

APPENDIX 15.3

Reptile Survey Report

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1. Introduction

- 1.1 Atkins Limited was commissioned by Portsmouth County Council to undertake reptile surveys at Dunsbury Hill Farm, Havant, Hampshire. Habitats suitable for reptiles were identified along hedgerows 1, 2, 3 and 4; grassland and scrub habitats within highway verge, Dunsbury Hill grassland SINC and fields east, west and north of the Hermitage Stream (Locations showed on Figure 15C.1). The typical habitat for reptiles is rough grassland and scrub mosaic, hedgerows, wetlands, woodland edges and clearings, lowland heathland and moorland.
- 1.2 Reptiles are legally protected and therefore it is necessary to consider these species to ensure that the relevant legislation and best practice is taken into account. The aim of this report is to provide information on the reptile species present at the proposed Dunsbury Hill Farm development, and to give an indication of their abundance.
- 1.3 In 2002, a survey for reptiles was undertaken by Herpetologic Ltd. in an area consisting of open areas of tall and shorter grass, hedgerows and field margins across the scheme. This area was the only area of suitable habitat available to the surveyor at the appropriate time of year for reptile surveys. The results of this survey are presented in an Environmental Statement for a previous proposed development (Cranfield, 2002). A survey of other areas of suitable open habitats within and just outside the scheme boundary was undertaken by Atkins in 2010.
- 1.4 This report presents the findings of reptile surveys carried out between 13th September 2010 and 4th October 2010.

2. Methodology

Desk Study

- 2.1 The Hampshire Biodiversity Information Centre was contacted for records of protected species in 2010.

Field Survey

- 2.2 The reptile survey methodology broadly followed guidelines for reptile presence/absence surveys in The Herpetofauna Workers Manual (Gent and Gibson, 2000). Seven survey visits are recommended. A combination of direct searching for basking reptiles and artificial refuges was used. Reptiles are attracted to bask on or underneath these materials. The refugia were approximately 0.75m² and were laid out in areas of suitable habitat within and in the close vicinity of the proposed development. The locations of these survey areas are illustrated in **Figure 15C.1**. The refugia were distributed around the boundaries of the fields as this edge habitat is the most suitable for reptiles and it reduced inconvenience to landowners (i.e. farming activities could be undertaken without the need to move the refugia).
- 2.3 A total of 71 artificial refugia were laid across the site, and surveys were undertaken on seven occasions between 13th September and 4th October 2010.
- 2.4 The optimal survey periods for reptiles are April to mid-/late May and mid-/late August to mid-/late September. The results table in Annex 1 indicates which sites were inspected on each survey visit.

- 2.5 An extended Phase 1 survey of land to the west of Hulbert Road was also conducted in September 2011, following the latest scheme design change, to look for potential habitat for reptiles.

Limitations

- 2.6 Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore this survey gives an indication of those species present or absent at the time of the survey only.
- 2.7 Although every effort was made to place the artificial refugia in areas away from public view and footpaths, some artificial refugia were not found during some of the surveys, possibly due to interference by members of the public.
- 2.8 The surveys were all carried out in good weather conditions and suitable temperatures for reptile activity.

3. Results

Desk Study

- 3.1 The Hampshire Biodiversity Information Centre provided records of slow worm, common lizard, adder and grass snake from within 1 km of the Scheme boundary. These records were from 2002 and are likely to relate to a previous survey by Jon Cranfield of Herpetologic Ltd in relation to a previous proposed development at the same site (Cranfield, 2002)

Field Survey

- 3.2 The survey conducted by Atkins Ltd. in 2010 recorded slow worm, common lizard, adder and grass snake in suitable habitat within and adjacent to the Scheme boundary. Juveniles of all species were recorded indicating breeding populations. A summary of the reptile survey results for 2010 are presented in Table 1. The full results of the reptile surveys for 2010 are presented in Annex 1.
- 3.3 An extended Phase 1 survey of land to the west of Hulbert Road was also conducted in September 2011 to look for potential habitat for reptiles. An area of road verge comprising of rough grassland and scrub had potential for reptiles. However, no signs of reptiles were found at the time of survey.

Table 1 – Summary of reptile surveys, 2010

Areas surveyed	Total number reptile sighting from all survey visits	Species present
Section A (Hedge H1)	2	Common lizard, slow worm
Section B	33	Common lizard, slow worm
Section C (Hedge H2)	5	Common lizard, adder
Section D	0	-
Section E (Hedge H3)	4	Common lizard, slow worm

Areas surveyed	Total number reptile sighting from all survey visits	Species present
Section F	29	Common lizard, slow worm, adder
Section G	4	Common lizard, slow worm
Section H	0	-
Section I	15	Common lizard, slow worm, grass snake, adder
Section J (Hedge H4)	17	Common lizard, slow worm, grass snake, adder

