

Appendix 6.4

Reptile Survey

University of Reading Whiteknights Campus

Reptile Survey 2008

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Summary

- S.1 RPS was commissioned to carry out a reptile survey on land at the University of Reading's Whiteknights Campus, in support of planning applications for development works within the campus. This report has been prepared by RPS to provide part of the ecological baseline required to inform the requisite Environmental Statement.
- S.2 The survey focused on areas within and close to the proposed development areas that were identified within the Phase 1 Habitat Survey to offer suitable reptile habitat. The specific objectives of the survey were: to determine the presence/likely absence of reptiles in the areas of suitable habitat that may be affected by the development; to determine the relative population size of any reptile populations present; and to determine the viability (i.e. presence of juveniles or observations of breeding activity) of any reptile populations present.
- S.3 The survey used artificial refuges constructed from sheets of roofing felt placed throughout the survey area in suitable reptile habitat. These refuges warm up in the sun and provide shelter and basking opportunities for reptiles, which can be recorded on or underneath the refuges in suitable weather conditions.
- S.4 No reptiles were observed on site during eight survey visits. This result does not rule out the presence of reptiles on site, however, it gives an indication of likely absence of reptiles on site. It is not recommended that any further survey or mitigation work for reptiles is carried out. Recommendations are given for the circumstance that reptiles are found on site during development works.
- S.5 Large numbers of adult, juvenile and metamorph common toads were observed underneath the artificial refuges throughout the survey area.
- S.6 Due to the apparently large and viable population of common toads (a UK Biodiversity Action Plan priority species) on the University grounds, it is recommended that mitigation measures are taken to reduce toad mortality during site clearances and also to maintain habitat quality for toads.

1 Introduction

- 1.1 RPS was commissioned to carry out a reptile survey on land at the University of Reading's Whiteknights Campus, in support of planning applications for development works within the campus. This report has been prepared by RPS to provide part of the ecological baseline required to inform the requisite Environmental Statement. All six native species of reptile in Britain (three species of snake and three species of lizard) are legally protected, and all are UK Biodiversity Action Plan priority species. The legal and conservation status of native British reptiles is given in Appendix A.
- 1.2 The survey focused on areas within and close to the proposed development areas that were identified by the Phase 1 Habitat Survey (RPS 2007) as offering potentially suitable reptile habitat.
- 1.3 The specific objectives of the reptile survey were:
- To determine the presence/likely absence of reptiles in the areas of suitable habitat that may be affected by the development;
 - To determine the relative population size of any reptile populations present using the guidelines set out in Froglife's Advice Sheet 10 (Froglife, 1999); and,
 - To determine the viability (i.e. presence of juveniles or observations of breeding activity) of any reptile populations present.
- 1.4 This report outlines the methods used in the survey (section 2), presents the results that were obtained (section 3), and gives recommendations for mitigation work arising from the results of the survey (section 4).

2 Method

- 2.1 The reptile survey was undertaken during May, June and July 2008 by suitably experienced ecologists.
- 2.2 The survey was conducted according to standard methods outlined in Froglife's Advice Sheet 10 (Froglife, 1999) and the JNCC Herpetofauna Workers' Manual (Gent and Gibson, 2003).
- 2.3 The survey used artificial refuges made from roofing felt (both lightweight shed felt and heavyweight flame-activated bitumen felt) measuring approximately 100cm x 50cm. These warm up in the sun and provide shelter and basking opportunities for reptiles, which can be recorded on or underneath the refuges in suitable weather conditions.
- 2.4 On the 18th April 2008 216 artificial refuges were placed in suitable areas of rough grassland and scrub within areas previously identified as containing habitat suitable for reptiles during the Phase 1 Habitat Survey (RPS 2007). The felts were then left undisturbed for 19 days before the first survey visit, in order to allow them to settle and to allow reptiles to find and utilise them. During the first visit, on the 7th May 2008, a further 12 felts were placed in areas identified on the 18th April to be potentially suitable for reptiles. The locations of the artificial refuges are shown in Figure 1.
- 2.5 A total of eight survey visits were conducted between the 7th May and the 1st July 2008. Survey visits involved inspecting all the artificial refuges for basking reptiles either on top or beneath the felt. The paths walked between artificial refuges were also searched for reptiles by direct observation. The number, species, age class and sex (where possible) of any reptiles observed was recorded (if any).
- 2.6 Other animals, in particular common toads and small mammals, are also commonly found underneath artificial refuges, and observations of these animals were also recorded.
- 2.7 The eight survey visits were conducted in weather conditions suitable for recording reptiles. Visits were not carried out under very hot, cold, wet or windy weather conditions. Weather conditions for the survey periods are summarised in Appendix B. Two visits per day were undertaken, one in the early part of the morning and one in the late afternoon (with the exception of the eighth visit, where an extended morning survey was conducted instead, because of high temperatures in the afternoon).

