



Technical Appendix 2: Results of Reptile Survey

Woolley Colliery, Darton

Gleeson Developments Limited

Prepared by:

SLR Consulting Limited

Unit 2, Newton Business Centre, Thorncliffe Park
Estate, Newton Chambers Road, Chapeltown,
Sheffield, S35 2PH

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1	10 February 2025	Charlotte Baldwin	Tom Redman	Tom Redman

Basis of Report

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1.0 Introduction and Background

SLR Consulting Limited (SLR) was instructed by Gleeson Developments Limited to undertake reptile presence / likely-absence surveys for land at Woolley Colliery, Darton, Barnsley, S75 5RR (central ordnance survey grid reference (OSGR): SE 31039 10756).

This report outlines the findings of reptile surveys conducted in 2024 within the redline boundary of the development, comprising the 'Northern Site' and 'Southern Site,' as well as the surrounding habitats within the land parcel designated as the proposed 'Biodiversity Offsetting Area' (BOA). Together, these areas are referred to as the 'Survey Area.' Figure 1 illustrates the Survey Area boundary, survey locations, and results.

The assessment of impacts resulting from the proposed development and the development of mitigation measures, if required, would be covered separately within the Ecological Impact Assessment (EclA) report.

1.1 Relevant Legislation and Planning Policy

In England, all species of native reptiles which have potential to be present within the Site are protected under the Wildlife and Countryside Act 1981¹ (W&CA), as amended by the Countryside and Rights of Way (CRoW) Act 2000² and the Natural Environment and Rural Communities (NERC) Act 2006³.

In summary, it is an offence to:

- Deliberately / intentionally kill, injure or take native reptiles; and
- Possess, trade or sell or transport any live or dead specimen or anything derived from native reptiles.

All native reptile species are additionally listed on Section 41 of the NERC Act 2006⁴ as species of principal importance (SPI) for nature conservation.

1.2 Evidence of Technical Competence and Experience

Reptile refugia were deployed by a team of two SLR Consulting Ecologists, Mr Aaron Bailey and Mr Edmund Austin. Surveys were undertaken by SLR Consulting Ecologists Mr Aaron Bailey and Ms Charlotte Baldwin. All Ecologists involved follow the Chartered Institute of Ecology and Environmental Management's (CIEEM) code of professional conduct when undertaking ecological work.

This report was authored by Ms Charlotte Baldwin, Graduate Ecologist with SLR Consulting, with a year's ecological surveying experience.

This report has been subject to Quality Assurance review as per SLR's policies Associate Ecologist Tom Redman, who is a full member of CIEEM (MCIEEM). Tom has over seven years' experience within ecological consultancy and regularly undertakes and reviews preliminary ecological appraisals (PEAs) and EclAs at various project scales. Tom holds Natural England survey licences for great crested newt (*Triturus cristatus*) (GCN) (class 2), bats (class 4) and barn owl (*Tyto alba*).

¹ www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1981/cukpga_19810069_en_1

² <https://www.legislation.gov.uk/ukpga/2000/37/contents>

³ http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1



2.0 Methodology

2.1 Desk Study

A desk study was conducted in July 2024¹. A summary of the reptile records returned within 2 km of the Site are provided in this report.

2.2 Habitat Suitability Assessment

An assessment of the suitability of habitats on Site to support populations of reptile species was undertaken as part of the extended UKHab Habitat Survey undertaken 24 – 26 July 2024 for the purposes of the EclA¹. A summary of the suitable habitats, including those targeted for survey are provided in this report.

2.3 Artificial Refugia and Direct Observation Surveys

The reptile survey method employed was based on guidelines published by the Herpetofauna Groups of Britain and Ireland (HGBI) (1998)⁴, Froglife (1999)⁵ and Gent and Gibson (2003)⁶.

This involved the use of 140 artificial refugia (sections of heavy-duty bitumen roofing felt) measuring 50 cm x 50 cm deployed across areas of suitable reptile habitat within the Survey Area, exceeding the recommended minimum density of 10 refugia per hectare of suitable habitat. Suitable reptile habitat within the Survey Area comprised of tall grassland and sparsely vegetated rubble. Bitumen roofing felt offers suitable refugia due to its heat retaining characteristics, which is attractive to basking reptiles during the spring and autumn months, and early or later parts of the day during summer. Locations of deployed refugia, and the quantity deployed at each location, are illustrated in Figure 1.