4. Discussion and Conclusions

- 4.1 Adder, grass snake, slow worm and common lizard were recorded on site in both 2002 and 2010 and these widespread reptile species are all included in the UK Biodiversity Action Plan as Priority Species of Conservation Concern, and are also included in the Highways Agency Biodiversity Action Plan.
- 4.2 The surveys undertaken were for presence/absence only and cannot be used for an estimated population size assessment.
- 4.3 The majority of the site is arable which is unsuitable habitat for reptiles. The habitats that are most suitable for reptiles are areas of grassland and scrub (including Dunsbury Hill Grassland SINC and Highways Agency Hulbert Road verge outside the site boundary), hedgerow bases, grass and scrub margins of Park Lane and woodland edges of Beech Wood East SINC and Cherry Tree Row SINC.
- 4.4 Following the latest guidance (Reptile Mitigation Guidelines TIN102, Natural England September 2011) and based on peak counts on a single survey and habitat suitability assessment, the population of slow worms and common lizards for Sections B, F and I was classed as medium; however for Section J the slow worm and common lizard population was classed as small. The population of grass snake and adder in Sections B, F, I and J were classed as small. It should be noted that the surveys were undertaken before the Reptile Mitigation Guidelines were published, and it has been stated in the guidelines that the classification and the methods to assess it are based on limited data and will be refined in the future.
- 4.5 During the survey, reptiles were recorded in all survey areas except D and H. Section D is an area of rough grassland within a former hedge boundary, and Section H is an area of rough grassland and scrub to the east of the Hermitage Stream. Although reptiles were not recorded at the time of survey, these areas could prove suitable to reptiles and be colonised before start of development works. It is recommended that a walkover survey is undertaken of Sections D and H before start of all works in order to see if reptiles are recorded. Habitat manipulation with directional strimming should be undertaken to prevent injury and death to any reptiles present. During a dormouse survey in summer 2011, a common lizard was recorded in Section H.
- 4.6 The hedgerows on site also provide good habitat corridors for reptiles between the less suitable habitat of the arable fields and the more suitable habitats of the rough grassland and scrub/woodland edges. At one particular hedge H4 (Section J), adders, grass snake and slow worm were recorded during the surveys. At the time of year that the survey took

place (September/October) adders in particular will congregate near communal hibernation sites prior to entering hibernation. These sites are extremely important for adders and other reptiles as they are often used throughout the animal's life. Hedge H4 is therefore strongly believed to be a hibernaculum (hibernation site) and it is strongly recommended that the hedge is retained and protected by buffer planting before works take place in order to prevent harm to reptiles and affect the local population status of adders in particular.

- 4.7 A female adder was recorded at hedge H3 during a dormouse survey undertaken in summer 2011. Low numbers (5 or less) of slow worms and common lizards were also recorded at Sections A, C and E which were all hedgerows sites. Slow worms and common lizards have also been recorded in the rough grassland/scrub margins of Park Lane. Park Lane did not form part of the reptile survey but the animals were recorded whilst walking between survey areas.
- 4.8 The Hermitage Stream itself is likely to be used as a habitat corridor for grass snakes which are known to travel long distances between areas of suitable habitats (Edgar *et al.* 2010).
- 4.9 An extended Phase 1 survey of land to the west of Hulbert Road was also conducted in September 2011 to look for potential habitat for reptiles. An area of road verge comprising of rough grassland and scrub had potential for reptiles. However, no signs of reptiles were found at the time of survey. As a precaution, this area will be subject to the same mitigation as the areas where the presence of reptiles was confirmed.
- 4.10 A series of mitigation measures will need to be put in place because of the legal protection afforded to adder, grass snake, slow worm and common lizard. Proposed mitigation measures are discussed in the Ecology chapter of the Environmental Statement.

5. References

- Cranfield, J. (2002) Herpetological Survey of Dunsbury Hill, Havant, Hampshire
- Edgar, J, Foster, J, Baker, J. (2010) Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth
- Gent, T. & Gibson, S. (editors), (2000). *Herpetofauna Worker's Manual*. 2nd ed. Joint Nature Conservation Committee: Peterborough
- Natural England Technical Information Note TIN102 (September 2011). Reptile Mitigation Guidelines. Natural England, Peterborough
- UK Biodiversity Action Plan – Priority Herptile Species <http://jncc.defra.gov.uk/page-5166> website accessed September 2011

