

PADNELL GRANGE

REPTILE SURVEY REPORT

Prepared for Bellways Homes

by

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HDA ref: 2080.6

July 2018

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1 INTRODUCTION

1.1 Site location and summary description

1.1.1 This report describes the results of a survey for reptiles carried out at approximately 2.7ha of land off Padnell Road, Cowplain, hereinafter referred to as 'the site'. The site centre is located by National Grid Reference SU 698 110. The study was commissioned by Bellway Homes in June 2017.

1.1.2 The site is located on the eastern edge of the settlement of Cowplain in southern Hampshire and forms the grounds of Padnell Grange which comprises a number of buildings in residential and commercial use together with associated hardstanding and formally landscape grounds. The site is bordered to the south and west by residential development, to the east by Waterloo Golf Course and to the north by an area of woodland. A more detailed description of the habitats within the site and its surrounds is given in the *Ecological Appraisal* (HDA, 2017). The extent of the site is shown on the plan in *Appendix A*.

1.2 Background and legislative context

1.2.1 Four species of reptile are widespread in England, Grass Snake *Natrix natrix*, Slow-worm *Anguis fragilis*, Common Lizard *Zootoca vivipara* and Adder *Vipera berus*. Less common species of reptile such as the Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* are restricted to certain sand dune and heathland sites.

1.2.2 Reptiles can be found in a range of habitats and typically require a mosaic of vegetation types. Habitat interfaces are important with reptiles requiring woodland, scrub or hedgerow for shelter, with adjacent longer vegetation for hunting and patches of sheltered short turf, bare ground or log piles for basking areas. Areas which catch the sun (i.e. those with a southerly aspect) are preferred over those where direct sunlight is absent for most of the day. In addition, Grass Snakes favour damp habitats such as those associated with still and running water, grazing marshes, mires etc.

1.2.3 All species of reptile are protected through Sections 9(1) and 9(5) of the 1981 Wildlife and Countryside Act (as amended). It is an offence to:

- Intentionally kill or injure any reptile; or
- Sell, offer for sale, possess or transport for the purposes of sale or publish advertisements to buy or sell any reptile.

Due to their rarity, Sand Lizards and Smooth Snakes have additional protection.

1.2.4 Reptiles across the UK have undergone significant declines in recent years and all species of reptile within the UK are listed as priority species on the UKBAP and identified as Species of Principal Importance under Section 41 of the 2006 Natural Environment and Rural

Communities (NERC) Act. Section 40 of the Act requires that these species are a material consideration in the planning process.

1.3 Development proposals

- 1.3.1 The site is to be the subject of a planning application for residential development, with associated car parking and landscaping.

1.4 Scope and purpose of the report

- 1.4.1 The Phase 1 habitat survey carried out as part of the Ecological Appraisal (HDA, 2017) identified limited opportunities for reptiles in association with areas of rough grassland, hedgerow bases, tall ruderal vegetation and ornamental shrubs within the site.
- 1.4.2 A reptile survey was subsequently commissioned to inform the proposed development of the site and this is the subject of this report. The aims of this study are:
- i. To establish the presence/probable absence of reptiles at the site;
 - ii. To assess the relative importance of different parts of the site for reptiles; and
 - iii. To predict likely impacts potentially arising from the proposed development of the site on reptiles and give recommendations for impact avoidance, minimisation and mitigation.

2 METHODOLOGY

- 2.1 The methodology has been devised to accord with the requirements of all relevant legislation and good practice guidance, including the Herpetofauna Worker's Manual (JNCC, 1999) and Reptile Survey guidance (Froglife, 1999).
- 2.2 The site was surveyed seven times by Abi Goulding, Tony Wells, Julie Watson MCIEEM, Hayley Snowdon GradCIEEM and Gerald Selvey of HDA. Surveys were generally carried out during optimum temperature and weather conditions (intermittent or hazy sunshine, temperature between 9°C and 20°C and low winds). Incidental reptile encounters during other ecological survey work carried out at the site and its surrounds are also included in this report. Dates of survey visits, with survey timings and weather conditions, are shown in *Table 1* below:

