Hallam Land Management Ltd

NW Bicester

REPTILE SURVEY REPORT

November 2021

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Rev	Issue Status	Prepared / Date	Approved / Date
-	Draft	OJB / 08.10.2021	JD / 11.10.2021
A	Final	-	JD ./ 23.11.2021

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1.0 INTRODUCTION

1.1 This report has been prepared by FPCR Environment & Design Ltd on behalf of Hallam Land Management Ltd. and provides details of reptile surveys undertaken on a site to the north-west of Bicester (central OS grid reference SP 570 251), hereafter referred to as 'the Site'.

1.2 This report should be read in conjunction with the Ecological Appraisal and associated protected species reports produced for this site.

Site Location & Context

1.3 The Site is dominated by arable cropland with species poor semi-improved and improved grassland for grazing livestock, scattered scrub, hedgerows, and a small woodland block. Three small watercourses bisect the Site, one close to the Site's northern boundary, a second towards the southern end of the Site and the third running north-south from the existing development to join the River Bure at Lords Lane. Along these watercourse corridors there is a mix of dense and scattered scrub and standard trees.

1.4 The Site is bound by existing residential development to the north-east, the railway approaching Bicester North station to the south. The remaining perimeter of the Site is bound by existing agricultural boundaries.

Site Proposals

1.5 The site is proposed as a mixed-use development, with an extensive network of green infrastructure and public open space including which provides opportunities for habitat mitigation and enhancements.

2.0 LEGISLATION

2.1 All common reptile species, including slow worm *Anguis fragilis*, common lizard *Zootoca vivipara* and grass snake *Natrix helvetica*, are partially protected under Sections 9(1) and 9(5) of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)[1]. This legislation protects these animals from:

- intentional killing and injury;
- selling, offering for sale, possessing, or transporting for the purpose of sale or publishing advertisements to buy or sell a protected species.

2.2 This partial protection does not directly protect the habitat of these reptile species. Where these animals are present on land that is to be affected by development, the implications of legislation are that providing that killing can reasonably be avoided then an operation is legal.

2.3 All reptile species are Species of Principal Importance under Section 41 of the NERC Act (2006)[2].

[1] The Wildlife and Countryside Act 1981 (as amended). [Online]. London: HMSO Available at: http://www.legislation.gov.uk/ukpga/1981/69

[2] The Natural Environment and Rural Communities Act 2006. [Online]. London: HMSO Available at: http://www.legislation.gov.uk/ukpga/2006/16/contents

3.0 METHODOLOGY

Desktop Study

3.1 To compile existing baseline ecological information, the following statutory and non-statutory organisations were consulted for data regarding designated sites for which reptiles are a qualifying feature, and protected/notable reptile records:

- Natural England via the Multi Agency Geographic Information for the Countryside (MAGIC) website
- Thames Valley Ecological Records Centre (TVERC)

3.2 The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the Site, as follows:

- 15km around the Site boundary for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites);
- 2km around the Site boundary for statutory sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs)) and
- 1km around the Site for non-statutory designated sites of County Importance (e.g. Sites of Importance for Nature Conservation (SINCs)/Local Wildlife Sites (LWSs) and protected or otherwise notable species records within the last 20 years.

3.3 Further inspection, using colour 1:25,000 OS base maps and aerial photographs, was also undertaken to provide additional context and identify features of potential importance for nature conservation in the wider landscape.

Field Survey

Habitat Suitability

3.4 An assessment of the suitability of the habitats on site for reptiles was performed in conjunction with the Extended Phase 1 habitat survey on the site in 2020 and 2021. This confirmed that some areas of suitable reptile habitat were present on site and could potentially be impacted by the proposed development.

Reptile Presence/Absence Survey

3.5 A strategic reptile presence/absence survey was undertaken at specific locations offering potential habitat within the application site boundary. The survey was undertaken based on methodology detailed in the *Herpetofauna Workers Manual* (Gent and Gibson, 1998)[3] and the *Froglife Advice Sheet 10 - Reptile Survey* (Froglife 1999)[4]. Methods involved a search for basking reptiles on/under naturally occurring and strategically positioned artificial refugia. The artificial refugia used were 0.5m^2 sections of roofing felt with a black upper side. These were placed in locations that offered

[3] (2003) Herpetofauna Workers Manual

[4] Froglife (1999) Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. *Froglife Advce Sheet 10.*

the most suitable habitat for common reptiles i.e. across the grassland, along some field margins and around the woodland edges.