Although not specifically deployed to survey for amphibians, refugia can also be used as a place of shelter by amphibians; therefore, the presence of amphibians was also recorded where encountered.

The refugia were deployed on across 29-30th of July 2024 and then allowed to bed-in for a minimum of ten days prior to survey. They were subsequently inspected over seven visits between 9th of August and 4th of October, before being removed.

Refugia inspection surveys were combined with 'direct observation', whereby potentially suitable habitat was searched for reptiles basking on, for example, tufts of grass or logs; or under artificial materials like plastic sheeting.

The date and time of each visit, and weather conditions during the visit, were recorded, and these are presented in Table 2-1. Surveys were only conducted in suitable weather conditions.

⁴ Herpetofauna Groups of Britain and Ireland (HGBI) (1998) Evaluating local mitigation/translocation programmes: maintaining best practice and lawful standards. HGBI advisory notes for amphibian and reptile groups HGBI c/o Froglife, Halesworth

⁵ Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

⁶ Gent, T. and Gibson, S. (2003) Herpetofauna Workers Manual. JNCC, Peterborough.



Table 2-1: Dates, times and prevailing weather conditions of reptile survey visits

Visit	Date	Start Time	Start Temp. °C	End Time	End Temp. °C	Weather (wind Beaufort scale / cloud Okta scale)
1	09/08/24	08:00	16	11:00	18	Light breeze (2/12) (W), cloud cover 6/8 start, cloud cover 4/8 finish.
2	19/08/24	08:00	13	11:00	18	Light breeze (2/12) (N), cloud cover 8/8 start and finish.
3	11/09/24	17:25	13	19:20	11	Moderate breeze (4/12) (W), cloud cover 6/8 start and finish.
4	16/09/24	10:15	13	11:45	15	Light air (1/12) (N), cloud cover 1/8 start and finish.
5	20/09/24	16:40	18	18:30	17	Light breeze (2/12) (NE), cloud cover 8/8 start, 7/8 finish.
6	27/09/24	11:40	10	14:00	11	Moderate breeze (4/12) (NNE), cloud cover 2/8 start and finish.
7	04/10/24	12:00	12	14:30	14	Moderate breeze (4/12) (S), cloud cover 8/8 start and finish.

2.4 Limitations

During the survey on September 11th, it was found that several refugia were missing: 10 from the northeastern field, three from the northwestern line, and four from the southeastern line. The majority of the refugia remained on site, and the missing refugia were replaced on the 16th of September. Therefore, this was not considered to be a significant constraint to the reptile surveys, and the results are considered valid and robust.

Four out of the seven survey visits were completed in September, which is within the optimal survey window for reptiles, however, the survey period was extended to include three survey visits across August and October, to sample a wider survey window, and minimise limitations. While August and October are outside the optimal survey window for reptiles, due to the possibility of unsuitable temperatures, both months fall within the reptile survey window and the weather conditions during these months were carefully assessed. All surveys were carried out in suitable temperature conditions. Survey timings were selected to target optimal weather conditions and to cover a range of times of day. In October, temperatures were similar to those in September and met the recommended parameters. Additionally, the days leading up to the October survey had favourable conditions, with overnight temperatures remaining high enough to prevent torpor or hibernation behaviours.



3.0 Results

3.1 Desk Study

A total of five records of common lizard (*Zootoca vivipara*) were returned within 2 km of the Site and BOA, all from 2019. These records are scattered across connected land to the northwest of the Site and BOA; c. 340 m from the BOA and c. 520 m from the Northern Site.

Reptile surveys completed of the Site for a previous planning application 2022/0619 across 2019⁷ and 2022⁸ recorded no reptiles in 2019, and a single common lizard record in 2022, within the Southern Site. However, the surveys did not cover some sections of the BOA.

3.2 Habitat Suitability Assessment

The Site and BOA contained parcels of suitable habitat for reptiles which included tall grassland and sparsely vegetated rubble. These areas covered approximately 4.5 ha of the Survey Area.