Table 1: Survey times and weather conditions

Survey visit	Date	Time of visit	Weather conditions	Temp (°C)
1	10/08/2017	10:45-11:35	Scattered cloud, dry, calm	17
2	24/08/2017	13:15-16:15	Partial cloud, sunny, dry, slight breeze	19
3	14/09/2017	11:20-12:05	Cloudy, dry, breezy	12-13
4	19/09/2017	16:30-18:40	Scattered cloud, sunny, dry, slight breeze	16-14
5	20/09/2017	11:00-11:40	Dry, slight breeze	16-17
6	26/09/2017	15:10-15:40	Overcast, dry, slight breeze	18
7	28/09/2017	12:30-13:20	Partial cloud, dry	16-17

- 2.3 Two methods of surveying were used. Firstly, artificial refugia (squares of roofing felt 0.5m x 0.5m) were placed, in advance of the survey commencing, at potential basking areas throughout the site. A total of 30 refugia were placed across the site, giving a total density of 11.1 refugia per hectare. This density is greater than the recommended 5 to 10 refugia per hectare of suitable reptile habitat, however this was considered appropriate given the objectives of the survey in order to increase the likelihood of encountering reptiles and to determine the distribution of reptiles across the site. Locations of refugia are shown on the map in *Appendix A*.
- 2.4 During each of the seven subsequent visits, each refugium was inspected for any reptiles basking on the upper side, then lifted and checked for sheltering animals before being carefully replaced.
- 2.5 The second survey method involved transect searches across suitable habitats within the site. This ensured that all areas were represented in the survey, and that the survey was not biased towards those reptiles more likely to use refugia. Transect searches involve walking slowly around the site, visually searching potential basking areas and marking the locations of any reptiles observed on a map. Potential reptile refuges already present on the site, such as dead logs, were also lifted to check for the presence of animals.
- 2.6 The following information was recorded for each reptile survey: species seen, number of animals seen, location (refugium number), date, start and finish times, temperature and weather.

2.7 Limitations

- 2.7.1 The reptile survey was carried out at an appropriate time of year during suitable weather conditions. It is therefore considered that no significant limitations were encountered during the survey and the survey findings allows a robust assessment of the likely effect of the proposed development on reptiles.

3 RESULTS

3.1 Habitat assessment

- 3.1.1 The majority of the site is dominated by buildings, hardstanding and intensively managed grassland habitats with a short sward which are unsuitable for reptiles. Areas of suitable habitat are however present in association with small areas of rough grassland, hedgerow bases, tall ruderal vegetation and ornamental shrubs. These areas are considered to provide limited areas of moderate quality habitat for reptiles.

- 3.1.2 Better opportunities are abundant in the wider area in association with areas of deciduous woodland to the north of the site and Waterlooville Golf Course to the east of the site.

3.2 Refugia and visual searches

- 3.2.1 Despite the presence of suitable habitat within the site, no reptiles were recorded during the reptile survey. However, during an ecological survey undertaken in June 2017 an adult Grass Snake was encountered within the woodland to the immediate north of the site. Its location is shown on the plan in *Appendix A*. Grass Snake is a highly mobile species and in view of the proximity of the Grass Snake sighting to the site it is conceivable that Grass Snake are present on site on at least an occasional basis.

- 3.2.2 In addition, during the reptile survey an adult Great Crested Newt was recorded under one of the reptile matts. The presence of Great Crested Newts at the site is considered further within the *Great Crested Newt Survey Report* (HDA, 2018).

4 SITE EVALUATION

- 4.1 A number of guidelines are used to evaluate the importance of a site for reptiles, based on both the population density and number of species present, in addition to historical factors.
- 4.2 The Guidelines for Biological Selection of SSSIs (JNCC, 1989) gives a scoring system for the evaluation of sites on the basis of their reptile population. It suggests that for the commoner species of reptile, the best localities in which three or more species occur should be selected as potential SSSIs.

