



Land at Brook Lane, Rustington
Reptile Survey 2017

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1.0 Introduction

Background

- 1.1 In April 2017 The Ecology Partnership was commissioned by Store Property Investments Ltd to undertake a reptile survey on land at Brook Lane, Rustlington following the results from a previous Preliminary Ecological Appraisal undertaken in June 2016 and January 2017.
- 1.2 Section 2 of this report sets out the methodology of The Ecology Partnership's reptile survey and the results of this survey are found in section 3. Section 4 of this report discusses potential mitigation and enhancement measures which would be required with a reptile population identified on site. Conclusions are provided for in chapter 5 of this report.

Site Context and Status

- 1.3 The site is located on land immediately south of the A259 and west of Brook Lane in Rustington, West Sussex (TQ 04851 03621). The site covers approximately 5.92ha and includes grassland fields, areas of hardstanding, a road and old stables. There is also a house and gardens and a large horse paddock in the western corner of the site not currently under the ownership of the client. The site is surrounded by a mosaic of agricultural fields and high-density housing with areas of woodland located to the northeast. The site is situated approximately 2.1km south of the South Downs National Park and 3km from the Climbing Beach SSSI and West Beach LNR.
- 1.4 The aerial photograph below (Figure 1) shows the site and its immediate surroundings. The red line depicts the approximate site boundary and survey area.



Figure 1: Approximate location of the red line boundary

2.0 Reptile Survey Methodology

- 2.1 A terrestrial survey of the site for reptiles (presence or absence) was carried out between the dates of 7th April 2017 and 2nd May 2017. Prior to the commencement of the survey, the site was set up with artificial refugia (roofing felts) for reptiles on 31st March 2017. Reptile mats were laid along the edges of the fields, and in strategic areas in the longer grassland between adjacent to the ditches.



Figure 2: Location of reptile felts in blue

- 2.2 The refugia were placed onsite for a period of bedding in, prior to the commencement of the reptile survey as recommended in the advice from Natural England. The timing and number of surveys completed were based on guidelines produced by Froglife (1999) and Gent and Gibson (1998). A total of seven survey visits were made to the site between 7th April and 2nd May 2017, to check the refugia for the presence of reptiles. Visits were only carried out if the weather conditions were suitable for locating reptiles. On each visit to the site, a minimum of one circuit to check all refugia was carried out.
- 2.3 If reptiles are found on site then a proposed plan of reptile mitigation including the various methodologies that will be employed to safeguard the reptiles will be included within this report. The edges of two fields were surveyed for reptiles. The western most field of the site was contained horses at the time of survey and did not have suitable reptile habitat within due to grazing and large amounts of flood water /standing water.

3.0 Reptile Results

3.1 The timing and number of surveys completed were based on guidelines produced by Froglife (1999) and Gent and Gibson (1998).

Table 1. The table below documents the results of the reptile survey.

Visit	Date	Temp on site °C	Weather conditions	Species	Sex	Number	Location
1	7 th April	16.7	Sunny with light cloud, no rain	Slow worm	Female	1	Field 2 on the western boundary
2	13 th April	12.3	Sunny with patchy cloud, no rain	Slow worm	Female	1	Adjacent to entrance of field 1
3	18 th April	11.1	Sunny with patchy cloud, no rain	n/a	n/a	n/a	n/a
4	21 st April	14.8	Sunny with light cloud, no rain	Slow worm	Male	6	All found in field1, along southern boundary and adjacent to entrance
				Common Lizard	Female	4	
5	24 th April	13.2	Sunny with patchy cloud, no rain	Slow worm	Male	1	All found in field1, along southern boundary and adjacent to entrance
				Common Lizard	Female	0	
6	27 th April	10.5	Overcast with sunny spells	Slow worm	Female	2	1 individual found adjacent to field entrance in field 1 and in south western corner of field 2
				Slow worm	Female	2	
7	2 nd May	12.1	Overcast with occasional sunny spells	Slow worm	Female	5	All within field 1 along the southern boundary

- 3.2 A peak count 10 adult slow worms were present and a peak count of 1 adult common lizard were recorded.