Annex 1: Survey Results

KEY

CL = common lizard

juv = juvenile

♀ = Female

GS = grass snake

Sub = sub-adult

♂ = Male

A = adder

AR = artificial refugia

SW = slow worm

Date	06/09/2010	13/09/2010	15/09/2010	17/09/2010	20/09/2010	27/09/2010	28/09/2010	04/10/2010
Weather conditions	Overcast with some sun, light wind (during survey and remained unchanged)	Overcast with some sun, strong wind (start of survey) Overcast with rain (end of survey)	Sun with some cloud and light wind (start of survey) Overcast and light wind (end of survey)	Sun with light cloud and light breeze (start of survey) Overcast with light breeze (end of survey)	Sun and cloud with light breeze (during survey and remained unchanged)	Overcast after light rain (during survey and remained unchanged)	Overcast with light breeze (during survey and remained unchanged)	Overcast with some sun and light breeze (during survey and remained unchanged)
Site location: Section A								
Survey Results	Setting out AR and no reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	1 unsexed juv CL & 1 ♀ SW	No reptiles recorded	No reptiles recorded	Removing AR and no reptiles recorded
Site location: Section B								
Survey Results	Setting out AR and no reptiles recorded	1 unsexed juv SW, 1 Sub ♀ SW, 5 ♀ SW, 1 unsexed CL, 1 unsexed Sub CL & 1 ♀ CL	1 ♀ SW, 1 unsexed CL & 1 ♀ CL	No reptiles recorded	2 unsexed juv SW, 2 Sub ♀ SW & 2 ♀ SW	1 unsexed juv SW, 2 Sub ♀ SW, 1 juv ♂ CL, 2 unsexed juv CL & 1 ♂ CL	2 unsexed juv SW & 2 ♀ SW	Removing AR. 2 unsexed juv SW & 1 ♀ SW. 1 glow worm larvae recorded
Site location: Section C								
Survey Results	Setting out AR and 2 unsexed Sub CL recorded	1 unsexed juv CL	No reptiles recorded	1 ♂ CL, 1 unsex juv A & 1 ♂ A	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded

Date	06/09/2010	13/09/2010	15/09/2010	17/09/2010	20/09/2010	27/09/2010	28/09/2010	04/10/2010
Site location: Section D								
Survey Results	Setting out AR and no reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded
Site location: Section E								
Survey Results	Setting out AR and no reptiles recorded	2 ♀ SW & 1 juv ♂ CL	1 Sub ♀ SW	1 ♀ SW & 1 ♂ SW	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded
Site location: Section F								
Survey Results	Setting out AR and no reptiles recorded	3 unsexed juv SW & 1 ♀ SW	1 unsexed juv SW, 2 ♀ SW & 1 unsexed CL	1 Sub ♀ SW, 1 unsexed CL & 1 unsexed juv CL	4 ♀ SW & 1 unsexed juv CL	1 unsexed juv SW, 2 ♀ SW, 1 unsexed CL & 1 unsexed juv A	2 unsexed juv SW, 1 ♀ SW & 1 unsexed juv A	1 unsexed juv SW & 2 Sub ♀ SW
Site location: Section G								
Survey Results	Setting out AR and no reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	1 ♀ SW, 1 ♀ CL & 1 ♂ CL	No reptiles recorded	1 unsexed juv SW	No reptiles recorded
Site location: Section H								
Survey Results	Setting out AR and no reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded	No reptiles recorded but glow worm larvae recorded under AR
Site location: Section I								
Survey Results	Setting out AR and no reptiles recorded	2 ♂ SW & 1 ♂ juv CL	1 unsexed juv SW & 1 ♀ SW	1 unsexed juv SW & 1 ♀ SW	1 ♂ SW, 1 ♀ SW & 1 unsexed juv GS	1 ♀ SW & 1 unsexed juv A	2 ♀ SW	1 ♀ SW

Date	06/09/2010	13/09/2010	15/09/2010	17/09/2010	20/09/2010	27/09/2010	28/09/2010	04/10/2010
Site location: Section J								
Survey Results	Setting out AR & 1 ♀ A	1 ♀ SW & 1 ♂ SW	1 ♀ SW, 1 ♂ SW, 1 unsexed juv A & 1 ♀ A	1 unsexed CL, 1 ♀ SW, 1 unsexed juv A & 1 ♂ A	1 ♀ SW, 1 unsexed juv A & 1 ♀ A	1 ♀ GS	No reptiles recorded	1 ♀ SW, 1 unsexed juv A & 1 ♂ A
Site location: Other areas without AR, visual sightings only								
Survey Results	1 ♀ SW, 2 unsexed juv CL & 1 Sub ♂ CL on HA verge east of Hulbert Road	No reptiles recorded	No reptiles recorded	No reptiles recorded	2 ♀ SW & 5 unsexed juv CL on HA verge east of Hulbert Road	1 ♀ CL on hedge bank next to Park Lane	1 A corpse in scrub of former Dunsbury Farm buildings site	No reptiles recorded

Annex 2: Site photographs



Photograph 1 - Reptile survey area Section A (base of hedgerow to left of photograph)



Photograph 2 - Reptile survey area Section B (Dunsbury Hill Grassland SINC)



Photograph 3 - Reptile survey area Section C (base of hedgerow to right of photograph)



Photograph 4 - Reptile survey area Section D (defunct hedgerow in middle of photograph)



Photograph 5 - Reptile survey area Section E (base of hedgerow H3 to right of photograph)



Photograph 6 - Reptile survey areas Sections F and I showing grassland and scrub mosaic



Photograph 7 - Reptile survey area Section G



Photograph 8 - Reptile survey area Section H



Photograph 9 - Reptile survey area Section J (hedgerow H4 and adder hibernation site located towards woodland in back of photograph)



Photograph 10 - Adder basking at base of hedge H4 and Section J



Photograph 11 - Common lizard basking on artificial refugium



Photograph 12 - Slow worms found under artificial refugium