

## Reptile Survey Report

**Project:** Land off Jaques Way, Wrexham, LL11 2BY

**Client:** Castlemead Group Ltd

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## EXECUTIVE SUMMARY

The content of this report details Phase 2 presence/ likely absence reptile surveys undertaken between March and May of 2018 at the Land off Jaques Way, Wrexham, LL11 2BY. The site is centred on approximate Ordnance Survey Grid Reference (OSGR) SJ 32850 50620. The findings of this report have been used to inform a planning application for the proposed residential development of the site.

The application site, set in an urban environment, contains habitats deemed suitable for supporting reptile species and runs adjacent to a railway line, providing potential connectivity to the wider landscape.

Historic records for common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*) and grass snake (*Natrix natrix*) within 1km are known.

The presence of common reptiles on the application site is confirmed following Phase 2 presence/ likely absence reptile surveys, with a small population of common lizard found – with a maximum count of two (2) individuals. Creation of a 'Reptile Conservation Area (RCA)' is recommended along the western site boundary and southern corner of the site, prior to the initiation of any works, to be managed and enhanced appropriately in order to maintain a corridor of favourable habitat for common reptile species. The areas outside of the RCA are to be cleared by way of a sensitive clearance scheme and destructive hand searches, under ecologist supervision. Reasonable Avoidance Measures (RAM's) detailed in a method statement for reptiles must be adhered to in order to reduce the risk of killing, injuring or disturbing reptiles during development activities. Monitoring of the mitigation strategy and RCA during and post-development is required, to ensure compliance.

No evidence of other protected/ notable species was noted during the survey(s) and no adverse impacts upon common reptile species are envisaged, provided the mitigation strategy and provisions detailed in this report are followed.

## REPTILE LEGISLATION

All species of native UK reptile, including common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), receive some degree of protection from harm under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- i. Intentionally kill or injure any UK native reptile;
- ii. Sell, barter, exchange, transport for sale or advertise to sell or to buy any UK native reptile.

*It is not an offence under the Wildlife and Countryside Act 1981 to possess these animals.*

Full protection under both the Conservation of Habitats and Species Regulations (2017) and Wildlife and Countryside Act, 1981 (as amended) is afforded to sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). This makes it an offence to:

- i. Intentionally kill, injure or take either of these species;
- ii. Possess either of these species or any part thereof;
- iii. Intentionally damage or destroy the breeding or places of shelter/ protection of either of these species;
- iv. Intentionally disturb either of these species whilst occupying a place used for shelter or protection;
- v. Sell, barter, exchange, transport for sale or advertise to sell or to buy either of these species.

In addition, all species of reptile native to the UK are also listed as Priority Species on the UK BAP, highlighting them as species of conservation concern.

# 1. INTRODUCTION

## 1.1 COMMISSION AND PROPOSALS

- Pearce Environment Ltd were commissioned by Castlemead Group Ltd to undertake Phase 2 reptile surveys at the Land off Jaques Way, Wrexham, LL11 2BY (hereafter referred to as 'the site'). The site is centred on approximate Ordnance Survey Grid Reference (OSGR) SJ 32850 50620.
- The findings of this report have been used to inform an application for the proposed erection of 25 no. residential dwellings with associated infrastructure and revised access arrangements (**Appendix 1**).

## 1.2 AIMS

- This report sets out the findings of a full suite of Phase 2 reptile surveys undertaken at the site by Pearce Environment Ltd between March and May of 2018.
- The aims of this report are to:
  - i. Determine the presence/ likely absence of reptiles on the application site;
  - ii. Determine the need for licensing, Reasonable Avoidance Measures (RAM's) and mitigation and/ or compensation measures, where necessary;
  - iii. Identify any additional species constraints relating to the application site.

## 1.3 BACKGROUND

- A Preliminary Ecological Appraisal (PEA) was undertaken on the site in October 2016 (*Eco Tech*, 2017). This identified the presence of habitat on the site deemed highly suitable for reptile species (particularly common lizard), although no reptiles were found during the initial survey.
- Furthermore, no reptiles were recording during a survey undertaken in September 2011 (*JW Ecological*, 2011).

