



**Ty Fry Farm,
Loughor, Swansea**

Reptile Survey

November 2020

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PLANS

PLAN 1: LOCATION PLAN





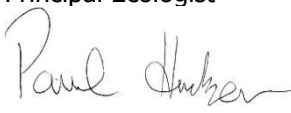
PLAN 2: LOCATION OF REPTILE REFUGIA

APPENDICES

APPENDIX 1: SPECIES REQUIREMENTS OF THE COMMON REPTILE SPECIES

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DOCUMENT CONTROL

| Ty Fry Farm, Loughor, Swansea Reptile Survey | | | | |
|---|---------------------|--|--|--|
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Executive Summary

| | |
|---|---|
| Site Location | Acer Ecology Ltd were commissioned by Barratt & David Wilson Homes South Wales to conduct a reptile survey of land on Ty Fry farm, Loughor, Swansea, SA4 6SR, within the boundary of Swansea City and County Council (Ordnance Survey Grid Reference centred at: SS 5761 9798). |
| Survey Methods | <p>The survey consisted of two different techniques: the use of artificial refugia and direct observation. Artificial refuges were placed throughout the site on the 1st of September 2020, in areas considered to be suitable for reptiles. The refuges were then left for two weeks prior to commencing the survey to allow reptiles to grow familiar with, and then utilise, them.</p> <p>The survey consisted of seven separate visits. During each visit the terrestrial habitat was checked for reptiles, as well as each artificial covering. The artificial cover objects or refuges were first checked from a distance for basking reptiles, before being checked below for sheltering individuals.</p> |
| Survey Results | There were no reptiles detected throughout the duration of this survey, indicating a likely absence of reptile populations on the site. |
| Predicted Impacts of Development on Reptiles | It is considered, therefore, that there is a very low risk of encountering or affecting reptiles during the proposed works as they were not found to be present on site during the survey period. Therefore, no further survey or mitigation for reptiles is currently required. |
| Proposed Mitigation | Due to the unlikely chance that reptiles will be encountered on site during construction, no mitigation is required. |
| Required Actions | In the unlikely event that reptiles are encountered during works at the site, all works will cease immediately until a suitably qualified ecologist has been contacted for advice. |

1. Introduction

1.1 Brief

Acer Ecology Ltd were commissioned by Barratt & David Wilson Homes South Wales to conduct a reptile survey of land at Ty Fry Farm, Loughor, Swansea, SA46SR within the boundary of Swansea City and County Council (Ordnance Survey Grid Reference: SS 5761 9798). The purpose of the reptile survey was to determine the presence or likely absence of reptiles on the survey area, which comprises the red boundary line of the site shown on plan 1.

1.2 Site Description

The 0.87 ha site proposed for development lies at the southern edge of the village of Loughor. The site comprises a single agricultural field that is enclosed by mature hedgerows, trees and dense scrub. To the north of the site contains the construction site compound that has already been cleared for the wider residential development (consisting of hard standing, bare ground and container units). To the north and east of the site lies the village of Loughor, with the immediate south and west boundaries comprising a mosaic of pastoral fields and mature hedgerows. The site lies approximately 0.5km north-east of the Loughor estuary and the wider landscape comprises large urban areas to the north and intertidal areas to the south.

1.3 Proposed Works

The proposed development site forms the eastern corner of a wider residential development of 92 units (LPA ref: 2013/0617 (outline); 2018/1537/RES (RM), which secured consent in 2018 and is under construction at the time of writing. The scheme forms part of a wider residential allocation of 130 units under the adopted Swansea Council LDP (LDP Ref: H1/32).

The development itself comprises the construction of 25 residential units, with associated gardens, driveways, and general infrastructure. Several small amenity spaces are incorporated into design.

1.4 Legislation

There are four widespread species of British reptile comprising grass snake (*Natrix helvetica*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These species are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the intentional or reckless killing or injuring of individuals of any of the above species. Notes on the habitat preferences of the four common reptile species are contained within Appendix 1.

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In addition, these species of reptiles are also listed in Part 1 Section 7 of the Environment (Wales) Act 2016 which is a list of the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in Wales.

1.5 Survey Scope

The survey comprised a presence/likely absence reptile survey utilising a combination of artificial refugia and direct observation whilst walking across the site.

1.6 Reporting

The aims of the report are to:

- Outline the methodology used during the survey;
- Determine the presence or likely absence of reptiles at the site;
- Determine the population size class of reptiles if confirmed to be present;
- Provide an interpretation of the findings, in relation to the potential impacts of the development;
- Specify the legal and policy constraints relevant to reptile populations and individual reptiles which may affect the development; and
- Provide an indication of mitigation, compensation and enhancement measures that may be required.