4.3 The Herpetofauna Workers' Manual (JNCC, 1998) suggests that sites falling outside of the SSSI selection criteria should be designated as Sites of Importance for Nature Conservation (SINCs) if they meet the following criteria:

- Any site with a large population of a single species;
- Any site with a moderate population of two species;
- Any site at the edge of the geographical range of a species; and
- Any site with a long documented history.

4.4 The Key Reptile Site register is a mechanism designed to promote the safeguard of important reptile sites. To qualify for the register, the site in question must meet at least one of the following criteria (Froglife, 1999):

- Supports three or more reptile species;
- Supports two snake species;
- Supports an exceptional population of at least one species (*Table 3*);
- Supports an assemblage of species scoring at least 4 (*Table 3*); and
- Does not satisfy the above criteria but is of particular regional importance due to local rarity (e.g. in the East Midlands, Adders are very rare so even "low" populations should be designated as Key Sites).

The criteria for scoring populations of the four common reptile species for the purposes of the Key Reptile Register are given in *Table 3* below.

Table 3: Population parameters for the Key Reptile Sites register

Reptile species	Low population Score 1	Good population Score 2	Exceptional population Score 3
Adder	<5	5-10	>10
Grass Snake	<5	5-10	>10
Common Lizard	<5	5-20	>20
Slow-worm	<5	5-20	>20

Figures in the table refer to maximum number of adults seen by observation and/or under tins (placed at a density of up to 10 per hectare) by one person in one day.

4.5 As discussed in *Section 3.2* above, despite no reptiles being recorded within the site, due to the sighting of a Grass Snake to the immediate north of the site it is conceivable that the site supports this species on at least an occasional basis. Using these criteria, the site is therefore likely to support a 'very low' population of Grass Snake as only one Grass Snake was recorded adjacent to the site over the course of the survey and all other ecological survey work carried out at the site.

4.6 Due to the very low number of Grass Snake recorded (i.e. one), the site does not qualify as a SSSI, SINC or Key Reptile Site.

4.7 Grass Snake are a common and widespread reptile species and are likely to occur widely in the surrounding area. It is therefore considered highly unlikely that the very low numbers of Grass Snake expected to be present are of significant interest in a local context. However, the legal protection afforded to all reptiles still applies and this is discussed further in *Section 5* below.

5 RECOMMENDATIONS

5.1 The site is likely to support a 'very low' population of Grass Snake and as such does not qualify as a SSSI, SINC or a candidate Key Reptile Site, and as discussed above the site is unlikely to be of significant local interest for reptiles. However, the legal protection afforded to all reptiles still applies.

5.2 Only one Grass Snake was recorded over the course of the reptile survey and other ecological survey work carried out at the site. The individual Grass Snake was recorded to the immediate north of the site within an area of deciduous woodland, and it is therefore conceivable that small numbers of Grass Snake may use suitable areas of the site on at least an occasional basis.

5.3 Although the proposed development will result in the loss of limited areas of reptile habitat within the site where buildings and hardstanding takes the place of hedgerow bases, rough grassland, tall ruderal vegetation and ornamental shrub habitats, the emerging proposals indicate that areas of the site currently of limited suitability for reptiles will be enhanced for reptiles within areas of proposed informal open space. Opportunities for reptiles within areas of informal open space include tree and scrub planting and the establishment of new areas of rough and meadow grassland and wetland habitat. In addition, as they mature it is expected that the gardens within the site are also likely to provide some opportunities for reptiles. Measures to further enhance opportunities for reptiles arising from the scheme are discussed further below.

5.4 Notwithstanding the above proposals which will ensure the continued presence of opportunities for reptiles within the site in the long-term, existing areas of suitable habitat will be lost to development and it will therefore be necessary to protect any reptiles present from killing or injuring during site clearance works. The majority of the site, comprising buildings, hardstanding and managed semi-improved grassland, provides low quality habitat for Grass Snakes. Areas of suitable reptile habitat are however present around the site margins in the form of hedgerow and shrub bases, tall ruderal and rough grassland habitats.

