Reptile Survey (interim report)

BE-1704-01A
Deal Ground

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Report title	Reptile Survey (interim report)
Report reference	BE-1704-01
Revision	A
Site address	Deal Ground, Bracondale, Norwich
Grid reference	TG246073
Report composed by	David Watts MCIEEM
Client	Serruys Property Company Ltd
Date	7th June 2023

1. Introduction

Background

1.1. DWA Ecology have been instructed by Serruys Property Company Ltd to produce a Reptile Survey relating to a proposed development at Deal Ground, Bracondale, Norwich, hereafter referred to as 'the Site'.

1.2. The Site is approximately 19ha in size and covers an area of former industrial land and buildings. The Site lies between the Norwich-London rail line and the confluence of the rivers Wensum and Yare. The Site includes the Deal Ground, an area of industrial land to the north, which is the main focus of this report. Adjacent to this to the east is Carrow Marshes County Wildlife Site (CWS). To the south is May Gurney, an area of former industrial land which is not included within the scope of this report.

1.3. Previous reptile surveys in September 2000 did not identify any reptiles within the Site. Further reptile surveys in 2008 identified a good population of grass snakes (*Natrix helvetica.*) within the site, and it was acknowledged that common lizard (*Zootoca vivipara*) and slow worm (*Anguis fragilis*), which have been recorded within the surrounding area, may have since colonised the Site (Aspect Ecology 2008; 2022).

Aims and Objectives

1.4. The purpose of the report is to:

- Determine the presence/likely absence of reptiles.
- Identify general areas used by reptiles.
- Identify significant features used by reptiles, such as habitat interfaces, favoured microhabitats and major hibernation sites.

1.5. Note that the findings of this report are intended to inform the wider Ecological Impact Assessment (EcIA) for the site, therefore while the status of any reptile population of the site is acknowledged, this report does not provide detailed assessment or recommendations relating to reptiles and the proposed development.

1.6. At the time of writing, reptile surveys on the Site are ongoing, therefore the findings of this report may be subject to change. Despite this, the surveys detailed within this report do meet the minimum survey effort described in the relevant survey guidelines (see methods section for further details).

Qualifications of the Author

1.7. David Watts is a suitably qualified ecologist who is a full member of CIEEM, holds a BSc (Hons) Ecology, a PGCert Biological Recording, and holds Natural England class licences to survey bats, great crested newts (*Triturus cristatus*) and barn owls (*Tyto alba*).

2. Methods

Survey Methods

2.1. The survey was carried out in accordance with guidelines prescribed by Froglife (1999), Edgar *et al.* (2010) and Natural England's standing advice for reptiles. This included two survey methods:

- The placement and surveying of artificial refugia; and
- Visual observation of suitable habitat within the Site.

2.2. Artificial refugia were placed on 5th April 2023. A total of 250 artificial refugia were split over 10 transects, labelled A-J. The location of each transect is detailed in *Appendix 1: Reptile Transect Plan.* The number of refugia within each transect is detailed in Table 2.1.

Table 2.1 Number of refugia in each transect

Transect	Number of refugia
A	20
B	20
C	20
D	20
E	20
F	40
G	30
H	20
I	20
J	40

2.3. Artificial refugia included:

- Corrugated metal tins, approximately 1 x 1m in size (although some were larger and irregularly sized).
- Corrugated bitumen-based roofing sheets, 0.5 x 0.5m in size.
- Roofing felt, 1 x 0.5m in size.
- Roofing felt, 0.5 x 0.5m in size.

2.4. Following placement, the refugia were left in situ for approximately two weeks and then checked between April and June. Any natural refugia (e.g., rocks, log piles) were also inspected in addition to the artificial refugia.

2.5. Eleven site visits were carried out. This exceeds the seven visits specified in Froglife Advice Sheet no. 10 (Froglife, 1999).

2.6. Reptile activity is influenced by weather conditions, with reptiles most likely to use artificial refugia in temperatures between 9°C and 18°C. The optimal survey period for reptiles is April, May and September. Reptiles are also active in June, July and August; however, they need to spend less time basking in warmer weather so are more difficult to find.