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2. Methods

2.1 Desk Study

2.1.1. Protected Habitats

Information on statutory nature conservation designated sites was obtained from the GIS protected sites dataset produced by Natural Resources Wales (NRW).

The citations of protected sites (Sites of Special Scientific Interest (SSSIs) and Special Areas of Conservation (SACs)) within 1km of the site were consulted to determine if any of them made reference to reptiles.

2.1.2. Site Context

Aerial photographs of the site and surrounding area were consulted to identify any habitats adjacent or connected to the site with potential to support reptiles.

2.2 Field Study

Surveys were undertaken to establish the presence or likely absence of reptiles on the site. Surveys were undertaken in accordance with the guidance outlined in the Herpetofauna Workers' Manual (Gent and Gibson 2003), Advice Sheet 10 – Reptile Survey¹ (Froglife, 1999), the Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring (Hill et al., 2005), Reptiles: surveys and mitigation for development projects (Natural England and DEFRA 2015), the Reptile Mitigation Guidelines (Natural England 2011) and Survey Protocols for the British Herpetofauna (Sewell et al., 2013). This involved seven return visits in suitable weather conditions on non-consecutive days during September and October.

The surveys were undertaken by Ffion Jones to establish the presence/absence of reptiles on the site. Froglife's Advice Sheet 10: Reptile Survey (1999) recommends that around 10 artificial cover objects or refugia per hectare are used during reptile surveys². The site is 0.87 ha in size. A total of 26 refugia were placed across the site which equates to 30 refugia per hectare. This exceeds the density of refugia recommended by Froglife. The refugia (comprising sections of bituminised roofing felt, carpet tiles and corrugated bitumen-based roofing felt) measuring at least 0.5m by 0.5m in size (in accordance with guidance within the Design Manual for Roads and Bridges, 2005), were installed on the site on the 1st of September 2020 in areas considered to have habitat suitable for supporting reptiles. These were checked on each survey visit.

Where possible, these were laid in south-facing positions, in areas which were deemed least likely to be tampered or interfered with. The whole site was systematically surveyed where possible, however the

¹ The Froglife Guidance is aimed conservation volunteers and not professional survey work.

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artificial refugia were prioritised as areas of the site were dense and deemed unsuitable. As vegetation on the site, scrub and trees, limited the parts of the site where refugia could be installed.

The location of the refugia is shown on Plan 2. Each refuge was then first checked for basking individuals from a distance before being slowly approached and searched for sheltering reptiles. Terrestrial habitat between artificial refugia was also searched for reptile species on each visit.

The timing of survey visits were undertaken in accordance with the guidelines (Natural England, 2011); in early autumn, between 09:00 and 11:00 and 16:00 and 18:00 and in late autumn, during the middle hours of the day approximately between 11.00 and 15.00 and when the air temperature is between 9°C and 18°C³, which is considered the optimal time to survey for reptiles (Froglife, 1999). Strong rain and wind are deemed unsuitable conditions for reptile surveys (Froglife, 1999). As reptile activity is heavily dependent on weather conditions the following parameters were recorded during each survey visit: air temperature⁴, wind levels, rain levels, and the cloud cover. As recommended in the guidance (Froglife, 1999) surveys were not undertaken on consecutive days.

Species and life stage and were also recorded, where animals were present, as well as environmental data. Non-target species, such as amphibians and small mammals, utilizing the refugia were also recorded during the surveys.

2.3 Constraints

2.3.1 Desk Study

There were no constraints to the desk study.

2.3.2 Field Study

Before the surveying started the site was disturbed and the southern, eastern, and western areas of the site had a thin layer of topsoil removed. Additionally, the bank to the north of the site had a path driven through it. This could have impacted the subsequent surveys being undertaken on the site as significant disturbance to the habitat occurred. The surveys were undertaken in suitable weather conditions during September and October. Additionally, three of the surveys were undertaken in mid to late October, although these were undertaken before there were any overnight frosts and the overnight temperatures mainly remained above 10 degrees during the surveys.

³ Natural England's Reptile Mitigation Guidelines recommend that the temperature is between 10-20°C.

⁴ Minimum and maximum temperature in the shade was measured during the survey using an ETI digital thermometer.

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3. Results

3.1 Desk Study

The data search returned eight records of reptiles within 1km of the site (SEWBRc, data 2020). These included five records of slow worm, a record of a common lizard and two grass snakes. The nearest record is of a slow-worm approximately 0.5km away towards the south-west of the site.