## 2. METHODOLOGY

- This section summarises the methodologies used during the survey(s), in line with the aims set out in **Section 1** of this report.

### 2.1 DESK STUDY

- A desk-based study was not considered necessary for the purposes of this report.
- Historic records for common lizard, slow worm and grass snake within 1km of the application site (largely associated with the railway) are known to the author/surveyor(s).

### 2.2 PHASE 2 REPTILE SURVEY METHODOLOGY

- Detailed Phase 2 presence/ likely absence reptile surveys were undertaken to assess the status of reptile populations on the site in accordance with best practice guidelines.
- The reptile surveys are based on the methodology for tinning (artificial refugia) as described by Froglife (1999)<sup>1</sup> and the Herpetofauna Worker's Manual (1998)<sup>2</sup>:
  - Surveys should be undertaken between March and October with the optimal months being April, May and September;
  - Survey visits should ideally be made between 08.00 – 11.00 or 16.00 – 19.00 and in suitable weather conditions (the Herpetological Groups of Britain and Ireland [HGBI], 1998, define suitable weather conditions as an air temperature range of 9°C – 18°C with sunshine or light cloud and surveys should avoid days with strong winds or rainfall);
  - Appropriate artificial refuges can either be lightweight-gauge corrugated iron (tins) or roofing felt that is dark in colour – the dark bitumen sheets attract reptiles as they absorb and retain heat quicker than the surrounding habitat.
- In addition to undertaking the specific refugia searches, visual transects were carried out on each survey visit, concentrating on areas between the refugia and any other areas considered to be suitable for basking reptiles. Visual checks involved walking slowly and meticulously through habitat with a 'look-see' method of searching for and recording reptiles.
- A search of any existing natural/ artificial refugia on site was undertaken, along with the intentionally laid refugia, to determine the presence/ likely absence of reptile species.
- A full reptile sheet plan is detailed in **Plan 1** of this report.

<sup>1</sup> Froglife (1999) *Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*.

<sup>2</sup> Gent, A. and Gibson, S. (1998). *Herpetofauna Workers' Manual*. Peterborough, UK. Joint Nature Conservation Committee.

- The initial site visit to deploy reptile sheets was undertaken during a daytime visit on 20<sup>th</sup> March 2018.
- Seven (7) subsequent site visits were carried out during April and May of 2018, in optimal weather conditions (**Table 3.6**).
- All surveys were performed by Jonathan Molesworth BSc (hons) GradCIEEM, an ecologist with almost 3 years' experience and holder of Natural England (NE) and Natural Resources Wales (NRW) licenses for great crested newts (licence numbers 2017-31597-CLS-CLS and 77860:OTH:SA:2017), a 1<sup>st</sup> class degree in Biology from the University of Liverpool, and membership with the Chartered Institute of Ecology and Environmental Management (CIEEM: *membership number 15105*). Jonathan is also a qualified tree climber, and is a member of the Shropshire Mammal Group and Shropshire Bat Group.

### Other Species

- Observations of any other notable flora and fauna on the site or within near surrounds were noted during the course of the Phase 2 reptile surveys.

