Reptile Survey
Corby Northern Orbital Road
For BeLa Partnership Ltd.
Delta-Simons Project No. 14-0117.14
Issued: September 2014
Delta-Simons Environmental Consultants Ltd was commissioned by BeLa Partnership Ltd. (‘the Client’) to undertake a reptile survey of land along the Corby Northern Orbital Road (CNOR) that runs from Steel Road to Phoenix Parkway to the east of Corby, Northamptonshire (‘the Site’).

The Site is located approximately 1 km to the north-east of Corby, Northants. It is situated with Rockingham Motor Speedway to the north and Weldon Industrial Estate to the south. It is understood that the road route covers land previously utilised for mineral extraction works and existing road networks. The CNOR starts on Steel Road, which is an existing road network, before running parallel to the route of a former mineral railway line across previously quarried land. It joins with existing roads to connect to Phoenix Parkway. The road scheme east of the Willow Brook is completed, whilst to the west it is still under construction and the surrounding area is largely made up of bare ground with patches of ephemerals/short perennials, a strip of amenity grassland and patches of scrub. There are also two areas of woodland within close proximity to the Site. One is to the south on the former Tata Steelworks land whilst a second smaller woodland is situated in between the Speedway and the road footprint. There are also a number of ponds within close proximity to the Site.

It is understood that the Site is being developed to provide access for residential properties, schools and commercial buildings associated with the Priors Hall development. This requires extensive earthworks to level out the Site. Sections of woodland and grassland will be included within the landscaping works and two attenuation ponds have been built, with a third due to be built.

Both grass snake and common lizard were found on-Site. Only one snake was seen in Area A, whilst small numbers of lizards were seen on all four surveyed areas.

Recommendation 1
Annual reptile monitoring should be continued along the CNOR as required under the Ecological Management Plan to assess the population status and determine whether or not any mitigation is required.

Recommendation 2
It is recommended that the updated landscaping plans for the Site that have been prepared by Mullin Design Associates in September 2014 are implemented as soon as possible in order to ensure that available habitat for reptiles across the Site increases following completion of the CNOR construction works.

This Reptile Survey Executive Summary is intended as a summary of the assessment of the Site based on information received by Delta-Simons at the time of production. The Executive Summary should be read in conjunction with the full Report.
TABLE OF CONTENTS

1.0 INTRODUCTION ......................................................................................................... 1
  1.1 Purpose and Scope of the Survey...............................................................1
  1.2 Site Description..............................................................................................1
2.0 LEGISLATION ............................................................................................................. 3
  2.1 Reptiles ........................................................................................................3
  2.2 Planning .........................................................................................................3
3.0 METHODOLOGY ........................................................................................................... 4
  3.1 Habitat Suitability Assessment ........................................................................4
  3.2 Previous Reptile Survey ................................................................................4
  3.3 Reptile Survey ...............................................................................................4
  3.4 Reptile Population Assessment ......................................................................5
4.0 RESULTS ..................................................................................................................... 6
  4.1 Previous Survey Report Results ....................................................................6
  4.2 Habitat Suitability Assessment ....................................................................6
  4.3 Refugia Survey .............................................................................................7
  4.4 Reptile Population Assessment ....................................................................7
5.0 CONCLUSIONS AND RECOMMENDATIONS ......................................................... 9
  5.1 Conclusions.................................................................................................9
  5.2 Recommendations ......................................................................................9
6.0 LIMITATIONS OF SURVEY ..................................................................................10

Tables

Table 1 Number and Associated Micro-Habitats Supporting Artificial Refugia
Table 2 Survey Timings and Weather Conditions
Table 3 Reptile Survey Results

Figures

Figure 1 Site Location Map
Figure 2 Site Layout and Location of Artificial Reptile Refugia

Appendices

Appendix I References
1.0 INTRODUCTION

1.1 Purpose and Scope of the Survey

Delta-Simons Environmental Consultants Ltd was commissioned by BeLa Partnership Ltd. (the ‘Client’) to undertake a reptile survey of land being developed to create the Corby North Orbital Road (CNOR) in Corby, Northamptonshire (hereafter referred to as ‘the Site’). The Site comprises a combination of both long and heavily grazed areas of grassland and scrub, with occasional water bodies and open ground, considered suitable to support reptile species. The survey was conducted to determine the presence/likely absence of reptiles, and where present, their distribution across the Site.