Figure 3: Location of the reptiles found (Areas slow worms found in green dashed line, location of common lizards blue star)

4.0 Discussion

- 4.1 Slow worms and common lizard were found to be present on site during the course of the survey period. Two species of reptiles were located with a 'good' population of slow and a 'low' population of lizards, therefore it is not considered to be a key reptile site receptor, third species has not been found.
- 4.2 The Key Reptile Site Register is a mechanism designed to promote the safeguard of important reptile sites. The criteria for site selection are given below, including a table which allows the classification of the relative size of reptile populations on the basis of

survey counts. To qualify for the Key Reptile Site Register, the site in question must meet at least one of the following criteria:

- (1) Supports three or more reptile species
- (2) Supports two snake species
- (3) Supports an exceptional population of one species (see table)
- (4) Supports an assemblage of species scoring at least 4 (see table)
- (5) Does not satisfy 1-5 but which is of particular regional importance due to local rarity (e.g. in the East Midlands of England, adders are very rare so even "low" populations should be designated as Key Sites)

4.3 The size of the reptile population can be estimated using the Froglife (1999) scoring system. This system assumes a density of 10 refugia per hectare. A population size class assessment, which is based on the number of adults recorded in one survey visit can be made using Table 2.

Table 2. Population class assessment categories (Froglife, 1999)

	Low population (Score 1)	Good population (Score 2)	Exceptional population
Adder	<5	5 - 10	>10
Common lizard	<5	5 - 20	>20
Grass snake	<5	5 -10	>10
Slow-worm	<5	5 - 20	>20

4.4 Using table 2, it is considered that there is a '**good**' population of slow worms and a '**low**' population of common lizard on the site.

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- 4.5 It must be noted that the survey targeted specific areas of the site where habitats were considered to be suitable for common reptile species. Large sections of the site were not considered suitable for reptile species because of ongoing land management.

Reptile Enhancement and Mitigation Strategy

- 4.6 As terrestrial habitat is due to be lost to the development, reptiles must be moved outside the development zone to ensure that individuals are not harmed by the proposals. Many of the reptiles found were present along the southern boundary of the site adjacent to the railway line. It is understood that this area will be maintained as a wildlife corridor and therefore will not be translocated.
- 4.7 The remaining areas are estimated to have low numbers of reptiles. It is therefore that as much of the developed area was unsuitable for reptiles due to management, a full translocation would not be necessary. It is recommended that these areas are translocated for 15 days plus 5 clear days.
- 4.8 Mitigation will involve the construction of a reptile fence around the edge of the site. The habitats outside the reptile fence are to be maintained and enhanced. The habitats within the reptile fence are to be cleared of reptiles. The reptile fence will be constructed following the standard below. It is recommended that a receptor site for reptiles should be incorporated within the western end of site. This area should be used as a holding area for reptiles during works. Once development is complete this should be opened up to allow reptiles to move across the green areas that are to be maintained on site.
- 4.9 An approximate fence line is included below in figure 4.



