



Reptile Survey

Land at Chalks Farm, Sawbridgeworth, Hertfordshire

On behalf of:

Barratt Homes

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Appendix 1: Extended Phase 1 Habitat Map with Reptile Refugia

1.0 Introduction and Aims

1.1 Southern Ecological Solutions Ltd. (SES) was commissioned to undertake a reptile survey of the land at Chalks Farm, Sawbridgeworth, Hertfordshire (Appendix 1).

1.2 The aims of the reptile survey are listed below:

- assess the presence or likely absence of reptile species on site and within the study area;
- to establish population distribution and an understanding of relative abundance;
- establish the conservation status of reptile species on site;
- establish necessary preliminary mitigation and compensation requirements to ensure the conservation status of any reptile population is maintained in accordance with the National Planning Policy Framework (NPPF) (DfCLG, 2012);
- and ensure all legal and planning policy is complied with.

1.3 Field survey work was carried out or supervised by Sean Crossland BSc BCA who is an experienced reptile surveyor.

2.0 Site Description

2.1 The proposed development site lies west of the western edge of Sawbridgeworth, with agricultural land dominating the wider landscape to the north, south and west. The site itself is dominated by arable land considered to be of low ecological value. Hedgerows bound the site on all sides with Sawbridgeworth Brook running along the eastern boundary of site.

3.0 Reptile Ecology

3.1 Britain has six native reptile species that are distributed throughout mainland Britain. They are the common lizard *Zootoca vivipara*, sand lizard *Lacerta agilis*, slow-worm *Anguis fragilis*, grass snake *Natrix natrix*, adder *Vipera berus* and smooth snake *Coroneela austriaca*.

3.2 Reptiles can be encountered in a wide range of habitats (except sand lizards) including heathland, rough and tussocky grassland, hedgerows, woodland edges, quarries, urban areas, road side verges, railway embankments and waste land areas; with the three snake species also found in boggy areas. Sand lizards have more specific habitat requirements such as heathland sites and sand dune systems. They all require access to sunny patches with access to ground cover.

3.3 Reptiles are active from early spring to late autumn and enter a period of hibernation/torpor when the temperature drops through the winter months. Most reptiles are poikilothermic whereby internal body temperature is controlled by external environmental temperature. This can mean temperature regulation is achieved through basking or by moving through temperature gradients in the vegetation/substrate absorbing heat directly through contact. The reliance on external heat sources means that good reptile habitat requires a variety of thermally and structurally diverse microhabitats as the quality and variety of these microhabitats can affect the ability of reptiles to forage, disperse and ultimately breed successfully.

3.4 Invertebrates form the major part of the common lizards and slow-worms diet, whilst grass snakes often feed on amphibians and the adder prefers lizards and small mammals.

4.0 **Legislation and Conservation Status**

Statutory and Planning Policy Protection

4.1 This section has not been prepared by a legal or planning professional and should be read as an interpretation of relevant statutes and planning policy guidance only. The information presented within this document has been reported in good faith and are the genuine opinion of SES on such matters. SES does not accept any liability resulting or otherwise relating to the use of this information or its interpretation within this document.

4.2 Habitats found on/ off site are suitable for common lizards, slow-worms, grass snakes and adders which are protected under the Wildlife and Countryside Act 1981 (as amended). These species are listed on schedule 5 and offences are outlined under S9(1) and S9(5) and are follows:

- Intentionally, or recklessly, kill or injure any of the above species, and/or;
- Sell, or attempt to sell, any part of the species, alive or dead.

4.3 The maximum fine per offence is £5000 and if more than one animal is involved, the fine is £5000 per animal (Wildlife and Countryside Act 1981 s21). The Countryside and Rights of Way Act 2000 (CRoW) amendment contains a provision for a custodial sentence of up to 6 months instead of, or in addition to, a fine. Along with a lengthy development delay until appropriate mitigation has been agreed and completed.