## 2.3 LIMITATIONS

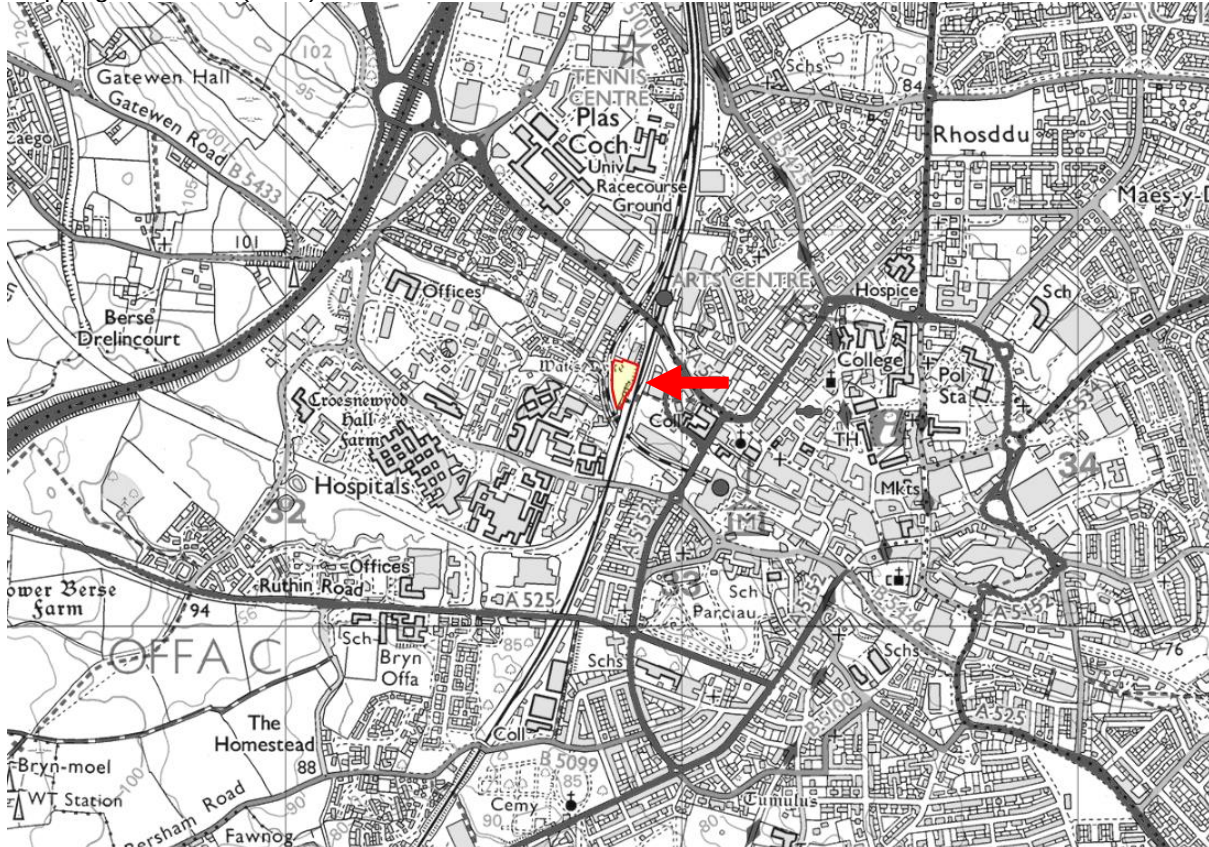
- All aspects of the site were fully accessible during the survey(s).
- Whilst we make every effort to meet the client brief, no site visit can ensure prediction of the natural environment such as movement of species in response to variables such as weather and seasonality.
- As with any survey, it is a documentation of what the surveyor observes on the specific survey day and their interpretation of those observations.

## 3. RESULTS AND RECOMMENDATIONS

### 3.1 SITE DESCRIPTION

- The application site is set in an urban environment, near to the centre of Wrexham (**Figure 3.1**).

**Figure 3.1** Site location & application boundary (outlined in red) reproduced using freely-available online mapping resources (2018)



- The site is directly surrounded by a mixture of residential housing and industrial estates in all directions (**Figure 3.2**). A railway cutting/ embankment abuts the entirety of the western site boundary.
- The railway line provides potential connectivity to the wider landscape and is considered to provide areas of favourable reptile habitat itself.
- Existing access is gained via a gateway at the northwest corner of the site.

### 3.2 BROAD HABITATS

- The site (~0.45 Ha), situated on previously-disturbed and neglected ground, is composed of a mosaic of scattered trees, scattered scrub, tall ruderal vegetation, species-poor semi-improved grassland, bare ground and fencing/ walls (**Image 3.3**).
- A number of existing, potential artificial refugia (such as rubble/ spoil heaps and various discarded building materials/ debris) are present on the site.

**Figure 3.2** Aerial view of the site and immediate surrounds reproduced using freely-available online mapping resources (2018)



**Image 3.3** A typical view of the site, looking north



### 3.3 PHASE 2 REPTILE SURVEY RESULTS

#### Reptile Sheet Deployment

- A total of 35 artificial reptile refugia comprising a mix of corrugated onduline sheet (1.5m<sup>2</sup>) and carpet tiles (0.5m<sup>2</sup>) were deployed around the site, with particular focus along the western margin (adjacent to the railway line), fringes of scrub and ruderal vegetation, and surrounding areas of raised land (**Plan 1; Image 3.4; Image 3.5**).