Protection of reptiles during construction

- 5.5 Although Grass Snake are potentially present in very low numbers within areas of suitable habitat across the site, in view of: i) the limited extent of suitable reptile habitat affected; ii) the very low number of Grass Snake recorded; and iii) the availability and extent of retained areas of suitable reptile habitat within and adjacent to that being lost; assuming that the site management remains the same and that the distribution or character of habitats does not change significantly prior to construction, a full reptile translocation exercise from the site is not required prior to development of the site. However due to the presence of Great Crested Newts at the site, a translocation for Great Crested Newts will be required (HDA, 2018). It is therefore recommended that during the Great Crested Newt translocation, reptile refugia are placed within the site at a density of 50-100/ha of suitable habitat which would be checked during each Great Crested Newt trapping exercise and any reptiles encountered would be captured and translocated to the receptor area provided for the Great Crested Newts. For further details on the proposed translocation, see the *Great Crested Newt Survey Report* (HDA, 2018).

Maintenance and enhancement of opportunities for reptiles

- 5.6 The emerging landscape proposals indicate that opportunities for reptiles could be maintained and potentially enhanced within the site through retention and creation of meadow grassland, woodland, hedgerows, shrub planting and wetland habitats.
- 5.7 In order to maximise the value of these habitats for reptiles within areas of informal open space, the following measures are recommended:
- Implementation of a low intensity management regime for grassland habitats in order to maintain a longer tussocky sward with less frequent and/or extensive disturbance;
 - Maintenance of selected areas as rough grassland along margins of hedgerows, scrub and wetland habitats. This could be achieved through cutting on a longer rotation to allow a dense and tussocky sward to establish. Stands of self-establishing scrub could be excluded from the grassland management regime, or additional areas of scrub planted, to create a mosaic of habitats favoured by a range of reptile species;
 - Creation of ecotones (a gradation from woodland/hedgerows to scrub to rough grassland habitats), to provide a range of foraging, basking and refuge opportunities;
 - Creation of new wetland habitats including reedbeds, ponds and drains as standalone features or as part of the surface water drainage strategy. These should be designed to maximise their value for wildlife including gently shelved margins

and areas of open water habitat to encourage use by amphibians which are a favoured prey item for Grass Snake; and

- Provision of opportunities for hibernation and refuge through provision of log/brush piles and purpose built hibernaculum.

5.8 Where new or retained areas of reptile habitat are provided, a management plan should be prepared and implemented to ensure their suitability for reptiles in the long-term.

6 CONCLUSION

6.1 The site is considered likely to support very low numbers of Grass Snake and as such does not qualify as a SSSI, SNCI or Key Reptile Site, and as a whole the site is considered unlikely to be of significant local value for reptiles. However, the legal protection and planning policy afforded to all reptiles still applies.

6.2 Measures to ensure compliance with nature conservation legislation and to maintain opportunities for reptiles at the site in the long-term are set out in *Section 5* above. Subject to their implementation no adverse effects on the local Grass Snake population would be expected to arise as a result of the proposed development.

6.3 Furthermore in accordance with the 2012 NPPF and 2006 NERC Act, the development will provide the opportunity to enhance opportunities at the site for reptiles through the creation, enhancement and long-term management of habitats as part of the landscape strategy for the proposed development. Measures by which this can be achieved are given above.

7 REFERENCES

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HDA Document Control and Quality Assurance Record

Project Title: Padnell Grange
Project Reference: 2080.6
Document Title: Reptile Survey Report
Commissioning Party: Bellway Homes

Issue	Description	Date of Issue	Signed
1	Reptile Survey Report	July 2018	

	Personnel	Position
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APPENDIX A

Reptile Survey Summary Plan



- KEY**
- Site boundary
 - Refugia
 - Grass Snake sighting (off-site)

CLIENT:
Bellway Homes

PROJECT:
Padnell Grange

TITLE:
Reptile Survey Summary Plan

SCALE AT A3: See scale bar DATE: July 2018

2080.6 / 07