The purpose of the reptile survey was to:

△ Determine the presence or likely absence of reptiles and the specific species, where present, at the Site;
△ Make an assessment of the size of any reptile populations present;
△ If reptiles are present determine the extent of the impact of the proposals on the population(s); and
△ Provide recommendations for further surveys and/ or mitigation measures that may be necessary.

The Site location is shown in Figure 1.

1.2 Site Description

The CNOR Site covers an area of approximately 22 hectares and comprised broadleaved plantation woodland, broadleaved semi-natural woodland, poor semi-improved grassland fields with associated hedgerows and scattered trees. However, the majority of the road is already built and the rest is under construction with patches of bare ground ready for development. There are also a number of ponds within close proximity to it that comprise man-made receptor ponds, occasional naturally formed
ponds and attenuation ponds. The Willow Brook, in the northern extent of the Site, runs south to north through the Site.

The Site is surrounded by mostly bare ground, whilst beyond that to the south is woodland within the former Tata Steelworks land, and to the south of it is the Willowbrook East Industrial Estate. To the immediate north, colonisation of the former bare ground habitat by ephemerals/short perennials has occurred, with a strip of amenity grassland to the north of that, beyond which is a large area of bare ground and gravel car parking associated with the Rockingham Motor Speedway. A small parcel of woodland lies in between the Speedway and the Site.

1.3 Proposed Developments
It is understood that the Site is being developed to provide access for residential properties, schools and commercial buildings associated with the Priors Hall development. This requires extensive earthworks to level out the Site. Sections of woodland and grassland will be included within the landscaping works and two attenuation ponds have been built, and a third is to be built.
2.0 LEGISLATION

2.1 Reptiles

All six native species of reptiles, including common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus*, grass snake *Natrix natrix*, smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are protected under the 1981 Wildlife and Countryside Act (WCA) (as amended), from deliberate or reckless killing or injury. As such, all reasonable steps must be taken to avoid their incidental mortality when carrying out works.

Smooth snake and sand lizard receive further protection under the Conservation of Habitats and Species Regulations 2010, which makes it an offence to damage or destroy places that they use for breeding, resting, shelter and protection. It is also an offence to deliberately capture, injure or kill these species, and to intentionally or recklessly disturb them while occupying a structure or place it uses for shelter or protection; or to obstruct access to any structure or place which it uses for that purpose. Further it is illegal to damage/destroy a breeding site or deliberately take/destroy the eggs of such an animal.

2.2 Planning

The Office of the Deputy Prime Minister (ODPM) Circular (2005) advises that ecological surveys are undertaken before planning permission is determined. The circular states “The need to ensure that ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances” (see References, Appendix I).
3.0 METHODOLOGY

3.1 Habitat Suitability Assessment
An initial walkover of the Site was undertaken in order to assess the different habitat types present and to determine areas of habitat suitability for reptiles at the Site. An assessment was made of the micro-habitats present which informed the most appropriate and effective placement of artificial refugia across the Site.

3.2 Previous Reptile Survey
Reptile surveys were undertaken by Penny Anderson Associates (PAA) in April and May 2004 of the Morrison’s site, through which the CNOR route passes. The survey results were used to inform the CNOR Environmental Statement (ES) Biodiversity chapter written by Wardell Armstrong in November 2006.

3.3 Reptile Survey
Survey methodologies followed recommendations in the Herpetofauna Workers’ Manual (Gent & Gibson 2003) and comprised the placement and seven checks of artificial refugia within areas of suitable reptile habitat across the Site.

A total of 190 artificial refugia were placed at the Site in order to ensure a minimum density of 10 refugia per hectare as recommended by the Herpetofauna Groups of Britain and Ireland (HGBI, 1998). These were all corrugated bitumen roofing sheets, each measuring 0.5 m x 0.5 m. After allowing 14 days for the artificial refugia to settle into the sward they were all checked, above and below, on seven separate occasions for reptiles. In addition to checking artificial refugia, a cold search of natural refugia and on-Site debris was also undertaken during each check. This involved any rocks or debris being overturned to check for reptiles. Any reptiles found were identified and where possible a rough age category and sex was determined. The location of any reptiles found was recorded in order to determine the general usage of the Site by reptile species.

The survey visits were undertaken by a suitably qualified ecologist during appropriate weather conditions between 30th June 2014 and 16th July 2014. A viable survey was
considered to be within a temperature range of between 10 - 20 °C (Edgar et al., 2010) with no heavy rain or considerable overnight frost.