4.4 Natural Environment and Rural Communities (NERC) Act 2006 also lists the above reptiles as a species of 'principle importance' under s41 and s40 requires every public body in the exercising of its functions (in relation s41 species) 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' The NPPF (DfCLG, 2012) places a duty to minimise impacts on biodiversity and provide net gains were possible (Para. 109); and to refuse permission if significant harm from development cannot be avoided (para.118). Footnote 24 of the NPPF (DfCLG, 2012) directs readers to government circular 06/2005 (ODPM 2005) to provide guidance in respect of statutory obligations for biodiversity and the planning system. Para. 98 states that protected species are a 'material consideration' to the planning authority. Para. 99 goes on to states 'the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision...'.

Conservation Status

4.5 The site provides suitable habitat which may be used as part of a wider range of habitats for four of the 'common' UK reptile species: the adder, common lizard, slow-worm and grass snake. Slow-worm, grass snake and common lizard are widespread throughout the UK including the south-east. Of the four 'common' species the adder is suffering significant declines even within designated sites, due in part to public persecution of a venomous species and habitat loss/ fragmentation.

5.0 **Methodology**

Survey Methods

Desk Study

- 5.1 SES commissioned an extensive data search for records of protected and notable fauna species via Hertfordshire Biological Records Centre. This data search encompassed the study area, and up to 2km from its boundary for reptile species.

Reptile Field Survey and Population Assessment

- 5.2 To detect presence or likely absence a seven visit survey is recommended (Froglife, 1999). Seven survey visits were undertaken during 'suitable' days for reptile activity; a 'suitable' survey day is determined by the weather, with temperature being the pre-eminent factor.
- 5.3 Refugia were laid in suitable habitat using the surveyor's professional judgement. This assessment allowed an assessment of the carrying capacity of these habitats. As density dependence often plays a role in population size (Massot *et al*, 1992), this information will guide the mitigation and compensation measures.
- 5.4 Refugia were laid at a density of 10 per hectare in suitable habitat as per best practice guidance (Froglife, 1999). Reptile refugia (0.5m x 0.5m felt and corrugated iron squares) were used to observe reptiles basking or taking refuge, these were laid in transects and left for seven days to settle before the survey commenced. Appendix 1 shows the indicative refugia positions. If presence was detected a categorical population assessment would be carried out with the largest count within the first seven visits indicating the category (Low, Good, Exceptional) of the recorded reptile species. This survey methodology is recognised as best practice by Froglife (1999) and the Herpetofauna Worker's Manual (Gent and Gibson, 2003).
- 5.5 As described above, following guidelines set out by Froglife (1999) it is possible to make an assessment of the population size using the maximum number of adult animals seen per survey visit. This method is based on refuges being placed at a density of up to 10/ha. Table 1 below details the assessment categories:

Table 1: Froglife Population Class Assessment for Reptiles.

Species	Low Population	Good Population	Exceptional Population
Common Lizard	<5	5-20	>20
Slow-Worms	<5	5-20	>20
Grass Snake	<5	5-10	>10
Adder	<5	5-10	>10

- 5.6 Ambient air temperature is an essential factor for reptile surveys after suitable habitat has been located. Reptile surveys conducted between 10 and 17 degrees centigrade have the most chance of success. The key months for reptile surveys are April, May and September with April and May being advantageous because it is reptile mating season, which means they will be more obvious and less wary of observers. Also the temperatures are generally lower during these months and as such it will take longer

for the reptiles to warm up so they must spend more time basking. During the warmer summer months animals will have to spend less time basking due to the increase in ambient temperature, thus reptile survey visits will be conducted earlier in the day during the hotter summer months. However the temperature on the day of the visit will ultimately determine what time the survey takes place.

6.0 **Results**

Desk Study

- 6.1 Table 2 summarises the records of reptile species within the 2 km search area around the site.

Table 2: Reptile records within 2km of the site.

Species	Distance and direction from site	Date of records
Common lizard <i>Zootica vivipara</i>	0.8km, northeast	1970-2005

Reptile Field Survey

Presence and Likely Absence Survey

- 6.2 Table 3 below highlights weather conditions for each survey visit as well as reptiles recorded.

Table 3: Weather Conditions and Species Recorded.

Survey visit	Date	Prevailing weather	Temp °C	Species
1	04/07/13	Dry, Clear	15	-
2	10/07/13	Dry, Clear	16	-
3	11/07/13	Dry, Clear	16	-
4	23/07/13	Dry, Clear	17	-
5	24/07/13	Dry, Clear	17	-
6	29/07/13	Dry, Clear	16	-
7	30/07/13	Dry, Clear	15	-

- 6.3 No reptiles were observed during the survey.