**Image 3.4** An onduline sheet deployed centrally within the site



**Image 3.5** A carpet tile deployed along the western site margin



## Reptile Survey Results

- The detailed timings and results of the Phase 2 reptile surveys are detailed in **Table 3.6**, below.

**Table 3.6** Detailed results of Phase 2 presence/ likely absence reptile surveys

| Date       | Temp. (°C) | Conditions                                                       | Species                     |
|------------|------------|------------------------------------------------------------------|-----------------------------|
| 03/04/2018 | 15         | Dry underfoot, no precip., light wind, 40% cloud cover           | /                           |
| 09/04/2018 | 14         | Dry underfoot, no precip., no wind, 50% cloud cover              | /                           |
| 11/04/2018 | 9          | Damp underfoot, no precip., no wind, 100% cloud cover            | 1X adult male common lizard |
| 13/04/2018 | 7          | Damp underfoot, immediately post-rain, no wind, 100% cloud cover | /                           |
| 18/04/2018 | 15         | Damp underfoot, no rain, light wind, 100% cloud cover            | 1X adult male common lizard |
| 25/04/2018 | 13         | Dry underfoot, no rain, light wind, 60% cloud cover              | 2X adult common lizard      |
| 16/05/2018 | 15         | Dry underfoot, no rain, no wind, 100% cloud cover                | /                           |

- The presence of a small population of common lizard is confirmed following Phase 2 reptile surveys, with a maximum count of two (2), recorded on the 11<sup>th</sup> April 2018, 18<sup>th</sup> April 2018 and 25<sup>th</sup> April 2018 (**Image 3.7**; **Image 3.8**).
- Common lizards were found under an onduline sheet situated at the base of a grassy mound along the north-western site margin and basking between sheets in the southern corner of the site.

### 3.4 OTHER OBSERVATIONS

- A small number of passerine and corvid bird species, such as blackbird (*Turdus merula*), were observed flying over and around the site during the reptile survey(s), particularly around vegetation constituting the western and southern portions of the site.
- An abundance of common terrestrial invertebrates were found underneath reptile sheets over the course of the site visits.

**Image 3.7** An adult male common lizard found beneath an onduline sheet on 11<sup>th</sup> April 2018



**Image 3.8** An adult male common lizard found beneath an onduline sheet on 18<sup>th</sup> April 2018



## 4. CONCLUSIONS

### 4.1 STATUS OF REPTILES ON THE SITE

- The presence of common reptiles on the application site is confirmed, with a small population of common lizard confirmed. These were recorded along the western margin of the site.
- Given the nature of the site/ surroundings and the low numbers of common lizards found during the survey(s), it is likely that it is a relic population, associated with the adjacent railway embankment.