### 3.4 Reptile Population Assessment

Estimating reptile population size from refugia surveys can be difficult (see 6.0 Limitations). However, an assessment of whether or not the population is likely to be significant within the local area was undertaken based on the numbers of reptiles recorded over the survey visits, the density of refugia used, and the overall size of the Site and surrounding suitable habitat.
4.0 RESULTS

4.1 Previous Survey Report Results
It is understood from the Wardell Armstrong ES chapter prepared for the Site that a 'good' population of common lizards (numbers not given, however, 'good' represents numbers from 5 – 10), and a 'small' population of grass snakes (4 total) were recorded by PAA in April and May 2004. No detailed survey data is available.

4.2 Habitat Suitability Assessment
The Site is surrounded by mostly bare ground, whilst beyond that to the south is woodland within the former Tata Steelworks land, and to the south of it is the Willowbrook East Industrial Estate. To the immediate north, colonisation of the former bare ground habitat by ephemerals/short perennials has occurred, with a strip of amenity grassland to the north of that, beyond which is a large area of bare ground and gravel car parking associated with the Rockingham Motor Speedway. A small parcel of woodland lies in between the Speedway and the Site that offers potential hibernation habitat for reptiles.

There is amenity grassland along the edge of Mitchell Road on the north-west of the Site, which is not considered ideal habitat for reptile species. Areas of rough grassland and scrub exist south of Mitchell Road and around Attenuation Pond 1 (AP 1) and along the Willow Brook corridor, which offer suitable habitat for reptiles. The two areas vary in floral species present as the stretch along Mitchell Road has developed naturally, whilst the area next to the attenuation pond has been planted with a wildflower seed mix as part of the development. Open areas of bare ground habitat around the edge of Attenuation Pond 2 (AP 2) offer basking habitat for reptiles, with scrub beyond for shelter.

Following this assessment of habitat suitability and variation during a walkover of the Site, the artificial refugia were placed in a variety of micro-habitats across the Site. Their locations are shown in Figure 2 and habitat details are given in Table 1 below.
Table 1: Number and Associated Micro-Habitats Supporting Artificial Refugia

<table>
<thead>
<tr>
<th>Area</th>
<th>Micro-Habitat</th>
<th>Number of Refugia</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Short grassland with scattered trees and scrub.</td>
<td>50</td>
</tr>
<tr>
<td>B</td>
<td>Poor semi-improved grassland along CNOR attenuation pond 1 bank with wildflower mix and newly planted trees.</td>
<td>40</td>
</tr>
<tr>
<td>C</td>
<td>Poor semi-improved grassland with scrub. Borders woodland and CNOR attenuation pond 2.</td>
<td>50</td>
</tr>
<tr>
<td>D</td>
<td>Poor semi-improved grassland 50cm+ high with scrub. Within area is the Roundabout pond.</td>
<td>50</td>
</tr>
</tbody>
</table>

4.3 Refugia Survey

Both grass snake and common lizards were recorded on-Site during the seven survey visits.

Common lizard were found in low numbers all four of the survey areas. Some were seen on top of the refugia rather than underneath, and quickly moved away. Only one grass snake was seen during the seven visits and this was a juvenile snake found within area A. Over the seven visits, all areas recorded low numbers of reptiles.

The dates the survey checks were undertaken and weather conditions are given in Table 2, and the numbers of reptiles found within each micro-habitat area are presented in Table 3.

One Great Crested Newt (GCN) was found under a refugia tile in Area B and two in Area C. These were close to the attenuation ponds where GCNs are known to breed.

4.4 Reptile Population Assessment

Although it is difficult to estimate the common lizard population size from the results, when the number of adults recorded against the number of refugia used and the overall area of the Site, it is considered likely that the Site supports a small population of common lizard.
### Table 2 – Survey Timings and Weather

