

Reptile Survey 2018

**Pump and Bloors Farm,
Lower Rainham,
Kent**

Contents

1.0	INTRODUCTION	3
	BACKGROUND	3
	SITE CONTEXT AND STATUS	3
2.0	REPTILE SURVEY METHODOLOGY.....	4
3.0	REPTILE RESULTS	5
4.0	DISCUSSION	6
5.0	CONCLUSIONS.....	10
6.0	REFERENCES.....	11

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

- 1.1 The Ecology Partnership was commissioned by Phase 2 Planning to undertake a reptile survey on land around Pump and Bloors Farm, Lower Rainham, Kent, following the results of a Preliminary Ecological Appraisal conducted in June 2017 by EPR.
- 1.2 The PEA undertaken by EPR identified areas of *'less intensively managed'* grassland around the orchard, work site and Bloors Oast Houses that could provide suitable habitat for supporting common reptiles.
- 1.3 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. Conclusions are provided for in chapter 5 of this report.

Site Context and Status

- 1.4 The site comprises two parcels on either side of Pump Lane, in Lower Rainham, Kent (TQ809674). The land is just less than 250m south of the Medway Estuary and Marshes Special Protection Area. A railway line borders the land to the southwest with the dense suburban area of Twydall just beyond. Further agricultural land is situated to the northwest, and Bloors Lane Community Woodland, allotments and low-density buildings to the southeast.
- 1.5 The approximate red line boundary of the site is shown below in figure 1. This was also the approximate survey boundary.



Figure 1: Approximate location of the redline boundary and locations of the refugia (yellow)

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 24th May and the 21st June 2018. Prior to the commencement of the survey, the site was set up with artificial refugia (roofing felts) for reptiles on the 17th May 2018. Reptile mats were laid along the edges of the fields, and in strategic areas in the middle of the longer tussocky grassland.

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 24th May and the 21st June 2018, 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.

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: Reptile survey results

Date & Time	Temp °C	Weather	Reptile species found			Daily Total
24/05/2018 09.30-11.00	16	Overcast, light breeze, dry	/	/	/	0
30/05/2018 12.30 – 1.30	18	Overcast, no wind, dry	Slow worm	Adult	Male	2
			Slow worm	Adult	Female	3
			Slow worm	Juvenile	/	4
07/06/2018 10.00 – 12.00	15	50% cloud, 2/5 wind, dry	Slow worm	Adult	Female	6
			Slow worm	Adult	Male	1
			Common lizard	Adult	Male	1
11/06/2018 08.00 - 10.00	14	30% cloud cover, 2/5 wind	Slow worm	Adult	Female	2
			Slow worm	Juvenile	/	1
			Common lizard	Adult	/	2
15/06/2018 11.20 – 1.00	18	Sunny, light breeze, dry	Slow worm	Adult	Male	1
			Slow worm	Adult	Female	6
			Common lizard	Adult	Female	2
18/06/2018 10.00 - 12.00	20	25% cloud cover, dry, light breeze	Slow worm	Adult	Male	2
			Slow worm	Adult	Female	6
			Slow worm	Juvenile	/	1
21/06/2018 10.00 - 13.30	17	20% cloud cover, dry, light breeze	Slow worm	Adult	Male	1
			Slow worm	Adult	Female	2
			Slow worm	Juvenile	/	2

- 3.2 A peak count of nine slow worms were found on site, largely within the western fields along the railway line, and two common lizards were found on site. It is considered likely that more reptiles are present on site as there is a high disturbance level from dog walkers and workers on site.



Figure 2: Locations of the reptiles found on site.

Pink = slow worms; yellow = common lizards

4.0 Discussion

- 4.1 Areas of semi improved grassland and tall ruderal species along the edges of the site and at the base of boundary hedgerows were considered to be optimal for reptile species during a Preliminary Ecological Appraisal conducted in June 2017 by EPR.

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 The presence/likely absence survey undertaken in May and June 2018 found a peak count of nine slow worms, which is considered to be a 'good' population based on an

approximate 10 refugia per hectare within the target suitable habitat on site and a peak of two common lizards, which is a 'low' population on site.

- 4.5 It must be noted that the survey targeted specific areas of the site where habitats were considered to be optimal for common reptile species.