3.6 The survey was undertaken in two parts due to changes to the red line and access arrangements for survey. The first deployment of 63 artificial refugia on the 18th August 2020 covered the eastern half of a marshy grassland area across the north of the site with a second deployment of a further 123 artificial refugia on 29th April 2021 covering the remaining areas of suitable habitat across the site – the western half of the marshy grassland area to the north, the mature hedgerow splitting the two arable parcels south of Bucknell Road, and the hedgerow with associated ditch forming the northern boundary of the grazing pasture in the southeast corner of the Site. The locations of all 186 artificial refugia are shown in Figure 1.

3.7 All the surveys were undertaken in September 2020 and between 19th May 2021 and 1st July 2021 by suitably experienced FPCR ecologists. The surveys were carried out in appropriate weather conditions i.e. air temperature between 9 and 20°C, no strong wind or heavy rain.

3.8 In addition, the surveys also followed the guidelines recommendations by:

- Approaching refugia from downwind and avoiding casting a shadow and with care so as to not disturb basking animals when checking;
- Lifting and replacing tins, to check for the presence of reptiles underneath in hot weather, is undertaken with care to avoid potential harm to any animals underneath;
- Mapping the location and number of refugia to aid survey and avoid the possibility of leaving refugia in situ upon completion of the survey.

Survey Limitations

3.9 All 2020 surveys were carried out in September inside the recommended optimal survey period of April-May and September. Several of the 2021 were carried out in June and July, outside this optimum window but reptile species will still be active during these months. In accordance with the guidelines, survey visits outside the optimum months were undertaken during optimum weather conditions and therefore the surveys conducted during this time are considered to provide a reliable determination of the presence or likely absence of reptile species to be made.

Assessment

3.10 Reptile populations were assessed in accordance with population level criteria as stated in the Key Reptile Site Register (HGBI, 1998[5]). This system classifies populations of individual reptile species into three population categories assessing the importance of the population (Table 1). These categories are based on the total number of adult animals observed during individual survey occasions.

Table 1: Key Reptile Site Survey Assessment Categories (HGBI 1998)

Species	Low Population (No. of individuals)	Good Population (No. of individuals)	Exceptional Population (No. of individuals)
Adder	<5	5 - 10	>10

[5] HGBI (1998) Evaluating local mitigation/translocationprogrammes: Maintaining Best Practics and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). Herpetofauna Groups of Britain and Ireland, c/o Froglife, Halesworth.

Species	Low Population (No. of individuals)	Good Population (No. of individuals)	Exceptional Population (No. of individuals)
Common lizard	<5	5 - 20	>20
Grass snake	<5	5 - 10	>10
Slow worm	<5	5 - 20	>20

4.0 RESULTS & ASSESSMENT

Desktop Study

4.1 None of the statutory or non-statutory sites close to the Site are designated for the populations of reptiles they support. Records of five herptile species including two reptiles, namely common lizard and grass snake, are known from within the last 20 years within 1km of the site boundary though there are no records from within the Site itself and records are separated from the site by existing roads or development. .

Habitat Assessment

4.2 This confirmed that most of the site comprises arable farmland sown with cereal crops or maize and is unsuitable for supporting populations of reptiles. However, the marshy and rougher grassland areas towards the north of the site and the marginal habitats associated with the main watercourse do offer suitable habitat for grass snake. Overall it as considered that small areas of rough grassland, rubble piles and farm buildings, and the arable field margins were too small and narrow and/or more isolated to offer the greater structural diversity require by reptiles.

Reptile Field Survey

4.3 No reptiles were recorded on site during any of the survey sessions. A single grass snake was noted incidentally swimming across a pond circa 200m northwest of the site boundary at the east entrance to Manor Farm off Bainton Road, which has some habitat connection with the Site.