2.7. While carrying out the refugia checks and other ecological surveys on the site, visual inspections were undertaken, particularly for common lizards. This species can often be sited on grass tussocks, debris and felts, and will quickly move from sight upon disturbance. Consequently, spotting this species can be more effective than searching under artificial refugia.

2.8. Dates, timings and weather conditions for each survey are summarised in the results section.

Population Assessment

2.9. Where reptiles are present, estimating population sizes of reptiles was undertaken using guidance prescribed within Froglife Advice Sheet no. 10 (Froglife, 1999). This advice sheet provides a simple means of evaluating a species population as 'low', 'good', or 'exceptional' on the basis of the maximum number of adult reptiles (of each species) recorded during a single visit. Table 2.1 shows a summary of the population size for each reptile species likely to be encountered during the surveys.

Table 2.2 Reptile Population Status

Species	Low population	Good population	Exceptional population
Adder	<5	5-10	>10
Grass snake	<5	5-10	>10
Common lizard	<5	5-10	>20
Slow worm	<5	5-10	>20

Constraints

2.10. Vegetation clearance was undergoing at the time of the survey to prepare the Site for the removal of Japanese knotweed (*Reynoutria japonica*). As such, it was not possible to place refugia within an area to the centre of the site. This would have potentially provided suitable reptile habitat, however ongoing works within this area would have made it unsuitable for reptiles.

2.11. The placing of artificial refugia was avoided within the woodland to the south of the Site. This area was overshadowed by tree canopies and any mats placed within this area were unlikely to be used, although mats were placed at the woodland edge.

2.12. Artificial refugia was not placed within Carrow Marshes CWS, to the east of the Site, with the exception of some areas at the CWS boundary. Despite offering suitable habitat for reptiles (particularly grass snakes), the majority of this area was heavily waterlogged and unsuitable for the placement of artificial refugia.

2.13. The Site conditions were subject to change throughout the survey. Transect A, which was placed on short ephemeral vegetation, became increasingly overgrown in later surveys, with vegetation shading the majority of the refugia. Transect C and Transect G became increasingly boggy throughout the surveys, with around 50% of the mats submerged from 15th May.

3. Results and Discussion

Results

3.1. Of the 11 surveys, no reptiles were identified during seven of the surveys. Grass snakes were identified during five surveys, with a peak count of two grass snakes identified. Table 3.1 shows a summary of the survey findings.

Date	Time	Weather conditions	Survey findings
17/04/2023	08:30	14°C, dry, wind Beaufort 0, cloud Okta 0/8	No reptiles identified
19/04/2023	08:30	12°C, dry, wind Beaufort 0, cloud Okta 8/8	No reptiles identified
21/04/2023	08:30	15°C, dry, wind Beaufort 1, cloud Okta 0/8	1 adult grass snake (Transect G)
26/04/2023	09:15	10°C, dry but recently rained, wind Beaufort 0, cloud Okta 1/8	1 adult grass snake (Transect J)
02/05/2023	08:15	8°C, dry, wind Beaufort 0, cloud Okta 0/8	No reptiles identified
05/05/2023	09:15	14°C, dry, wind Beaufort 2, cloud Okta 4/8	2 adult grass snakes (Transect J)
10/05/2023	16:30	13°C, dry, wind Beaufort 1, cloud Okta 2/8	No reptiles identified
15/05/2023	07:30	14°C, dry, wind Beaufort 0, cloud Okta 2/8	No reptiles identified
17/05/2023	08:30	17°C, dry, wind Beaufort 0, cloud Okta 0/8	2 adult grass snakes (Transect J & Transect I)
24/05/2023	08:00	18°C, dry, wind Beaufort 0, cloud Okta 0/8	No reptiles identified
01/06/2023	08:00	16°C, dry, wind Beaufort 0, cloud Okta 8/8	No reptiles identified

Assessment

3.2. A peak count of two grass snakes were identified on the Site. Based on these results, it is anticipated that a Low population of grass snakes is present on the Site.

3.3. Grass snakes were identified within Transect G, located at the boundary of Carrow Marshes CWS. This area became partially submerged during the latter surveys, making detection of reptiles more difficult.