3 Results

3.1 Site visits were made on the 7th, 21st and 29th May, the 6th, 11th 19th and 27th of June and the 1st July 2008. The survey results are provided in the table below.

Table 1. Reptile survey results.

| Visit | Date | Reptiles | Amphibians | Small mammals |
|-------|----------------------------|----------|---|--|
| 1 | 7 th May 2008 | 0 | 10 adult common toads, 59 juvenile common toads | 5 field/bank voles |
| 2 | 21 st May 2008 | 0 | 66 common toads (adult and juvenile) | 0 |
| 3 | 29 th May 2008 | 0 | 57 common toads (adult and juvenile) | 2 field/bank voles, 1 common shrew |
| 4 | 6 th June 2008 | 0 | 19 adult common toads, 49 juvenile common toads | 1 bank vole, 2 common shrews, 2 juvenile wood mice |
| 5 | 11 th June 2008 | 0 | 16 adult common toads, 40 juvenile common toads | 3 field/bank voles, 1 common shrew, 1 wood mouse |
| 6 | 19 th June 2008 | 0 | 21 adult common toads, 29 juvenile common toads | 1 field/bank vole, 1 wood mouse |
| 7 | 27 th June 2008 | 0 | 23 adult common toads, 31 juvenile common toads | 2 field/bank voles |
| 8 | 1 st July 2008 | 0 | 8 adult common toads, ~30 metamorph toads | 2 field/bank voles |

3.2 No reptiles were observed on site during the eight survey visits.

3.3 Large numbers of adult, juvenile and metamorph common toads (metamorphs being toads that have metamorphosed and emerged that season) were observed underneath the artificial refuges throughout the survey area (peak count: 69 adult and juvenile toads). The areas where common toads were observed are shown in Figure 1.

3.4 Small mammals were also observed underneath the artificial refuges, namely: field voles, bank voles, common shrews and wood mice.

4 Conclusions and Recommendations

- 4.1 A reptile survey was conducted by RPS at the Whiteknights Campus. The survey was conducted in accordance with standard methods as set out in Froglife's Advice Sheet 10 (Froglife, 1999) and the JNCC Herpetofauna Workers' Manual (Gent and Gibson, 2003). No reptiles were identified on site during the eight survey visits. Suitable habitat is available on site for reptiles (particularly for slow worms and grass snakes), and this survey cannot rule out the presence of low numbers of reptiles on site. However, the fact that no reptiles were observed during eight visits in suitable weather conditions suggests that reptiles are either absent or present in low numbers.
- 4.2 It is not recommended that any further survey or mitigation work for reptiles is carried out on site. If any reptiles are discovered during development works, these individuals should be moved to areas of the University grounds which will not be affected by clearance activities, and which are suitable to support reptiles. Advice should be sought from a professional ecologist under these circumstances.
- 4.3 Large numbers of adult, juvenile and metamorph common toads were identified on site underneath artificial refuges. The peak count of toads on site was 69. It appears that the University grounds provide important breeding and terrestrial habitat for the common toad.
- 4.4 Due to the apparently large and viable population of common toads (a UK Biodiversity Action Plan priority species) on the University grounds, it is recommended that mitigation measures are taken to reduce toad mortality during site clearances and also to maintain habitat quality for toads.
- 4.5 The following measures are recommended prior to site clearance work in areas where toads have been identified:
- Toads should be captured from areas due to be cleared and moved to areas of the University grounds which will not be affected by clearance activities, and which are suitable to support toads.
 - Suitable habitat in areas due to be cleared should be rendered unsuitable for toads in order to encourage toads to move to areas which will not be affected by clearance activities.
 - Vegetation clearance and ground works should be supervised by an attending ecologist to move any toads found and captured to areas which will not be affected by clearance activities.
 - Habitat mitigation measures such as amphibian tunnels to connect severed habitats should be used to maintain connectivity of habitats (especially between breeding and

terrestrial habitats) and to reduce toad mortality due to traffic, especially during the migration from hibernation sites to breeding sites in the late winter/early spring.

