

LAND AND PARTNERS

REPTILE SURVEYS

LAND NORTH OF LONG COPSE LANE

EMSWORTH, HAMPSHIRE

0019.0010

REV 0

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1 Introduction

In 2016, Prime Environment Limited (Prime Environment) was instructed by Land and Partners (the Client) to undertake reptile surveys of an area of land north of Long Copse Lane, Emsworth (Ordnance Survey (OS) grid Reference SU 747 079) (The Study Area).

The surveys were undertaken across the whole land parcel; however, the planning applications are likely to be split into two. One application will be for the development of a small area in the south-west corner of this land parcel which is 1.7 hectares and comprises two grassland fields bordered by woodland, a dry ditch, a tree line and an access road. Another application will be to develop part of the land currently known as Hollybank Farm. This comprises horse paddocks, manège, spoil heaps, small woodland copses and a residential property with a garden.

1.1 Aims and Objectives

The aims of the study were to:

- Establish the presence or likely absence of reptiles within the Study Area
- Identify, quantify and report on any use of the Study Area by reptiles, including the species present and an indication of the population size

Ecological information for the assessment was provided by a reptile surveys.

Information regarding the habitats present within the Study Area, an assessment of the impacts of development and mitigation measures are provided in a separate Ecological Impact Assessment (EclA).

3 Method

The survey followed current best practice guidelines¹ and were undertaken by Chris Morrell BSc (hons), Chris has over nine years' professional ecology experience and is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

This report was finalised and approved by Hayley Farnell MSc BSc hons. Hayley is a full member of the Chartered Institute of Ecology and Environmental Management and has over 12 year's professional experience within environmental consultancy.

3.1 Reptiles

100 artificial heat refugia (0.5 x 0.5 m square pieces of bitumen roofing felt and corrugated metal) were deployed in suitable rough grassland and scrub habitats. Plate 1 shows the areas identified in the Extended Phase 1 Habitat Survey that were considered to be suitable for reptiles. The refugia were numbered and set out in these areas (Refugia ID are presented in Appendix 1).

Plate 1 – Areas Artificial Heat Refugia Placed around the Site



Note – Red line indicates whole Study Area boundary. Area A covers the 'south-west corner' application site.

¹ Froglife (1999) *Advice Sheet 10 Reptile Survey*

After allowing a suitable amount of time for the refugia to 'bed in', they were subsequently checked for the presence of reptiles on seven occasions between the 25th of June 2016 and the 11th of October 2016. Each reptile survey visit was conducted in appropriate weather conditions (temperature between 10°C and 18°C, with some sunshine and no strong wind or heavy rain) so as to maximise the likelihood of finding basking reptiles (see Table 1 for weather condition details).

Site visits were not conducted between the 7th July and 9th September as temperatures were too high and so conditions were sub-optimal for the survey to be conducted.

3.2 Constraints

Any ecology assessment must be considered as a 'snapshot' of the Site conditions at the time of the survey; ecological constraints will change over time and therefore the findings of this report are considered to be valid for a period of one year from the survey, after which the survey should be repeated to ensure the baseline conditions have not changed.

4 Results

4.1.1 Weather Conditions

Weather conditions are presented in Table 1. Overall the survey was undertaken during suitable conditions for reptile surveys.

Table 1- Weather Conditions during Survey

Date (2016)	Start Time	Temperature °C	Cloud Cover %	Wind (Bft)
25 th June	16:40	18	90	3
1 st July	09:10	16	90	2
7 th July	06:40	15	60	2
21 st September	08:50	16	90	1
29 th September	16:25	18	50	2
5 th October	10:30	14	50	3
11 th October	14:10	11	50	2

4.1.2 Presence/Absence Survey

The presence and absence survey undertaken between August and October 2016 found that the Site supports common lizard *Zootoca vivipara*, grass snake *Natrix natrix* and slow worm *Anguis fragilis*.

The highest number of adult slow worms recorded across the Site in a single survey was 11, the highest number of adult grass snake recorded across the Site in a single survey was 1 and the highest number of adult common lizards recorded across the Site in a single survey was 5.

In accordance with best practice guidance², the grass snake population could be considered to be a 'low' population and the common lizard and slow worm numbers 'good' populations. However, the guidance is based on using a very low refugia density (10 per hectare). When adjusted for refugia density, the population scores for all three species are 'low'.

Juvenile slow worm and grass snake were also noted, in particular a large number of slow worm juveniles were recorded. Gravid female slow worms were also found in the earlier part of the survey. Whilst population size is estimated using total numbers of adults it should be noted that the Site supports breeding populations for both species, and for slow worm there are very good numbers of animals present.