3.4. The remaining grass snakes were identified within Transect I and Transect J. These are located within areas of grassland to the southwest of the site, which also borders Carrow Marshes CWS. This area consisted of a mosaic of short, grazed grassland and dense scrub, which offers suitable reptile basking habitat.

3.5. No reptiles were identified within the remaining areas of the site. Transect A, Transect B, Transect C and Transect D are all located within areas of hardstanding with ephemeral vegetation to the north and northwest of the site. While it is feasible that reptiles could use this habitat, these areas are not particularly well connected within the surrounding landscape and therefore are unlikely to support significant number of reptiles.

3.6. Transect E, Transect F and Transect H were all located at the boundary of woodland and scrub habitat to the centre of the site. No reptiles were identified within these areas, although these do appear to offer suitable habitat for reptiles, particularly Transect F which consists of an area of grassland bordered by woodland and scrub.

3.7. Taking account of the habitats on the Site and the location of reptiles identified during the surveys, it is anticipated that a larger population of grass snakes is present within Carrow Marshes CWS, which then utilise areas of grassland within the Site for basking and feeding.

3.8. No other reptile species were identified during the surveys. Slow worms and common lizards have been identified within the wider surrounding area, and it is possible that small numbers of these species are present on the Site, despite being undetected during the surveys.

4. References

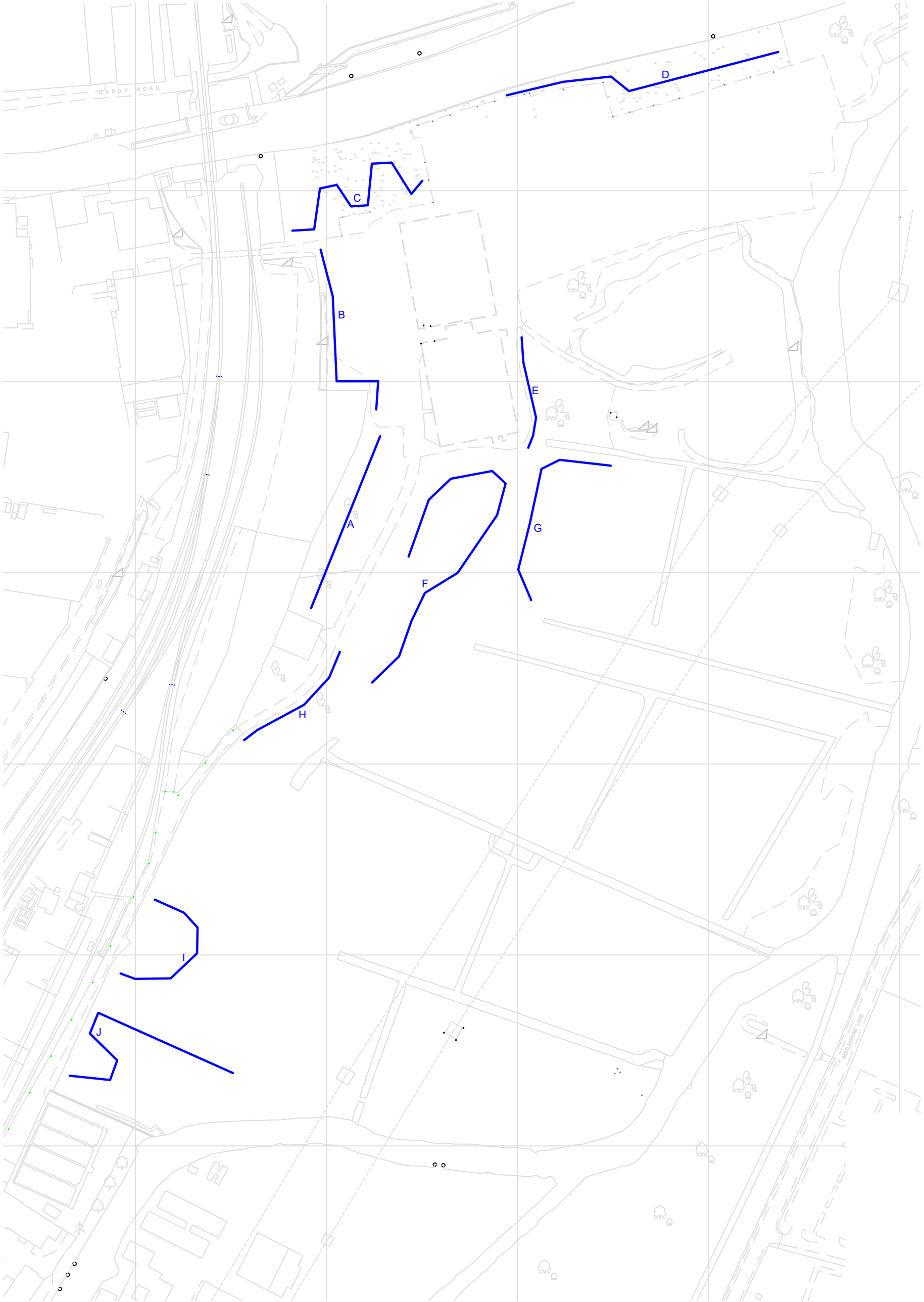
Aspect Ecology (2008). Deal Ground, Norwich: Ecological Desktop Assessment. Aspect Ecology