Reptile Mitigation Strategy

- 4.6 The reptiles on site were located in relatively low numbers along the very edges of the site, largely at the base of the hedgerows along the railway line and along the roadside.
- 4.7 The 'Initial Draft Masterplan' produced by Phase 2 indicates that the boundaries are to be retained as part of the scheme. The hedgerow running along the railway, north of Pump Lane, will form the back of residential gardens, maintaining the suitable habitat and connectivity along this green corridor. The boundaries around the southern portion of the site appear to form the grounds of a retirement village and sport pitches, both of which retain the hedgerows and base vegetation. With the suitable habitat retained, it is considered that reptiles will not be impacted by the proposals.
- 4.8 Due to the low numbers and locations of the reptiles on site, a translocation is not considered to be necessary if the boundary hedgerows and base vegetation is retained. The majority of the vegetation on site between the orchard trees is not considered to be suitable and the reptiles are unlikely to move into the centre of the site and into the development area if this habitat is retained as short suboptimal grassland.
- 4.9 If suitable vegetation is to be lost a translocation maybe required, but would be dependent on the size of the habitat loss and the potential isolation of a population. If only a small area then the grassland/scrub habitats should 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. Final clearance works and sensitive soil removal will also be carried out under the supervision of an ecologist.

- 4.10 The hedgerows and site boundaries should be enhanced and any gaps filled to create a more robust habitat edge which provides a greater level of diversity than is currently present. Hedgerows help to provide a layering of different habitats that can be utilised by a wide variety of species. Species that can be planted include blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), field maple (*Acer campestre*), holly (*Ilex aquifolium*), elder (*Sambucus nigra*), alder (*Frangula alnus*), guelder rose (*Viburnum opulus*), dog rose (*Rosa canina*) and dogwood (*Cornus sanguinea*).
- 4.11 The hedgerow edge along the railway line can be planted with herbaceous plants and bulbs. These will attract bees, butterflies and other insects as well as providing ground cover for smaller animals. The thicker the base of the hedgerow, the increased area of suitable habitat for reptiles. Seeds that are tolerant of semi-shade and are suitable for sowing beneath newly planted or established hedges should be used. The following species can include the mix:
- Yarrow (*Achillea millefolium*)
 - Agrimony (*Agrimonia eupatoria*)
 - Garlic mustard (*Alliaria petiolata*)
 - Common knapweed (*Centurea nigra*)
 - Wild basil (*Clinopodium vulgare*)
 - Hedge bedstraw (*Galium album*)
 - Wood avens (*Geum urbanum*)
 - Oxeye daisy (*Leucanthemum vulgare*)
 - Ribwort plantain (*Plantago lanceolata*)
 - Cowslip (*Primula veris*)
 - Selfheal (*Prunella vulgaris*)
 - Red campion (*Silene dioica*)
 - Bladder campion (*Silene vulgaris*)
 - Hedge woundwort (*Stachus sylvatica*)
 - Upright hedge parsley (*Torilis japonica*)
 - Tufted vetch (*Vicia cracca*)

4.12 Log and brush piles should be created under hedgerows to provide refugia and hibernacula for amphibians, reptiles, small mammals and invertebrates. Log piles should be located in a variety of locations, such as damp places, with some situated in more sunny locations. These should be stacked and perhaps some amounts of leaf litter added. Planting around log piles with such species as honeysuckle or clematis can also add value.

5.0 Conclusions

5.1 The site margins and hedgerow bases of the site were considered to have some suitability to support common reptile species during the 2017 preliminary Ecological Appraisal by EPR. As such further surveys were recommended. These surveys were conducted in May-June 2018 by The Ecology Partnership.

5.2 A low population of common lizards was found alongside a good population of slow worms.

5.3 The majority of the reptiles were found along the southwestern boundary along the railway line. This boundary, as well as others around the site are to be retained within the masterplan.

5.4 The majority of the habitat to be lost to the proposals is considered to be suboptimal for reptiles and that reptiles will not be present within the centre of the site. The areas of suitable reptile habitat are to be retained at the boundaries and form the back gardens of residential plots and a retirement village.

5.5 It is considered there is ample room within the scheme for enhancements for reptiles and for the masterplan to see an increase in suitable habitat. It is recommended to enhance significantly the diversity of the hedgerows creating a more naturalised edge as well as provide a more diverse species assemblage. These features would benefit a range of species and ensure that landscape connectivity is maintained within the scheme.

6.0 References

Froglife (1999) *Reptile survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10.* Froglife, Halesworth.

Gent, T. & Gibson, S. eds. (1998) *Herpetofauna Workers Manual.* Joint Nature Conservation Committee, Peterborough.

HGBI (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practices and Lawful Standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs).* Herpetofauna Groups of Britain and Ireland, c/o Froglife, Halesworth.

Internet resources:

Google Maps: www.maps.google.co.uk

Magic Maps: www.magic.gov.uk

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