.

## **Protected and BAP Species**

The only potential impact on protected species would be damage to any adders using the eastern hedge, but this feature would be retained.

The fields do not provide suitable habitat at present for hedgehog. The hedges are probably used by this species. Removal of the western hedge might have some impact on this species. The other hedges would be retained and the proposals would not have any impact on hedgehog here.

Habitat for BAP bird species on the site is poor and they would not be affected by the proposals.

## **MITIGATION**

Due to the very low level of potential impacts identified there would be few requirements for mitigation.

Loss of the western hedgerow should be mitigated by replanting a similar hedge along the realigned boundary. The new hedge should incorporate a hedge bank and its composition should reflect the species currently found in both the western and eastern hedges. Although a newly created hedge is not of comparable value to an established hedge the proposals involve creation of a significant additional length of new hedgerow. This additional length of hedgerow would provide sufficient mitigation for the proposed loss.

Before the western hedge is removed it should be searched for, so that adverse impacts on this species can be avoided. If possible any woody vegetation should be removed outside the bird breeding season (15th February to 31st August). If removal within this period is required the vegetation should be checked for occupied birds' nests and if any is found then delays to works would be necessary.

Retained hedges should be protected against adverse impacts during the construction phase.

The current layout shows the eastern hedge abutting domestic gardens. It would therefore be potentially vulnerable to inappropriate management by householders. This impact could be avoided by installing a fence or some other physical barrier to protect the hedge and guide maintenance. The western hedge does not abut gardens and would therefore not be vulnerable to this potential impact.

No requirement for further survey has been identified.

## **ENHANCEMENT**

Enhancement could be achieved by carrying out planting of native tree and shrub species. Thorny and berry-bearing species would be particularly valuable for BAP bird species such as dunnock, song thrush and house sparrow. Planting along the site's northern boundary and along the southern part of the western boundary would be particularly beneficial in improving connectivity between the other hedges in the area.

Ornamental planting should incorporate nectar-rich species likely to be attractive to invertebrates, including bumblebees.

Fitting bird and bat boxes to trees would be beneficial.

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