3.1.1. Site Context

The site is part of a residential development that is ongoing, meaning there is primarily residential housing directly to the north that reaches toward Glebe road and the east of the site. The western boundary comprises a flattened piece of land where building materials are kept and machinery travel back and forth. The southern boundary comprises a mosaic of pastoral fields bordered by mature hedgerows. Beyond that lies the A484 and an intertidal landscape where the Afon Lliw meets the Loughor river.

3.2. Field Study

3.2.1 Survey Results

The survey results and weather conditions of each survey are summarised:

Table 1: Survey Weather Conditions

| Survey | Date | Start Time | Air Temperature (Min and Max °C) | Rain | Wind Speed (Beaufort) | Cloud Cover (Oktas) |
|--------|----------|------------|----------------------------------|------|-----------------------|---------------------|
| 1 | 21/9/20 | 10:00 | 14 | 0 | 1 | 2/8 |
| 2 | 1/10/20 | 11:00 | 13 | 0 | 1 | 1/8 |
| 3 | 7/10/20 | 11:00 | 12 | 0 | 2 | 5/8 |
| 4 | 9/10/20 | 12:00 | 13 | 0 | 2 | 6/8 |
| 5 | 12/10/20 | 16:00 | 12 | 0 | 3 | 4/8 |
| 6 | 14/10/20 | 13:00 | 13 | 0 | 2 | 4/8 |
| 7 | 16/10/20 | 14:00 | 13 | 0 | 1 | 7/8 |

Table 2: Survey Results

| Survey | Date | Records | | | Additional Notes |
|--------|----------|---------|--------|-----------|------------------|
| | | Species | Adults | Juveniles | |
| 1 | 21/9/20 | NA | 0 | 0 | |
| 2 | 1/10/20 | NA | 0 | 0 | |
| 3 | 7/10/20 | NA | 0 | 0 | |
| 4 | 9/10/20 | NA | 0 | 0 | |
| 5 | 12/10/20 | NA | 0 | 0 | |
| 6 | 14/10/20 | NA | 0 | 0 | |
| 7 | 16/10/20 | NA | 0 | 0 | |

4. Interpretation of Survey Results

No reptiles were detected throughout the duration of this survey, indicating a likely absence of reptiles on the site.

5. Assessment of Potential Impacts on Reptiles

Despite the habitats on site being assessed as having potential for reptiles and the weather conditions during this period considered optimal to survey for reptiles, no reptiles were recorded at the site between 21st of September and 16th of October. It is considered, therefore, that there is a very low risk of encountering or affecting reptiles during the proposed works. Therefore, no further survey or mitigation for reptiles is currently required. In the unlikely event that reptiles are encountered during works at the site, all works will cease immediately until a suitably qualified ecologist has been contacted for advice.

6. Required Actions

Given the lack of any evidence of any use by reptiles, it is highly unlikely that there will be any impact on reptiles as a result of the proposed works.

No further surveys are required and no precautionary timing restrictions on works are necessary.

However, it is not possible to rule out reptile use entirely. In the unlikely event that reptiles are encountered during works at the site, all works will cease immediately and a suitably qualified ecologist will be contacted for advice.