7.0 **Discussion and Recommendations**

- 7.1 No reptiles were observed on site during the survey. As such, reptiles are considered likely absent from site and no further works are recommended.

8.0 References

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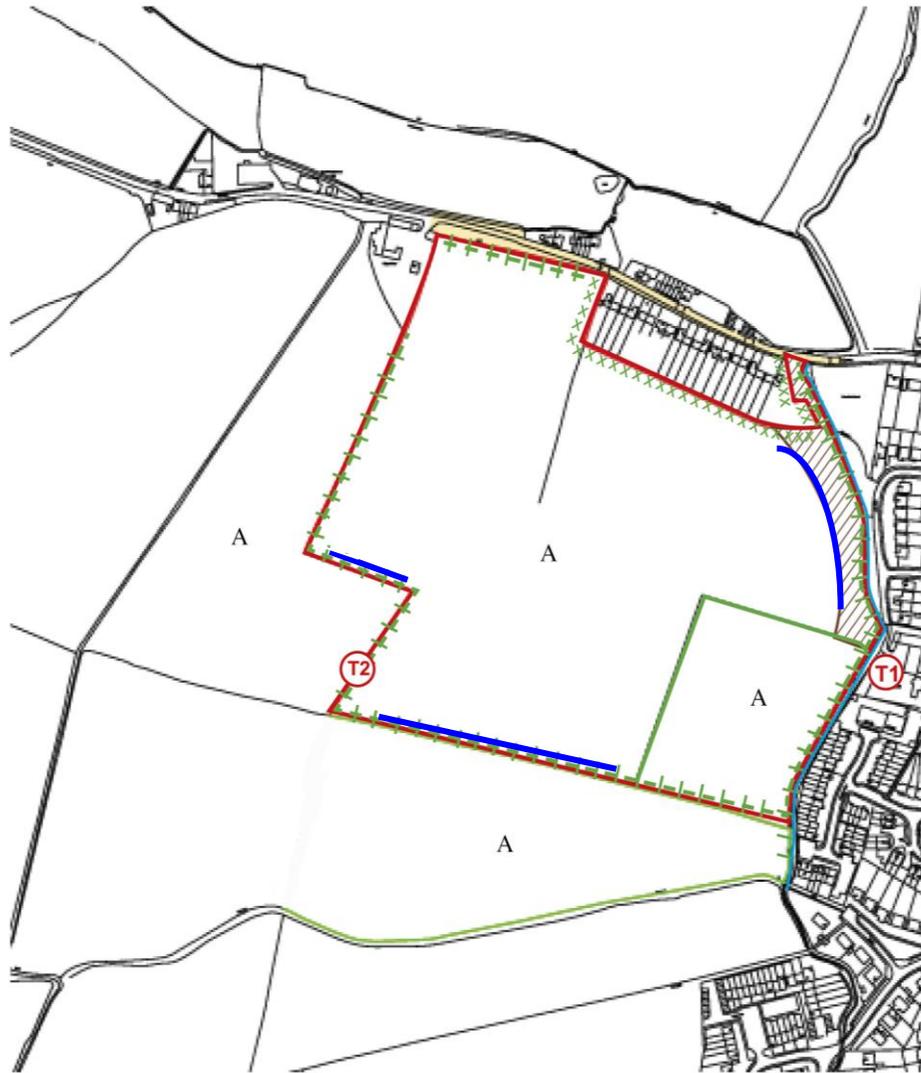
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Appendix 1: Extended Phase 1 Habitat Map with Reptile Refuges



LEGEND

Indicative location of reptile refugia

KEY

- Site boundary
- Species-rich hedgerow
- Running water
- Arable land
- Defunct species-rich hedgerow with trees
- Scattered scrub
- Tall ruderals
- Target note

N

Site: Land at Chalks Farm, Sawfordgeforth, Hertfordshire			
Drawn by:	Date:	Scale:	Rev:
N Parkhurst	10/10/2012	NA	NA
Ecologist:		Client:	
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