The peak count of species counted per area (as shown on Plate 1) are presented in Table 3. This shows that the peak number of slow worm and common lizard were counted in Area A, the grassland field in the south west corner of the Site. The second peak number of slow worms were found in Area E. Grass snakes were found in low numbers in all areas except C.

² Froglife (1999). *Froglife Advice Sheet 10: reptile survey*. Froglife, London.

Table 2 – Summary of compartment sizes, number of tins and tin density per hectare

Area	Area size (ha)	Refugia placed	Refugia per ha
A	1.43	30	21.0
B	0.21	15	71.4
C	0.29	10	34.5
D	0.20	20	100.0
E	0.36	25	69.4
Total for site	2.49	100	40.2

Table 3 – Peak Count of Reptiles found in Each Area Surveyed (Adults and Juveniles)

Area	Peak count			Population density ³ (animals per ha)		
	Slow worm	Common lizard	Grass snake	Slow worm	Common lizard	Grass snake
A	24	5	1	8.0	1.7	0.3
B	1	0	1	0.7	0.0	0.7
C	3	0	0	3.0	0.0	0.0
D	1	0	1	0.0	0.0	0.5
E	4	0	1	1.6	0.0	0.4

Table 4 – Peak Count of Reptiles found in Each Area Surveyed (Adults only)

Area	Peak count			Population density (animals per ha)		
	Slow worm	Common lizard	Grass snake	Slow worm	Common lizard	Grass snake
A	11	5	1	3.7	1.7	0.3
B	0	0	1	0.0	0.0	0.7
C	2	0	0	2.0	0.0	0.0
D	0	0	1	0.0	0.0	0.5
E	2	0	0	0.8	0.0	0.0

Table 5 – Peak Count of Reptiles found across the Site on single visit (Adults and Juveniles)

Area	Peak count during one visit			Population density (animals per ha)		
	Slow worm (01/07/16)	Common lizard (29/09/16)	Grass snake (25/06/16)	Slow worm	Common lizard	Grass snake
A	24	5	1	8.0	1.7	0.3
B	0	0	1	0.0	0.0	0.7
C	1	0	0	1.0	0.0	0.0
D	2	0	0	1.0	0.0	0.0
E	0	0	0	0.0	0.0	0.0
Total peak count in one visit	27	5	2			
Density for whole site				9.0	1.7	0.7

³ For comparison with population class sizes with Froglife Advice Sheet 10 where populations are given for a density of 10 refugia per hectare, density has been calculated using peak count of reptiles, size in hectares and density of the number of refugia, as follows: (Peak count / ha) x (10/refugia per ha)

Table 6 – Peak Count of Reptiles found in Each Area Surveyed (Adults only)

Area	Peak count during one visit			Population density ³ (animals per ha)		
	Slow worm (01/07/16)	Common lizard (29/09/16)	Grass snake (25/06/16)	Slow worm	Common lizard	Grass snake
A	11	5	1	3.7	1.7	0.3
B	0	0	0	0.0	0.0	0.7
C	1	0	0	2.0	0.0	0.0
D	0	0	0	0.0	0.0	0.5
E	2	0	0	0.8	0.0	0.0
Total peak count in one visit	14	5	1			
Density for whole site				4.7	1.7	0.3

Table 7 – Froglife population size classes

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

Appendices

Appendix 1 – Raw Data – Reptile Survey

Table 8 – Refugia ID Numbers within Each Survey Area

Area	Refugia ID	Refugia count
A	1 to 30	30
B	31 to 35, 46 to 50, 51 to 55	15
C	36 to 40, 41 to 45	10
D	56 to 75	20
E	76 to 100	25

Table 9 – Survey Results

Date	Start	End	Weather	
25.6.16	16.40	18.25	18C; Wind = 3 (Beaufort); Cloud = 7/8; Light showers	
Area	Refuge	Sp.	No.	Notes
A	3	Slow worm	1f	
A	8	Slow worm	3j	
A	9	Slow worm	2j	
A	11	Slow worm	1j	
A	13	Slow worm	1m, 1j	
A	14	Slow worm	1f	Gravid
A	15	Slow worm	1j	
A	24	Grass snake	1ad	
C	36	Slow worm	2f	
C	41	Slow worm	1j	
B	52	Slow worm	1j	
B	52	Grass snake	1j	
E	88	Slow worm	1m	
Total A		Slow worm	3ad, 8 j	
Total A		Grass snake	1ad	
Total B		Slow worm	1j	
Total B		Grass snake	1j	
Total C		Slow worm	2ad, 1j	
Total E		Slow worm	1ad	
j – juvenile, f – female, m – male, ad - adult				

