



ENVIRONMENTAL STATEMENT: 6.3 APPENDIX 7-7: REPTILE SURVEY REPORT

Cory Decarbonisation Project

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Revision A

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EXECUTIVE SUMMARY

WSP UK Ltd has been commissioned by Cory Environmental Holdings Limited (Cory) (hereafter referred to as 'the Applicant') to undertake a reptile survey, for the Cory Decarbonisation Project to be located at Norman Road, Belvedere in the London Borough of Bexley (LBB; National Grid Reference/NGR 549572, 180512).

A Preliminary Ecological Appraisal (PEA) (**Appendix 7-2: Preliminary Ecological Appraisal (Volume 3)**) was completed in February 2023 and identified ecological records of reptiles from the area and suitable reptile habitat comprising coastal floodplain grazing marsh, semi-improved grassland and mixed scrub. This habitat mosaic provides variation in topography and vegetation structure to support basking, sheltering and foraging reptiles. In addition, previous survey work for Riverside 2 and other schemes in the area has identified the presence of reptiles.

Reptile presence/absence surveys were conducted in suitable reptile habitat within the Site Boundary (hereafter referred to as the 'Survey Area'). The survey comprised seven survey visits to the Survey Area, each incorporating two elements:

- survey of artificial refugia; and
- visual observation of habitats and natural refugia present.

Common lizard was the only reptile species recorded within the Survey Area. One juvenile common lizard was recorded in the Norman Road Field section of the Survey Area, basking on top of refugia no. 55. One adult common lizard was recorded adjacent to Norman Road, under refugia no. 3. Given that different age classes have been recorded within the Survey Area, this suggests that common lizard are breeding within the Site or within the adjacent Crossness LNR.

Reptiles are protected from killing and injury under UK legislation; in addition, planning policy affords further protection within the planning system, as described below. As common lizard has been confirmed to be present on Survey Area, it will be necessary to adopt appropriate avoidance and, or mitigation measures as part of the Proposed Scheme.

1. INTRODUCTION

- 1.1.1. WSP UK Ltd has been commissioned by Cory Environmental Holdings Limited (Cory) (hereafter referred to as 'the Applicant') to undertake a reptile survey, for the Cory Decarbonisation Project to be located at Norman Road, Belvedere in the London Borough of Bexley (LBB; National Grid Reference/NGR 549572, 180512).
- 1.1.2. The land upon which the Proposed Scheme is to be located is referred to as the 'Site' and the edge of this land referred to as the 'Site Boundary'.
- 1.1.3. The PEA (**Appendix 7-2: Preliminary Ecological Appraisal (Volume 3)**) was completed in February 2023 and identified ecological records of reptiles from the area and suitable reptile habitat comprising coastal floodplain grazing marsh, semi-improved grassland and mixed scrub. This habitat mosaic provides variation in topography and vegetation structure to support basking, sheltering and foraging reptiles. In addition, previous survey work for Riverside 2 and other schemes in the area has identified the presence of reptiles.

1.2. BRIEF AND OBJECTIVES

- 1.2.1. The Applicant commissioned WSP UK Ltd to complete a reptile survey in accordance with good practice guidance¹ to:
- establish whether reptiles were present or absent, and if present their species diversity and abundance; and
 - determine, the distribution of reptiles within the Site.

2. METHODS

2.1. DESK STUDY

- 2.1.1. A data search was obtained from Greenspace Information for Greater London (GiGL)² in January 2023, which detailed records of reptile species within a 2km radius of the Proposed Scheme and from within the last ten years of the request date. In addition, records of reptile sightings noted by Thames Water at the Crossness LNR from 2015 to 2022 was also obtained.