Aspect Ecology (2022). Technical Briefing Note TN01: Ecological Constraints and Opportunities.. Aspect Ecology

Edgar, P., Foster, J. and Baker, J. (2010). *Reptile Habitat Management Handbook.* Amphibian and Reptile Conservation, Bournemouth

Froglife (1999). *Reptile survey, an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife advice sheet 10, http://www.froglife.org/advice/sheets/htm

Appendix 1: Map of Reptile Transects



Drawing title:	Reptile Transect Plan	**Drawn by:**	David Watts
Project:	May Gurney	**Date:**	06/06/2023
Drawing number:	P1H-1704-01A	**Scale:**	1:2000 @ A3

To be reproduced in colour only.

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Appendix 2: Legislation and Policy

Legislation

The Wildlife and Countryside Act 1981 (as amended) is a comprehensive piece of legislation offering protection to various wildlife species, including reptiles. A summary of key provisions under the Act include:

1. Protection from intentional killing, injuring, and taking: The Act makes it illegal to intentionally kill, injure, or take any reptile species from the wild without a license or specific permission. This provision aims to safeguard reptile populations and prevent their exploitation.
2. Protection of habitats: The Act recognizes the importance of habitats for reptiles and their conservation. It prohibits the intentional damage or destruction of reptile habitats, such as heathland or wetland areas, where reptiles may reside.
3. Sale and possession: The Wildlife and Countryside Act 1981 regulates the sale and possession of certain reptile species. It is illegal to sell or possess reptiles that have been taken from the wild in contravention of the Act's provisions.
4. Licensing: The Act empowers relevant authorities to issue licenses for certain activities involving reptiles. This includes licenses for scientific research, conservation projects, and captive breeding programs. The licensing system ensures that these activities are carried out responsibly and do not harm wild populations.
5. Schedule 5 protection: Schedule 5 of the Act provides additional protection for certain reptile species by making it an offense to intentionally kill, injure, or take them, regardless of whether they are on private or public land. The reptiles listed in Schedule 5 include smooth snake (*Coronella austriaca*), sand lizard (*Lacerta agilis*), and adder (*Vipera berus*).

Policy

Planning policy relating to reptiles is outlined in the UK Biodiversity Action Plan (UKBAP) and Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. A summary of the key points includes:

1. UK Biodiversity Action Plan (UKBAP): The UKBAP identifies reptile species as priority species for conservation and sets out specific objectives for their protection and enhancement. It emphasises the need to maintain and create suitable habitats for reptiles, especially in areas of development.
2. Section 41 of the NERC Act 2006: Section 41 places a duty on public bodies in the UK to conserve biodiversity. It requires public authorities, such as local authorities, to consider the conservation of biodiversity when exercising their functions. This includes taking into account the conservation needs of reptiles and their habitats in the planning and decision-making processes.