- Site management practices (including mowing regimes) should take into account the presence of large numbers of adult, juvenile and metamorph toads in grassland and woodland areas, particularly in late spring to summer when adult toads leave the breeding ponds.

5 References

Froglife. 1999. *Froglife Advice Sheet 10. Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation*. Froglife.

Gent and Gibson (Eds). 2003. *Herpetofauna Workers' Manual*. Joint Nature Conservation Committee, Peterborough.

RPS. 2007. *Phase 1 Habitat Survey and Desk Study Report – Reading University Whiteknights Campus*. Unpublished report to Reading University.

The Conservation (Natural Habitats, &c.) Regulations. 1994. HMSO, London.

UK BAP. 2008. UK List of Priority Species and Habitats. <http://www.ukbap.org.uk/newprioritylist.aspx>. Accessed 16 June 2008.

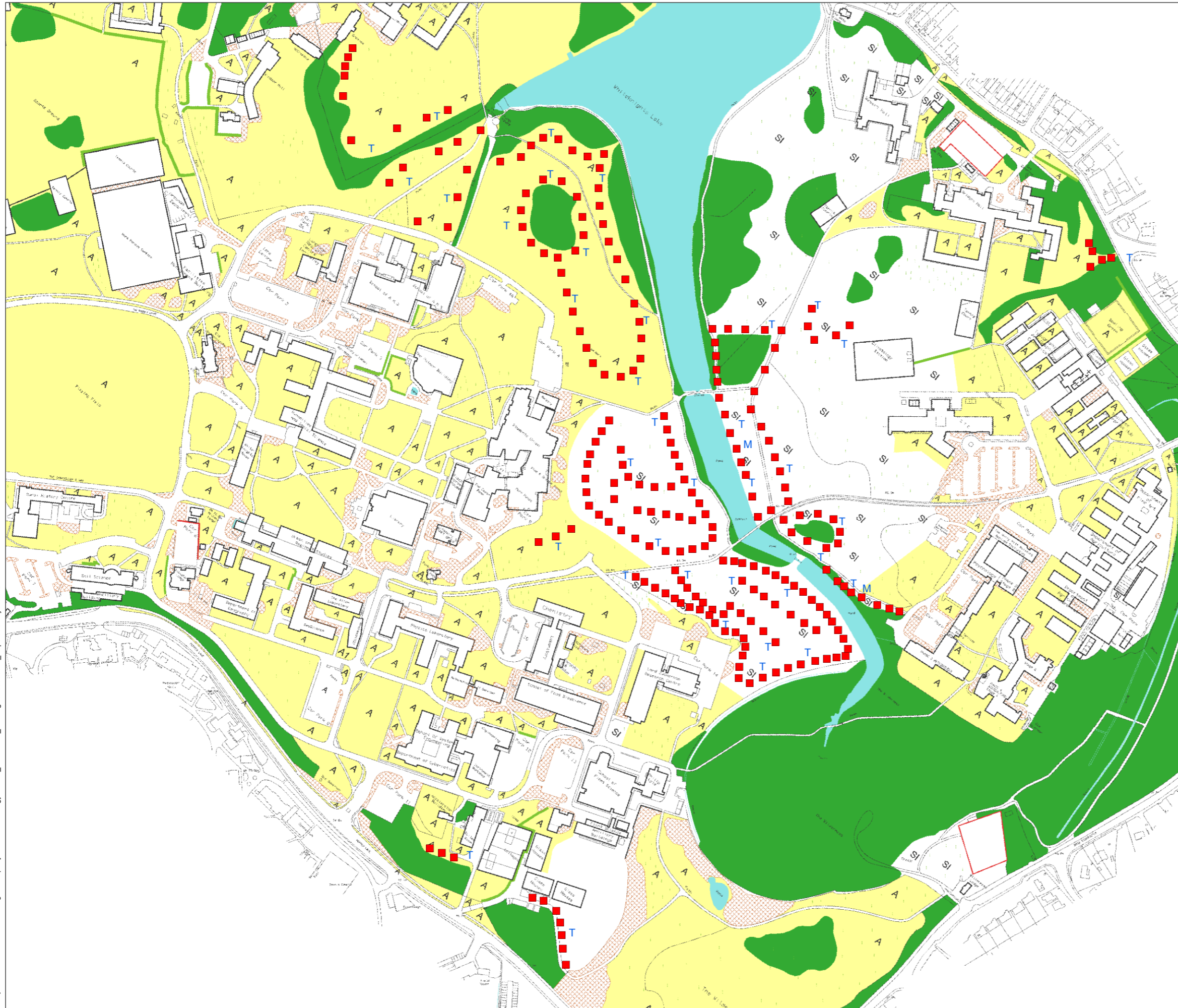
Wildlife and Countryside Act. 1981. HMSO, London.