2.2. REPTILE PRESENCE/ABSENCE SURVEY

- 2.2.1. The survey included suitable reptile habitat within the Site Boundary (hereafter referred to as the 'Survey Area'). The survey comprised seven survey visits to the Survey Area, each incorporating two elements:
- survey of artificial refugia; and
 - visual observation of habitats and natural refugia present.
- 2.2.2. Artificial refugia are used to assist with the detection of reptiles within suitable habitat. The refugia are designed such that they warm up and retain heat, and therefore are attractive to basking reptiles. A mixture of materials sized approximately 0.5m x 1m were used as artificial refugia, this included bitumen felt and corrugated bitumen.
- 2.2.3. 85 artificial refugia were installed within the Survey Area on the 30th August 2023, which were then left to bed down for two weeks prior to the beginning of the survey visits on 13th September 2023. The settling in period allows favourable conditions i.e. suitable humidity and temperature gradient to develop and for reptiles present within the habitat to become aware of the refugia.
- 2.2.4. Suitable reptile habitat totalled approximately 8.9 hectares (see Norman Road Field, Norman Road, East Paddock and Eastern England Coast Path (FP3/NCN1)) sections in **Figure 7-17: Reptile Survey Area (Volume 2)**, **Figure 7-10: Ecological Survey Areas (Volume 2)** and **Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)**; by using 85 refugia the density exceeded the minimum density as recommended by good practice guidance (Froglife, 1999)³. This guidance states the number of refugia used "*will depend on many factors, such as likelihood of disturbance, size of Survey Area and what the survey is attempting to achieve*" and recommends a minimum of 5-10 refugia per hectare for 'general survey purposes'. Although the Froglife guidance forms the current recognised good survey practice it should be noted that it is not specifically designed for use in demonstrating absence of reptiles from a development site, rather the focus is on identifying key reptile habitat and increase recording of reptiles. For this reason, the density of refugia has been increased for this survey to increase confidence in results.
- 2.2.5. The location of each refugia was recorded and is shown on **Figure 7-18: Reptile Survey Results (Volume 2)**.

- 2.2.6. Reptiles are ectothermic animals, deriving their body heat from the external environment. Therefore, the timing of the survey visits was dictated by weather conditions. All surveys were completed within the appropriate season (March to October) and within the appropriate ambient air temperature range (10-18°C). As far as possible, surveys were undertaken on sunny days with low cloud cover and little wind to maximise the probability of recording reptiles, should they be present; where ambient air temperatures were towards the upper end of the temperature range, days of higher cloud cover were targeted.

2.3. DATES OF SURVEY AND PERSONNEL

- 2.3.1. The reptile survey was completed by a competent surveyor with at least 4 years' experience of ecological survey, including extensive reptile survey experience enabling them to develop a strong understanding of the ecology of native reptile species. The lead surveyor holds an Associate membership of the Chartered Institute of Ecology and Environmental Management (CIEEM)⁴.
- 2.3.2. Surveys were completed on the following dates:
- Visit 1 – 13/09/2023;
 - Visit 2 – 15/09/2023;
 - Visit 3 – 19/09/2023;
 - Visit 4 – 22/09/2023;
 - Visit 5 – 26/09/2023;
 - Visit 6 – 29/09/2023; and
 - Visit 7 – 03/10/2023.

2.4. NOTES AND LIMITATIONS

- 2.4.1. There were horses present within Norman Road Field according to **Figure 1-2: Satellite Imagery of the Site Boundary Plan (Volume 2)** section (see **Figure 7-10: Ecological Survey Areas (Volume 2)**) of the Survey Area, where a portion of the refugia were set out. On multiple survey visits, it was noted that four of the refugia were missing from their original locations where they were set out in August 2023. It is assumed that these refugia were potentially moved by the horse owners further away from the stables. However, only 5% of the refugia within the Survey Area were affected during any one survey visit, therefore this is not considered to be a significant limitation.
- 2.4.2. The East Paddock area of the Survey Area (**Figure 7-10: Ecological Survey Areas (Volume 2)**) was not surveyed on the grounds of health and safety due to the permanent presence of horses that were known to disturb equipment if left out in the field. This is not considered to be a significant limitation, as the field is heavily grazed by horses and therefore provides only a low suitability for reptiles.

3. RESULTS

3.1. DESK STUDY

- 3.1.1. The desk study results returned 3 reptile species within 2km of the Survey Area, including 44 records of slow worm *Anguis fragilis* records, 29 records of common lizard *Zootoca vivipara* and 31 records of grass snake *Natrix Helvetica*. Out of all three recorded species, the most recent species identified was grass snake, recorded in September 2021, while the closest records were common lizard and slow worm, both recorded 26m from the Site. Results from findings are shown in **Table 3-1** below.