Figure 4: Yellow areas receptor site and holding area

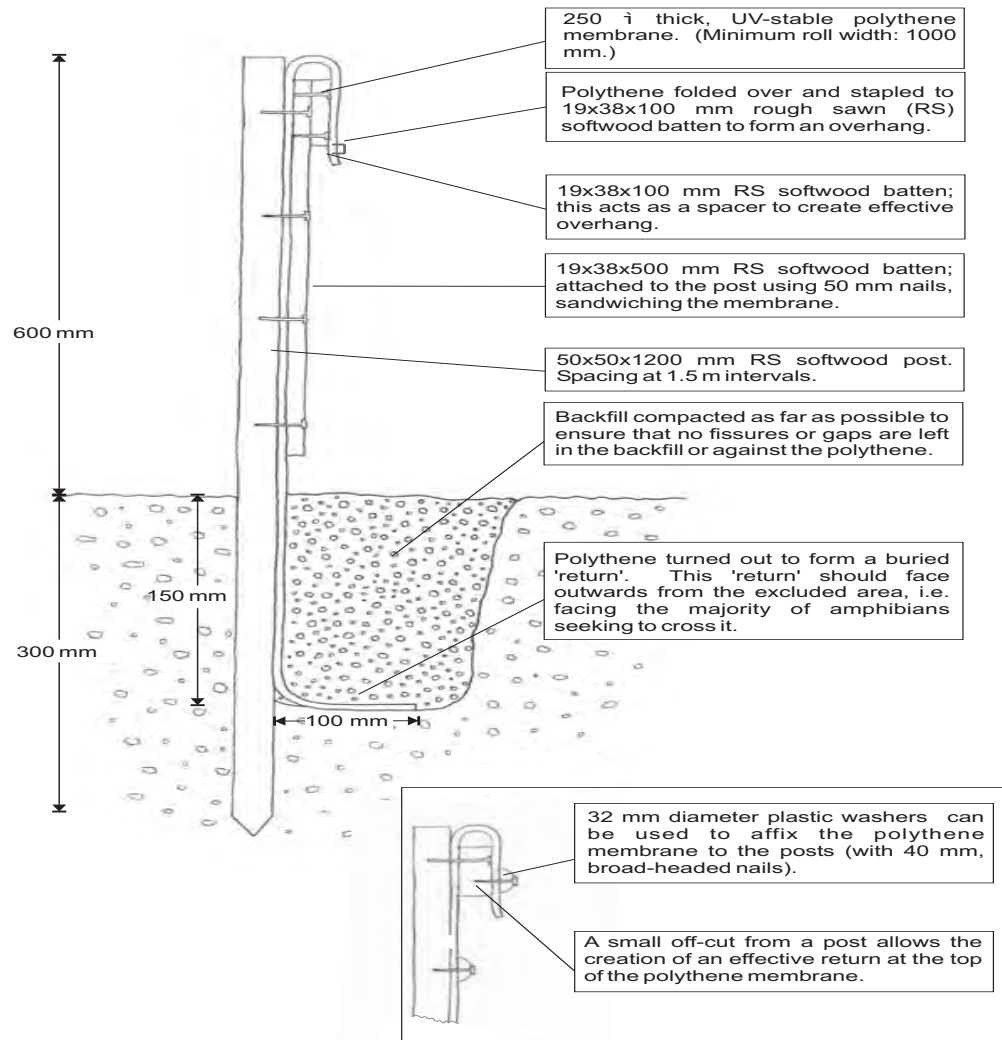


Figure 5: Fence line standards

- 4.8 With the exclusion fencing set-up, the area inside can be trapped intensively for reptiles. Artificial refugia for the reptiles would be set out in a density of at least 50 refugia per hectare of suitable habitat (HGBI guidelines, 1998) and allowed to bed in. Trapping will take place in optimal weather conditions, between the March and October inclusive and for a period of at least 15 days or until there are 5 consecutive no-reptile catch days.
- 4.9 The grassland will then be strimmed to 150mm, checked, and then finally strimmed down to ground level. This will be undertaken under ecological supervision. The arisings can be taken off site, or placed in several compost heaps within the retained habitat, providing good habitat for breeding slow worms.

4.10 As the final stage of the translocation process, any natural reptile refugia will need to be dismantled by hand or using sensitive machine work under close supervision of an ecologist.

4.11 The mitigation strategy will therefore follow:

- Reptile fencing being placed around the edges of the development area, ensuring that the area outside the development footprint is fenced off, therefore fencing off any potential movement of reptiles on to the site. This physical barrier will protect any species using the edges of the site.
- The site will be trapped until there are 5 clear days. The slow worms will be removed from the site. The fence line will prevent them moving back on to the central area of site and the construction zone.
- This area will be monitored during site works by an ecologist to ensure the fence line is fit for purpose and that the area is respected as a 'wildlife exclusion area'.
- Once 5 clear trapping days has been gained the grass within the development zone will be trimmed.
- Any areas which support vegetation should be removed sensitively under ecological supervision. The process would entail: visual inspection and finger tip search by an ecologist for the presence of reptiles. This is followed by a cut of the vegetation to 150mm above ground. This cut is inspected once more for the presence of reptiles. Finally vegetation is cut to ground level.
- Final clearance works and sensitive soil removal will also be carried out under the supervision of an ecologist.
- Once this is complete, development works can start.

4.13 The receptor site will need to be left unmanaged to mature and become suitable for reptiles. It is recommended that log piles are created within the receptor site as well as other areas of open green space on site. Dead wood habitats provide refugia, which can attract reptiles, amphibians, small mammals, and invertebrates. Planting schemes can also be included to enhance the area for such species.



Pictures above showing how log pile and hibernaculas can be created within the southwest corner of the site or underneath hedgerows on site. It is recommended that several piles are created of each type. These piles can be used by a variety of wildlife, reptiles being one group that happily use such features.

5.0 Conclusions

- 5.1 The rough grassland field margins on site were considered to have suitability to support common reptile species during the preliminary ecological appraisal in February 2017. As such further surveys were recommended. These surveys were conducted in April - May 2017.
- 5.2 A peak count of 10 individual adult slow worms were found during the survey. These were largely found along the southern boundary of the site adjacent to the railway line. In addition a peak count of 1 adult common lizard was recorded.
- 5.3 The development will involve the loss of optimal terrestrial habitat for reptiles. As such slow worms are required to be translocated from the development area. A translocation receptor area should be developed either in the western end of site close to the southern boundary. Translocated reptiles should be held within this area until development is complete. Once development is complete the reptile fence around the receptor site can be removed to allow reptiles to move across the retained green habitat on site.

- 5.4 The western end of site is to include an area of open space. Enhancements should be made to this area to create optimal reptile habitat including log piles and planting schemes.
- 5.5 Log piles have been recommended to provide additional refugia habitat across the site.

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Date: 3rd May 2017