### 4.2 SIGNIFICANCE TO DEVELOPMENT

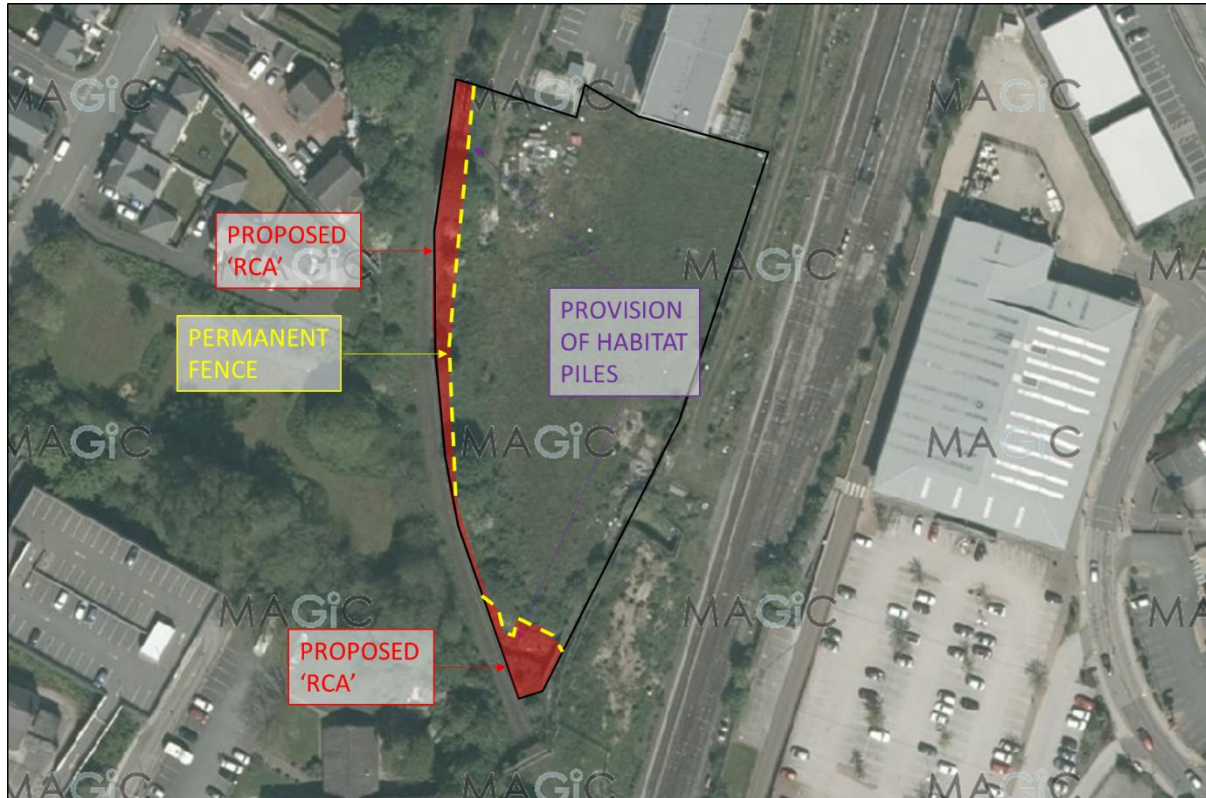
- The proposals involve the residential development of the site, including erection of dwellings, installation of associated infrastructure and revised access. This could potentially result in the loss of favourable reptile habitat and the killing/ injury/ disturbance of individual reptiles.

### 4.3 RECOMMENDATIONS

- Owing to the small size of the reptile population on the site, it is deemed that the most pragmatic approach to mitigate against any negative impacts upon reptiles is by way of a habitat retention, enhancement and management/ monitoring strategy, as opposed to a costly translocation scheme, which is considered unnecessary (should the alternative strategy be achievable).
- It is recommended that the western site margin and southern corner of the site (the general areas in which reptiles were recorded during the surveys), constituting approximately 0.1 ha and set mostly on a west-facing and vegetated embankment, is retained *in situ* as a 'reptile conservation area (RCA)'. This is to be appropriately demarked by a permanent, timber post and rail fence, prior to the initiation of any works, as illustrated in **Figure 3.9** and **Appendix 1**, which will prevent contractors/ plant/ materials entering/ disturbing the RCA.
- Creation of an RCA in these areas of the site has been agreed upon between the client, Wrexham Council Ecology and Biodiversity team and Pearce Environment Ltd (E Broad, *Email. Comms.*, 10/10/18).
- The RCA is to be subject to a habitat management scheme, to maintain this area as a mosaic of favourable reptile habitat:
  - The scrub currently within the RCA is to be cut using hand tools (brush-cutter/ strimmer) on an annual, rotational basis to control the succession to woody, over-shading vegetation. Simultaneous removal of vegetation from the entire RCA should be avoided, with a phased cutting regime recommended whereby the overall RCA is sub-divided into approximately three (3) plots, with one (1) plot cut once per annum. Cutting of any non-hibernation areas (areas excluding habitat piles) should be undertaken between November and February, where reptiles are

least likely to be present. Should cutting be required outside of this timeframe, phased removal of any vegetation to 100mm (above 'boot height') will be undertaken during temperatures exceeding 15°C (when reptiles are most active), after which a second cut can be made to ground level after a 24 hour period.