4.4 The prevailing weather conditions: wind speed, cloud cover, ambient temperature at time of survey commencing, and any other relevant weather-related comments are summarised in Table 2 below.

Table 2: Date and Weather Conditions during Reptile Surveys

Survey	Date	Time	Weather	Reptile Sighting
2020				
1	01.09.20	07:34	Cloud 20-30%, Wind 0, Temp 11° Conditions: Hazy, Clear	None
2	04.09.20	16:30	Cloud 30-40%, Wind 1-2, Temp 17° Conditions: Bright, Clear	None
3	07.09.20	16:17	Cloud 80-90%, Wind 2/3, Temp 17° Conditions: Rain earlier in the day	None

Survey	Date	Time	Weather	Reptile Sighting
4	15.09.20	08:08	Cloud 0-10%, Wind 0, Temp 15° Conditions: Bright, Clear	None
5	21.09.20	09:03	Cloud 70-80%, Wind 1/2, Temp 12° Conditions: Bright, Overcast	None
2021				
1	19.05.21	10:04	Cloud 30-40%, Wind 0, Temp 11° Conditions: Rain earlier in the day	None
2	25.05.21	17:03	Cloud 30-40%, Wind 1/2, Temp 14° Conditions: Rain earlier in the day	None
3	02.06.21	08:28	Cloud 0-10%, Wind 1/2, Temp 15° Conditions: Bright, Clear	None
4	15.06.21	18:42	Cloud 10-20%, Wind 1/2, Temp 20° Conditions: Sunny, Clear	None
5	23.06.21	18:25	Cloud 0-10%, Wind 1/2, Temp 20° Conditions: Bright, Clear	None
6	01.07.21	08:00	Cloud 0-10%, Wind 1/2, Temp 19° Conditions: Bright, Clear	None

4.5 It is considered therefore that, whilst some of the habitats on site appear suitable for supporting populations of reptiles, the Site is not occupied by notable populations of any reptile species, although does have some potential provide foraging habitat for individual grass snake which have a large home-range.