Appendices

Date	Start	End	Weather	
1.7.16	09.10	10.35	16C; Wind = 2 (Beaufort); Cloud = 7/8; Dry	
Area	Refuge	Species	Description	Notes
A	3	Grass snake	1j	
A	3	Slow worm	1f, 1j	Gravid
A	4	Slow worm	1j	
A	5	Slow worm	1f	
A	7	Slow worm	1j	
A	10	Slow worm	1j, 1f	
A	11	Slow worm	1j	
A	13	Slow worm	1j	
A	21	Slow worm	2f, 1m, 1j	1 gravid
A	22	Slow worm	1j, 1f	
A	23	Slow worm	1j	
A	24	Slow worm	1m, 1j	
A	27	Slow worm	1f, 1j	
A	30	Slow worm	2j, 2f	
C	42	Slow worm	1m	
C	54	Grass snake	1 ad	
E	76	Slow worm	1f	
E	79	Slow worm	1f	
Total A		Grass snake	1j	
Total A		Slow worm	11ad,13j	
Total C		Slow worm	1ad	
Total C		Grass snake	1ad	
Total E		Slow worm	2ad	
j – juvenile, f – female, m – male, ad - adult				

Date	Start	End	Weather	
7.7.16	06.40	8.10	15C; Wind = 2 (Beaufort); Cloud = 5/8; Dry	
Area	Refuge	Sp.	No.	Notes
A	8	Slow worm	1f, 1j	
A	10	Slow worm	1f	
A	14	Slow worm	1m	
E	80	Grass snake	1j	
Total A		Slow worm	3ad,1j	
Total E		Grass snake	1j	
j – juvenile, f – female, m – male, ad - adult				

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Date	Start	End	Weather	
21.9.16	08.50	10.25	15-17C; Wind = 1 (Beaufort); Cloud = 7; Dry	
Area	Refuge	Sp.	No.	Notes
A	3	Slow worm	1f, 1j	this year's
A	4	Slow worm	1j, 1f	this year's
A	5	Common lizard	1m	
A	5	Slow worm	1f, 2j	this year's
A	10	Slow worm	2j	this year's
A	10	Common lizard	1f	
A	11	Slow worm	1j	
A	13	Slow worm	3j	this year's
A	21	Slow worm	1f, 1m	
A	26	Slow worm	1m, 1j	
A	27	Slow worm	1f, 1j	this year's
A	29	Slow worm	2j	
D	57	Grass snake	1 ad	
Total A		Slow worm	6ad,15j	
Total A		Common lizard	2ad	
Total D		Grass snake	1ad	
j – juvenile, f – female, m – male, ad - adult				

Date	Start	End	Weather	
29.9.16	16.25	18.05	17-19C; Wind = 2 (Beaufort); Cloud = 4; Dry	
Area	Refuge	Sp.	No.	Notes
A	1	Common lizard	2f	
A	2	Slow worm	1j	this year's
A	3	Slow worm	1f	
A	3	Common lizard	1m	
A	7	Slow worm	2f, 1j	this year's
A	9	Common lizard	1f	
A	10	Common lizard	1m	
A	12	Slow worm	1j	
A	13	Slow worm	4j	this year's
A	24	Slow worm	1f	
A	26	Slow worm	1f, 3j	this year's
A	27	Slow worm	1f	
E	77	Slow worm	1j	
E	79	Slow worm	1j	
E	80	Slow worm	1m	

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E	83	Slow worm	1f	
Total A		Slow worm	6ad, 10j	
Total A		Common lizard	5ad	
Total E		Slow worm	2ad,2j	
j – juvenile, f – female, m – male, ad - adult				

Date	Start	End	Weather	
5.10.16	10.30	11.55	13-15C; Wind = 4 (Beaufort); Cloud = 4-7; Dry	
Area	Refuge	Sp.	No.	Notes
A	10	Slow worm	1f	
A	12	Slow worm	1j	
A	23	Slow worm	1f	
A	25	Slow worm	2f	
D	79	Slow worm	1f	
Total A		Slow worm	3ad,1j	
Total D		Slow worm	1ad	
j – juvenile, f – female, m – male, ad - adult				

Date	Start	End	Weather	
11.10.16	14.10	16.40	11C; Wind = 2 (Beaufort); Cloud = 4; Dry	
Area	Refuge	Sp.	No.	Notes
A	3	Slow worm	1f, 2j	this year's
A	7	Slow worm	2f	
A	8	Common lizard	1m	
A	10	Slow worm	2f	
A	10	Common lizard	1m	
A	14	Slow worm	1f	
E	80	Slow worm	1f	
Total A		Slow worm	7ad,2j	
Total A		Common lizard	2ad	
Total E		Slow worm	1ad	
j – juvenile, f – female, m – male, ad - adult				

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