3.3 Artificial Refugia and Direct Observation Surveys

The results of the reptile surveys are provided in **Table 3-1**. A total of six common lizards were recorded within the Survey Area: five were observed during the reptile surveys, and one was discovered incidentally during the course of a habitat survey visit. The peak count was two individual common lizards observed on a single day. One adult common lizard was recorded within the Northern Site boundary (**Plate 1**), and one was recorded just to the west of, but close to the Northern Site boundary (**Plate 2**). The locations of reptiles recorded are shown in **Figure 1**. All recorded reptiles were found in the north of the Survey Area. No amphibians were recorded incidentally during the surveys.



Plate 1: Common lizard. OSGR: SE 31152 10779.

⁷ ECUS (2019). Woolley Colliery: Reptile Survey. Report Ref. 13165

⁸ Brooks Ecology (2022). Woolley Colliery Road, Barnsley: Reptile Survey. Report Ref. ER-6218-03B





Plate 2: Common lizard adult. OSGR: SE 31081 10762.



Plate 3: Common lizard juvenile. OSGR SE 30944 10791

Table 3-1: Reptile Survey Results

Visit	Date	Reptiles
-	07/08/24	1x Juvenile common lizard, OSGR: SE 30944 10791
1	09/08/24	None recorded
2	19/08/24	None recorded
3	11/09/24	1x Adult common lizard, OSGR: SE 31077 10764 1x Juvenile common lizard, OSGR: SE 30980 10817
4	16/09/24	1x Adult common lizard, OSGR: SE 31043 10872 1x Adult common lizard, OSGR: SE 31152 10779



Visit	Date	Reptiles
5	20/09/24	None recorded
6	27/09/24	1x Juvenile common lizard, OSGR: SE 30904 10898
7	04/10/24	None recorded

3.4 Population Assessment

The common lizard peak count equates to approximately 0.44 individuals per hectare of suitable habitat surveyed. This corresponds to a low population size using the definition by HGBI⁹ (Table 3-2), and a low population as defined by Froglife¹⁰ (Table 3-3).

Table 3-2 Reptile population size classification based on adult density per ha of suitable habitat (HGBI, 1998).

Species	Low	Medium	High
Common Lizard	<20/ha	>40/ha	>80/ha

Table 3-3 Reptile population size classification based on peak count on any one survey (Froglife, 1999).

Species	Low	Good	Exceptional
Common Lizard	<5	5-20	>20

⁹ Herpetofauna Groups of Britain and Ireland (1998) Evaluating local mitigation/ translocation programmes: maintaining best practice and lawful standards. HGBI Advisory notes for amphibian and reptile groups HGBI c/o Froglife, Halesworth.

¹⁰ Froglife (1999) Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10/ Froglife, Halesworth.





Figure 1 – Reptile Survey Results

Wooley Colliery, Darton

Woolley Colliery, Darton

Gleeson Developments Limited

SLR Project No.: 424.065302.00001

10 February 2025

430500

430750

431000

431250

431500

411000

410750

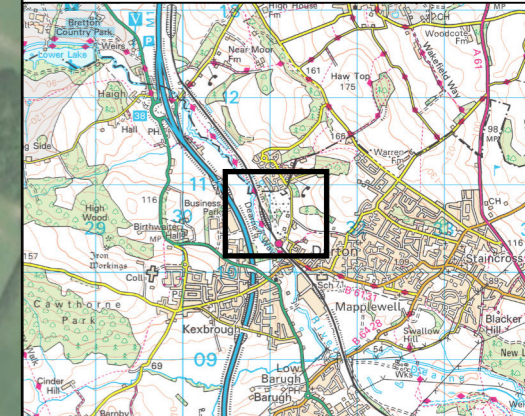
410500

424.065302.00001.0003.0 Reptile Survey



LEGEND

- Site Boundary
- Survey Boundary
- Suitable Reptile Habitat
- Line Of Reptile Refugia
- Common Lizard Positive Result Location (labeled with survey date)



WOOLLEY COLLIERY, DARTON
 REPTILE TECHNICAL APPENDIX
 REPTILE SURVEY RESULTS

FIGURE 1

Scale 1:3,500 @ A3 Date JANUARY 2025