Table 3-1: Desk Study Results

Species	Distance (m) of nearest record	Date of nearest record	Distance (m) of most recent record	Date of most recent record
Common Lizard	26	18/09/2018	468	09/09/2020
Slow Worm	26	25/04/2018	91	29/05/2021
Grass snake	73	06/10/2017	468	03/09/2021

THAMES WATER CROSSNESS LNR SPECIES RECORDS 2022

- 3.1.2. The Thames Water records from 2022 returned three species, including six slow worm, one common lizard and 14 grass snakes from Crossness LNR.

INCIDENTAL RECORDS

- 3.1.3. During a water vole survey carried out for the Proposed Scheme in June 2023, a dead slow worm was found on a public footpath adjacent to the Crossness LNR Members Area (**Annex B, Photograph 1**).

3.2. RESULTS OF REPTILE SURVEY

- 3.2.1. Common lizard was the only reptile species recorded within the Survey Area. One juvenile common lizard was recorded in the Norman Road Field section of the Survey Area, basking on top of refugia no. 55 (as presented in **Figure 7-18: Reptile Survey Results (Volume 2)**). One adult common lizard was recorded adjacent to Norman Road, under refugia no. 3. Given that different age classes have been recorded within the Survey Area, this suggests that common lizard are breeding within the Site or within the adjacent Crossness LNR.
- 3.2.2. The results of the reptile presence/absence surveys are presented on **Figure 7-18: Reptile Survey Results (Volume 2)** with raw data included in **Table 3-2**.

- 3.2.3. Weather conditions during surveys ranged between 14°C and 18°C in temperature, with cloud cover of between 1/8 and 4/8 oktas^a; full details are included in **Annex A**.

Table 3-2: Summary of Survey Results

Survey visit	Adder		Grass Snake		Common Lizard		Slow Worm	
	Adult count	Juvenile/ sub-adult count	Adult count	Juvenile/ sub-adult count	Adult count	Juvenile/ sub-adult count	Adult count	Juvenile/ sub-adult count
1	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0
3	0	0	0	0	1	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	1	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0
Maximum adult count	0		0		1		0	

^a Oktas are a unit used in expressing the extent of cloud cover, equal to one eighth of the sky.

4. DISCUSSION

4.1. OVERVIEW

- 4.1.1. Reptiles are protected from killing and injury under UK legislation; in addition, planning policy affords further protection within the planning system, as described below. As common lizard has been confirmed to be present on Survey Area, it will be necessary to adopt appropriate avoidance and, or mitigation measures as part of the Proposed Scheme.

4.2. LEGAL COMPLIANCE

- 4.2.1. Native, widespread reptile species (common or viviparous lizard, adder, grass snake and slow worm) are partially protected under Schedule 5 of The Wildlife and Countryside Act (1981)⁵, under part of Section 9(1) and all of Section 9(5). As such it is an offence to:
- *“Intentionally or recklessly kill or injure’ an individual of these species; or*
 - *‘Sell, offer or expose for sale, or [have in] possession or transport for the purpose of sale, any live or dead [individual] or any part of, or anything derived from’ an individual of these species.”*
- 4.2.2. All species of reptile are also listed as a Species of Principal Importance (SPI)⁶ for the Conservation of Biodiversity in England in accordance with Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006⁷. Under Section 40 of the NERC Act (2006) public bodies, including local planning authorities have a duty to have regard for SPI when carrying out their functions, including determining planning applications.
- 4.2.3. The sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* receive additional protection, where it is unlawful to capture or possess them, or to damage/obstruct access to places they use for shelter or protection, or to disturb them whilst in such a place. Therefore, to carry out works within areas where sand lizard or smooth snake are present, a Natural England protected species mitigation licence will be required. However, no records of sand lizard or smooth snake were returned by the desk study and no suitable habitat or records of sand lizard or smooth snake were recorded during the field survey.

4.3. PLANNING POLICY COMPLIANCE

- 4.3.1. All relevant planning policies are detailed within **Section 7.2 of Chapter 7: Terrestrial Biodiversity (Volume 1)**.

4.4. REPTILE POPULATION

- 4.4.1. The desk study records include 31 previous records of grass snake, 44 records of slow worm and 29 records of common lizard found within 2km of the Site. In addition, Thames Water records from Crossness LNR in 2022 state 14 previous records of

grass snake, six records of slow worm and one record of common lizard. Given the volume of reptile species and records returned from both desk study sources, it is suggested that there is an established wider reptile population within Crossness LNR.