Figures

Figure 1

**Plan showing locations of common toads underneath artificial
refuges**

Project Ref: O:\55588b White Knight Company\Tech\GIS\Ecology\55588D_080428TB_RoofingFeltLocations_ReptileSurvey08.mxd



Legend

- Reptile roofing felt locations
- T Adult and juvenile toads
- M Metamorph toads

| | | | | |
|------|----------|----------------------|-------|----------|
| Rev: | Date: | Amendment: | Name: | Checked: |
| B | 03/06/08 | Added felt locations | TB | MR |
| A | 13/05/08 | Added felt locations | TB | MR |

■ Data Source: RPS 2008

Status: FINAL

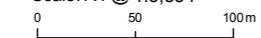


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■ Client: Stride Treglown Ltd
Project: Whiteknights Campus

Title: Roofing felt locations
- Reptile survey 2008

Scale: A4 @ 1:3,854



Date: 28/04/08 Datum: OSGB36 Projection: BNG
Drawn: TB Checked: MR Job Ref: JR5558

■ Figure No:

Revision: B

Appendices

Legislation relating to reptiles

- The slow worm (*Anguis fragilis*), the viviparous lizard (*Lacerta vivipara*), the grass snake (*Natrix natrix*) and the adder (*Vipera berus*) are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are protected under sections 9.1 and 9.5 of that Act against intentional killing or injury, and against sale. The Act also states that reasonable efforts must be taken to avoid the unintentional killing of Schedule 5 animals, including slow worms, viviparous lizards, grass snakes and adders. All four species are also UK Biodiversity Action Plan priority species. All four species are currently known to occur in Berkshire.
- The sand lizard (*Lacerta agilis*) and the smooth snake (*Coronella austriaca*) are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are fully protected under that Act. They are protected against intentional killing or injury, against sale, against intentional or reckless damage or destruction to any structure or place used for shelter or protection and against intentional or reckless disturbance while occupying a structure or place used for shelter or protection. The sand lizard and smooth snake are also protected under Schedule 2 of the Conservation (Natural Habitats, &c.) Regulations 1994. Species protected under Schedule 2 of these Regulations are known as European protected species. It is an offence to deliberately capture or kill a wild animal of a European protected species; to deliberately disturb any such animal; to deliberately take or destroy the eggs of such an animal; or to damage or destroy a breeding site or resting place of such an animal. This applies to all life stages of the animals. Sand lizards and smooth snakes are also UK Biodiversity Action Plan priority species. Sand lizards and smooth snakes are restricted in their distribution but are known to occur in the south and south-east of the UK.

Survey weather conditions

| Visit | Date | Cloud cover (score /8) | Wind | Min. temp. (°C) | Max. temp. (°C) | Notes |
|-------|----------------------------|------------------------|-----------------|-----------------|-----------------|------------------------|
| 1 | 7 th May 2008 | 0 | Calm | 14 | 21 | Ground damp in morning |
| 2 | 21 st May 2008 | 0 | Moderate breeze | 12 | 17 | |
| 3 | 29 th May 2008 | 2 | Slight breeze | 12 | 18 | Ground damp in morning |
| 4 | 6 th June 2008 | 6 | Calm | 15 | 16 | Hazy sunshine |
| 5 | 11 th June 2008 | 6 | Slight breeze | 14 | 20 | |
| 6 | 19 th June 2008 | | | 15 | 17 | |
| 7 | 27 th June 2008 | | | 16 | 20 | |
| 8 | 1 st July 2008 | 0 | Calm | 14 | 21 | |