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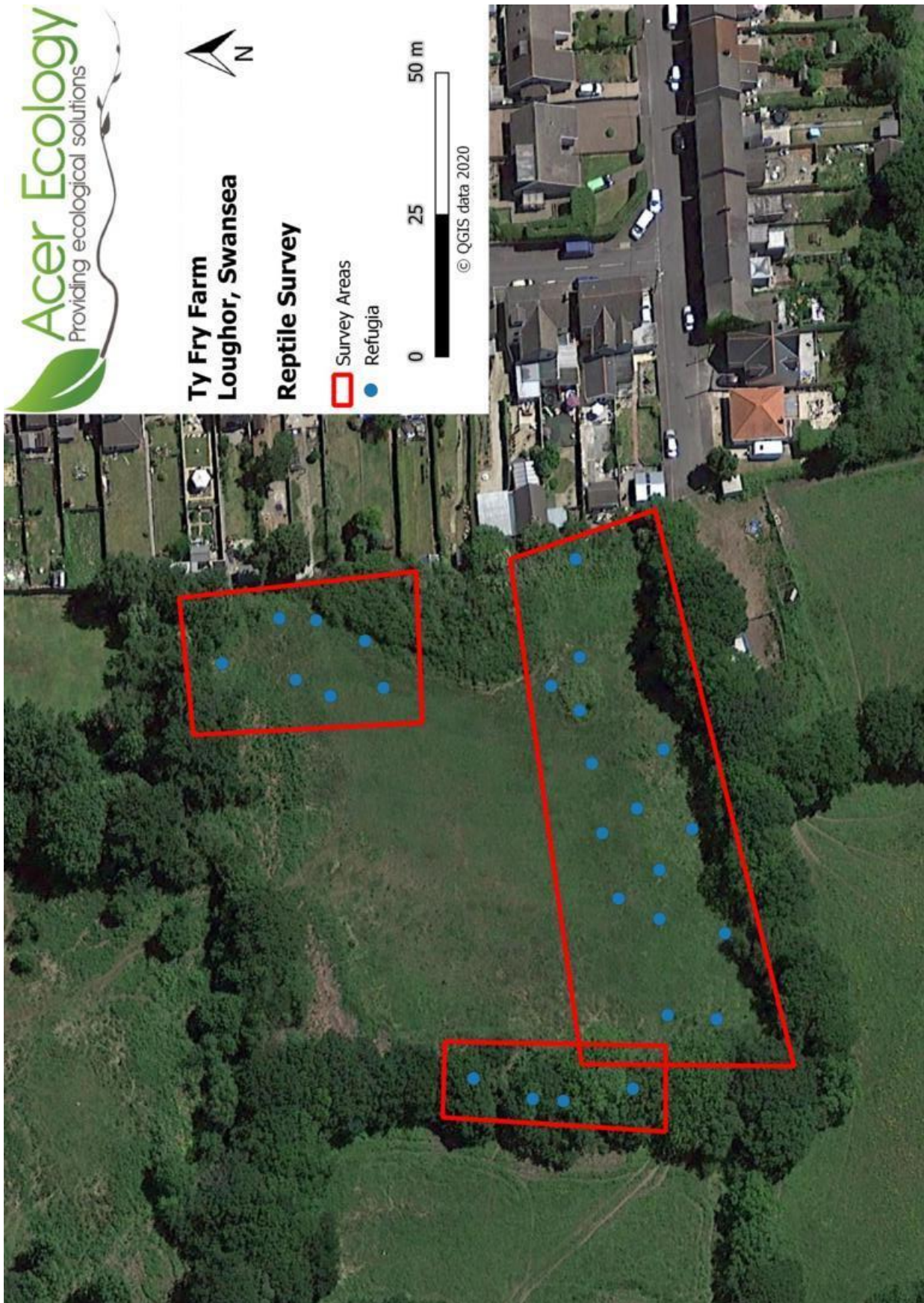
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Plan 1: Location Plan



Plan 2: Location of Reptile Refugia and Results



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Appendix 1: Species Requirements of the Common Reptile Species

Notes on the habitat requirements of the four common reptile species is given below:

Slow-worms are widespread throughout England and Wales and occur in a variety of habitats including rough grassland, hedgerows, heathland, woodland edges, downs and moorland. They also occur in a wide variety of man-made habitats including railway and road embankments, gardens, churchyards, parks and allotments. Marshy and very arid habitats are usually avoided. Dense vegetation cover combined with sunny areas allowing thermoregulation is ideal. Habitats which allow the animals to burrow such as compost heaps or loose soils encourage their presence and they are often associated with piles of stones, rubble or pieces of tin or plastic (Beebee and Griffiths 2000). They are often found associated with anthills and these structures may also provide a convenient network of underground tunnels.

Common lizards occur in a wide range of habitats including roadside verges, uncultivated field edges, forest rides and glades, cliff edges and scree slopes, artificial embankments along railways and rivers, upland moors, heathlands and coastal sand dunes. Suitable habitat consists of undisturbed ground that is topographically diverse with fairly dense but short vegetation less than 0.5m high, open to the sun and with a few exposed areas that can be used for basking. The soil should be well drained and have adequate refugia for use in both summer and winter. South-facing slopes are preferred and humid sites often have the highest population densities.

Grass snakes are highly aquatic and are usually associated with ponds, lakes, marshes, streams or ditches. They feed almost entirely on amphibians. They also occur in open woodlands, hedgerows and rough grassland. Drier habitats including heaths and moorlands are sometimes used. They require terrestrial habitat with an abundance of hiding places and access to sunshine. Open patches close to thick cover are frequently used for basking.

Adders occur in a variety of habitats including heathlands, moors, chalk downlands, woodland rides, coastal dunes, rough commons, overgrown quarries, along field edges and railway embankments. The main requirement is undisturbed sunny glades or slopes, usually in the vicinity of some thick cover. South-facing slopes are preferred in upland areas.