- 4.4.2. The reptile survey results recorded a total of two common lizards within the Survey Area. Although horse grazing in the Norman Road Field section (**Figure 7-10 Ecological Survey Areas (Volume 2)**) of the Survey Area likely reduced the suitability of the grassland for reptiles, it is likely that the Survey Area supports a small population of reptiles. In addition, it is likely that the common lizards recorded during the reptile surveys are part of an established wider reptile population within Crossness LNR, adjacent to the Survey Area. Highways to the south and east of the Survey Area provide a barrier to reptile dispersal, which limits the likelihood of reptile colonisation from the wider environment in those directions.
- 4.4.3. Therefore, it is suggested that reptiles are likely present within the Survey Area. Therefore, there is potential for adverse effects on reptiles on the Site as a consequence of the Proposed Scheme. As a result, it will be necessary to adopt appropriate avoidance and, or mitigation measures as part of the Proposed Scheme.

5. CONCLUSIONS

- 5.1.1. Seven reptile surveys were carried out between September and October 2023. Two common lizards were found to be present within the Survey Area. One juvenile common lizard was recorded in the Norman Road Field section of the Survey Area, basking on top of refugia no. 55. One adult common lizard was recorded adjacent to Norman Road, under refugia no. 3. Given that different age classes have been recorded within the Survey Area, this suggests that common lizard may be breeding either within the Site or within the adjacent Crossness LNR.
- 5.1.2. Desk study information for the adjacent Crossness LNR included records from 2022 of six slow worm, one common lizard and 14 grass snakes. In addition, an incidental record of a dead slow worm was found during a water vole survey in June 2023.
- 5.1.3. Given the suitable reptile habitat on Site, the desk study data and the incidental record, it is likely the Site has the potential to support a wider variety of species and reptile abundance than recorded, including grass snake and slow worm.
- 5.1.4. Therefore, there is potential for adverse effects on reptiles on the Site due to the Proposed Scheme. Consequently, it is recommended that appropriate avoidance and, or mitigation measures are implemented as part of the Proposed Scheme.

Annex A

WEATHER CONDITIONS

Table A1: Weather Conditions During Survey

Survey Visit Number		1	2	3	4	5	6	7
Date		13/09/23	15/09/23	19/09/23	22/09/23	26/09/23	29/09/23	03/10/23
Start	Time	08:30	08:22	08:46	08:34	08:15	08:26	10:38
	Air Temp. (°C) (shade)	15	14	16	12	17	16	16
	Cloud Cover (oktas)	4/8	1/8	7/8	3/8	2/8	2/8	3/8
	Wind Speed (Beaufort)	1	1	3	1	3	2	3
Finish	Time	10:33	10:13	10:55	10:44	10:02	10:22	12:12
	Air Temp. (°C) (shade)	16	17	17	17	18	17	17
	Cloud Cover (oktas)	4/8	1/8	8/8	2/8	2/8	4/8	3/8
	Wind Speed (Beaufort)	1	1	3	1	2	4	3

Annex B

PHOTOGRAPHS



Photograph 1 – Dead slow worm found on public footpath adjacent to Crossness LNR Members Area during water vole survey in June 2023.

6. REFERENCES

¹ Gent, A and Gibson, S. (1998). 'Herpetofauna Workers Manual, Joint Nature Conservation Committee, Peterborough'.

² Greenspace Information for Greater London. 'GiGL'. Available at: [REDACTED]

³ Froglife. (1999). 'Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation'. Froglife Advice sheet 10. Froglife, Halesworth.

⁴ CIEEM. (2016). 'Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland, Terrestrial, Freshwater and Coastal'.

⁵ Her Majesty's Stationary Office (HMSO). (1981). 'Wildlife and Countryside Act (as amended by the Countryside and Rights of Way Act 2000)'.

⁶ JNCC. (2007). 'UK Biodiversity Action Plan priority Species List'. Available at: <http://jncc.defra.gov.uk/page-5717>

⁷ Her Majesty's Stationary Office (HMSO). (2006). 'Natural Environment and Rural Communities Act'.



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