**Figure 3.9** Proposed RCA



*This diagram is indicative and not to scale*

- The arisings of any sensitive scrub clearance are to be piled up within the RCA to provide potential refuge, egg-laying and feeding opportunities for common reptiles.
- A minimum of two (2) habitat piles, constructed from either brash/ logs or stone, are to be created within the RCA, ideally situated at the northern and southern extents (near to where common lizards were found during the surveys).
- Tree coverage is to be maintained below 10%, by way of the removal of young trees within the RCA during annual scrub clearance works, if necessary.
- The remainder of the site, subject to the proposed development works, is to be maintained as unfavourable reptile habitat. The site is to be cleared in a phased regime, started along the eastern site margin and directing west, towards the proposed RCA, to allow opportunity for any reptiles present within the remainder of the site to disperse naturally. Phased removal of any vegetation to 100mm (above 'boot height') will be undertaken during temperatures exceeding 15°C (when reptiles are active), after which a second cut can be made to ground level after a 24 hour period.
- The removal or levelling of any debris/ rubble/ vegetated soil piles on the site (notably within the northwest and southwest corners of the site) will be directly supervised by a suitably-qualified ecologist, who will perform a detailed, destructive hand search of such features and aid the safe movement of any reptiles, if found, to the RCA.

- All remaining development works are to adhere to Reasonable Avoidance Measures (RAM's) detailed in a strict method statement for reptiles in **Section 5** of this report, to reduce the likelihood of killing, injuring or disturbing any reptiles present on the site.
- Monitoring visit(s) by a suitably-qualified ecologist will be undertaken during and post-development, to ensure compliance and ensure the effectiveness and management of the proposed RCA.
- The above mitigation strategy is considered sufficient to maintain the favourable conservation status of common reptile species. Should this strategy become unworkable or impractical at any time during or post-development in the opinion of the appointed ecologist, remedial action must be taken.

#### 4.4 OTHER SPECIES

- No further protected/ notable species, pertinent to this study, were noted on the site.

## 5. METHOD STATEMENT

### 5.1 IMPACT OF THE WORKS

- Site clearance, ground works and general disturbance synonymous with a medium-scale residential development and associated infrastructure.

### 5.2 REASONABLE AVOIDANCE MEASURES (RAM's)

- The following sensitive working methodologies are recommended to ensure impacts upon common reptile species are avoided during the period of the proposed works:
  - An experienced Ecological Clerk of Works (ECW) shall be appointed to ensure RAM's are enforced;
  - A copy of this method statement must be kept on site (we suggest having a laminated copy in the site office/ compound);
  - A walkover of the area should be undertaken by the ECW to determine any change in status of the habitats/structures on site prior to the initiation of any works;
  - A toolbox talk by the appointed ECW will be given to the site manager and all contractors working on site with respect to the surrounding habitats and potential for protected/notable species. A copy of species factsheets relating to reptiles and breeding birds will be provided for display within the site office.
  - Any excavations will be back-filled on the same day as excavation, or checked by the ECW immediately prior to backfilling;
  - A means of escape, such as a wooden ramp, will be provided in all excavations that cannot be backfilled on the same day or alternatively, all excavations should be well-covered with plywood;
  - No piles of loose construction materials are to be created during works – all material will be kept on hardstanding, stored on pallets, removed immediately from the site or checked by an ECW prior to being removed;
  - In the event reptiles are discovered, works will halt immediately and Pearce Environment Ltd will be contacted for advice – if deemed appropriate, the ECW will be assigned to assess the impacts of the situation and aid in the movement of reptiles to suitable habitat;
  - Contractors are not to handle reptiles unless informed to do so by the ECW.
- Subject to the implementation of the RAM's described above, in combination with the prescribed mitigation strategy, no significant impacts upon common reptile species present on site are considered likely to arise.

## 6. BIBLIOGRAPHY

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

Gent, A. and Gibson, S. (1998). *Herpetofauna Workers' Manual*. Peterborough, UK. Joint Nature Conservation Committee.



**Plan 1** Reptile Sheet Location Plan (reproduced using freely-available online mapping resources)