Other Species

4.6 No other notable or protected species were noted incidentally during the reptile survey sessions.

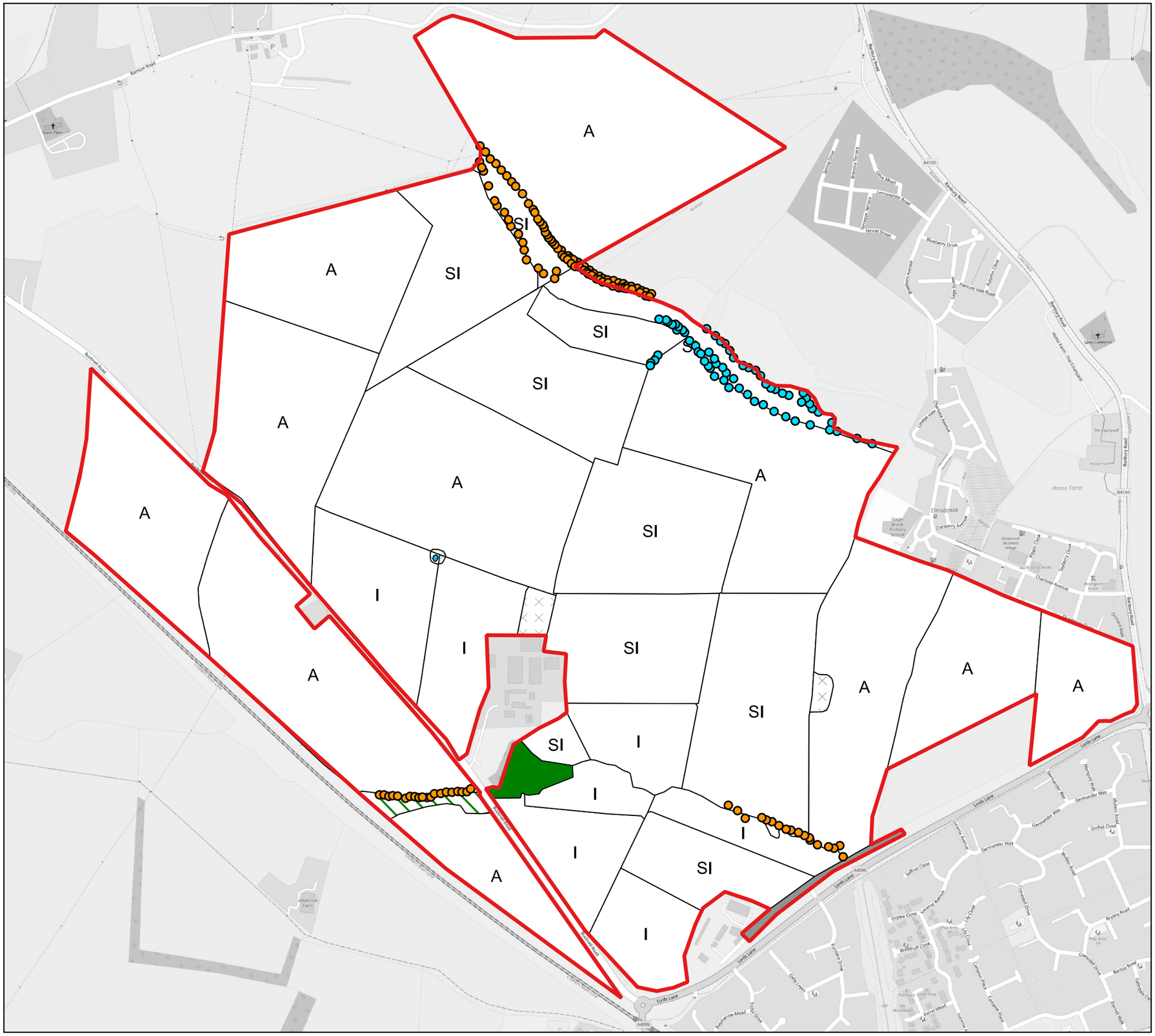
5.0 DISCUSSION & RECOMMENDATIONS

Although habitats within the site are considered to provide some potential for occupation by reptile species, no records of reptiles were returned from the desk study within the site boundary and no reptiles were observed on any of the survey occasions. Overall the habitats lack the structural mosaic required to support a viable population through their life cycle, with predominantly only movement with some foraging and sheltering habitat provided by the Site's habitats, largely along linear features and within areas of scrub and rougher grassland areas to the north along the ditch, which are otherwise surrounded by less hospitable habitats such as arable fields with roads and hardstanding associated with new and existing development in the local reducing the value of the Site and limited colonisation of these habitats by reptile species.

5.1 Based on the above, it is considered that the presence of a viable population of reptiles can be reasonably discounted. However given the sighting of a grass snake nearby during other surveys, and records of grass snake in the wider area it is considered that individual animals may occasionally use the Site for foraging and shelter.

5.2 As reptiles are protected from harm or injury, precautionary measures should be undertaken with respect to site clearance in areas of suitable habitat, including linear features such as hedgerows and ditches and any areas of scrub or tussocky grassland. This should include hand searches and supervised removal with supervised removal of any potential sheltering habitat undertaken outside of the winter hibernation period (November – early March/April).

5.3 Green infrastructure should include suitable reptile habitat, providing a more a structurally diverse habitat complex with a diversity of habitats available. The creation of log piles, hibernacula and compost piles at the transitional areas between scrub and grassland and around ponds, in south facing areas would provide potential basking and breeding habitat.



Key

Site Boundary Sept 2021

Tin Locations

2020 Surveys

2021 Surveys

Extended Phase 1 Survey Habitats

Broadleaved woodland - semi-natural

Built Environment: Buildings/hardstanding

A **Cultivated/disturbed land - arable**

Cultivated/disturbed land - ephemeral/short perennial

I **Improved grassland**

SI **Poor semi-improved grassland**

Scrub - dense/continuous

Scrub - scattered

Standing water

client
Hallam Land Management

project
Nortwest Bicester
Bicester

drawing title
REPTILE SURVEY RESULTS PLAN

scale 1:7500 | drawn OJB / JD | issue 8/10/2021

drawing / figure number
Figure 1

rev
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masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture

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