<table>
<thead>
<tr>
<th>Reptile Check</th>
<th>Date</th>
<th>Start Time</th>
<th>Weather Conditions</th>
<th>Cloud Cover</th>
<th>Temperature</th>
<th>Wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>30.06.14</td>
<td>09:00</td>
<td>Sunny/Cloudy</td>
<td>80-95%</td>
<td>15-18°C</td>
<td>Light breeze</td>
</tr>
<tr>
<td>No. 2</td>
<td>01.07.14</td>
<td>07:15</td>
<td>Sunny</td>
<td>1%</td>
<td>14-17°C</td>
<td>Light breeze</td>
</tr>
<tr>
<td>No. 3</td>
<td>02.07.14</td>
<td>07:15</td>
<td>Sunny</td>
<td>1%</td>
<td>14-19°C</td>
<td>Very Light breeze</td>
</tr>
<tr>
<td>No. 4</td>
<td>03.07.14</td>
<td>07:15</td>
<td>Overcast</td>
<td>99%</td>
<td>13-19°C</td>
<td>Light breeze</td>
</tr>
<tr>
<td>No. 5</td>
<td>04.07.14</td>
<td>07:15</td>
<td>Sunny</td>
<td>50%</td>
<td>14-18°C</td>
<td>Light breeze</td>
</tr>
<tr>
<td>No. 6</td>
<td>15.07.14</td>
<td>05:30</td>
<td>Overcast</td>
<td>100%</td>
<td>16°C</td>
<td>Light breeze</td>
</tr>
<tr>
<td>No. 7</td>
<td>16.07.14</td>
<td>07:00</td>
<td>Sunny</td>
<td>0%</td>
<td>18°C</td>
<td>No wind</td>
</tr>
</tbody>
</table>

### Table 3: Reptile Survey Results

<table>
<thead>
<tr>
<th>Visit</th>
<th>Area</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X</td>
<td></td>
<td>1 lizard</td>
<td>1 lizard, 1 GCN</td>
<td>3 lizards, 1 GCN</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>1 lizard, 1 GCN</td>
<td></td>
<td>2 lizards, 2 GCN</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>1 grass snake</td>
<td>1 lizard</td>
<td>1 grass snake, 1 lizard</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>1 lizard</td>
<td>3 lizards</td>
<td>4 lizards</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>X</td>
<td></td>
<td>X</td>
<td>1 GCN</td>
<td>1 GCN</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>X</td>
<td></td>
<td>X</td>
<td>1 juvenile lizard, 1 smooth newt</td>
<td>1 lizard, 1 smooth newt</td>
<td></td>
</tr>
</tbody>
</table>

NB: X = No reptiles found
5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions
Both grass snake and common lizard were recorded on Site during the surveys. Only one snake was recorded within Area A, whilst small numbers of common lizards were recorded within all four areas. Whilst the limited historic data available would suggest that grass snake numbers within the local area have been low for some time, numbers of common lizard appear to have dropped slightly. One possibility for the low numbers could be the result of disturbance due to the ongoing construction works and regular passing of works vehicles close to suitable habitat.

Individual GCN were also recorded under mats in Areas B and C within close proximity to the attenuation ponds where medium and large sized populations were recorded to be breeding during the CNOR newt surveys.

5.2 Recommendations
Recommendation 1
Annual reptile monitoring should be continued along the CNOR as required under the Ecological Management Plan to assess the population status and determine whether or not any mitigation is required.

Recommendation 2
It is recommended that the updated landscaping plans for the Site that have been prepared by Mullin Design Associates in September 2014 are implemented as soon as possible in order to ensure that available habitats for reptiles across the Site increases following completion of the CNOR construction works.
6.0 LIMITATIONS OF SURVEY

The extensive sunshine and high temperatures may have reduced the number of reptiles recorded as they were less likely to require the refugia to increase their body temperature. On the 6th and 7th Site visits a few of the mats had been removed around Area 3.

The sex of the adult lizards could not be determined due to undistinguishable body patterns or fast movement of the lizards, which meant that they were quickly out of sight.

Each reptile survey visit reveals only a sample of the population and the proportion of the population recorded varies according to complex weather conditions both during the survey and the days immediately preceding the survey and, therefore, estimating population size can be difficult.

The behaviour of animals can be unpredictable and may not conform to characteristics recorded in current scientific literature. This Report, therefore, cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats or that they will not occur in locations or habitats that appear unsuitable.

The recommendations contained in this Report represent Delta-Simons' professional opinions, based upon the information referred to in Section 4 of this Report, exercising the duty of care required of an experienced Ecology Consultant.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1 of this Report. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify
and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.
This Report was prepared by:

Catherine Bywood

Graduate Ecologist

This Report was reviewed and authorised by:

Charlotte Sanderson

Ecology Unit Manager
References


Office of the Deputy Prime Minister (2005): Circular 06/05: Biodiversity and geological conservation - statutory obligations and their impact within the planning system.

The Conservation of Habitats and Species Regulations 2010 (as amended) HMSO

Wildlife and Countryside Act 1981 (as amended), HMSO.