

Land at Twynyrodyn, Merthyr Tydfil

Grid Reference SO05969 05665

Reptile Survey Report

For Persimmon Homes

May 2022



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1 Introduction

1.1 Survey Brief

TerrAqua Ecological Services Ltd was commissioned by Persimmon Homes to undertake a reptile survey of a parcel of land at Twynyrodyn, Merthyr Tydfil, central grid reference SO05969 05665. The survey boundary was taken as that supplied by Mr Morgan Williams acting for Persimmon Homes.

The survey was undertaken in April/May 2022 following recommendations made in the Extended Phase I Habitat Survey/Preliminary Ecological Assessment as produced by TerrAqua Ecological Services Ltd (2019 updated 2021), as part of pre planning application works in order to understand any issues relating to reptiles that may arise within the site and allow for any such constraints to be considered during the planning stage.

1.2 Client Details

The survey was undertaken on behalf of Persimmon Homes, Persimmon House, Llantrisant Business Park, Rhondda Cynon Taf following instructions to proceed by Mr Morgan Williams acting for Persimmon Homes.

2 Background

2.1 Rational

An extended Phase I Habitat Survey/Preliminary Ecological Assessment of a parcel of land located at Twynyrodyn, Merthyr Tydfil was undertaken by TerraAqua Ecological Services Ltd in January 2019 on behalf of Persimmon Homes. The survey was subsequently updated in 2021 with a further update commissioned for 2022. The Phase I Surveys identified habitats within the site boundary suitable for use by reptiles Appendix II. Based on the identification of suitable habitats a reptile survey of the site was completed in 2019. This survey confirmed the presence of reptiles, specifically slow worm (*Anguis fragilis*) within the site boundary. As part of the overall ecological assessment of the site Persimmon Homes commissioned an updated reptile survey of the site in spring 2022 in order to ascertain its importance, or otherwise, to reptile species. The following report details the findings of the 2022 survey (TerraAqua 2022). This will ensure that reptiles can be given appropriate consideration during any future development of the site.

2.2 Ecology

Six species of reptile can be found in the UK and these can be found in variety of different habitat types including sand dunes, rough grassland, scrub and heathland. The six UK species are the adder (*Vipera beris*), grass snake (*Natrix natrix*), slowworm (*Anguis fragilis*), common lizard (*Lacerta vivipara*), sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). Smooth snake and sand lizard are absent from South Wales.

Reptiles require a range of habitats within their home range; this allows for differing seasonal requirements such as basking, mating, egg laying or birth areas and hibernation sites. Some species such as the slow worm and common lizard can be found extensively across Britain while others such as the sand lizard require very specific habitat types and are consequently very rare and localised.

2.3 Legal Status

All reptile species found in the UK are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (WCA) as amended by the Countryside and Rights of Way Act 2000 (CROW).

Adder, grass snake, slow worm, and common lizard are afforded a degree of protection under Section 9 (1) and section 9(5). This makes it an offence to:

- Intentionally kill or injure an individual
- Sell, offer for sale, possess or transport for the purpose of sale, or publish advertisements to buy or sell these species

- Sand lizard and smooth snake are afforded full protection under Schedule 5 section 9 of the WCA 1981. These species are also listed on Annex IVa of the EC Habitats and Species Directive and Annex II of the Bern Convention. As such it is an offence to:
- Deliberately or intentionally kill injure or capture these species
- Deliberately or recklessly disturb the species
- Take or destroy the eggs of these species
- Damage, destroy or obstruct access to a breeding site or place used for shelter and protection
- Sell, offer for sale, possess or transport for the purpose of sale, or publish advertisements to buy or sell these species

The presence of reptile species is a material consideration during the planning process

3 Survey Methodologies

3.1 General

The survey was undertaken by Carmen Jones MCIEEM and Dyfrig Jones both highly experienced ecologists with extensive experience in the surveying of reptiles and reptile mitigation.

The reptile survey was carried out using a combination of visual searches of appropriate habitats, and the use of artificial refugia. The surveys were carried out during April and May 2022.

Temperature and weather can play a significant role in the success or failure in recording reptiles at a given site therefore survey visits were selected in order to take advantage of the most appropriate weather conditions.

Surveys were conducted when air temperatures were between 9° C and 18° C. very hot sunny days and cold wet conditions were avoided.

The surveys were all carried out during the morning or late afternoon, between 8.30am-10.30am and/or 4pm and 6.45pm, unless weather conditions suggested that a delay in the morning visit would allow optimal temperatures to be obtained before the survey was conducted. A total of 10 visits were made to the survey site.

Details of timing and prevailing weather conditions for each survey visit are given in table 1 below:

Table 1 Survey Dates and Times

Visit	Date	Time	Conditions
1	26/04/2022	09:30	Sunny spells Temperature: 15c Humidity: 64%
2	27/04/2022	8:45	Sunny after showers Temperature: 13c Humidity: 85%
3	28/04/2022	09:00	sunny spells Temperature: 17c Humidity: 50%
4	29/04/2022	8:30	overcast Temperature: 15c Humidity: 70%
5	30/04/2022	09:30	Sunny Temperature: 17c Humidity: 58%
6	1/05/2022	8:45	sunny spells Temperature: 15c Humidity: 60%
7	2/05/2022	17:20	Partially Sunny Temperature 16c Humidity 56%
8	3/05/2022	09:20	Partially sunny Temperature: 16c Humidity: 72%
9	4/05/2022	09:35	Sunny Temperature: 15c Humidity: 60%
10	5/05/2022	09:05	overcast Temperature: 16c Humidity: 52%

3.2 Visual Search

On each survey visit a visual search was made of habitats within the survey boundary that appeared suitable for basking reptiles. These included south facing banks, rubble piles, the base of hedgerows and scrubs, and areas of rough grassland. The site was walked slowly, and above habitats scanned using 10x45 binoculars any reptile observed were recorded and their position noted. In addition, any discarded debris that appeared suitable for use by reptiles was hand searched and any species found recorded.

3.3 Artificial Refuges

Reptile will readily use artificial refuges under which to shelter or bask. These artificial refuges can be very effective in surveying for reptiles as the animals are often attracted to the refuges from surrounding habitats thereby increasing the success rate of a reptile survey. Various materials have proved successful for use as artificial refuges including corrugated tin, wood, carpet tiles and roofing felt.

A total of 40 refugia, equating to a density of over 10 per hectare, of 0.5m x 1m square heavy-duty roofing and onduline sheets felt were positioned around the site at locations where the

habitat was considered suitable for reptiles. These were left in situ for two weeks prior to the survey commencing.

Each of the artificial refuges was checked on Ten (10) separate visits to the survey site. The location, species, sex and age of each animal found was recorded.

3.4 Data Search

A data search was undertaken as part of the Extended Phase 1 Survey/Preliminary Ecological Assessment as previously referenced. **LERC Reference: 0212-748**

3.5 Other Species-Amphibian

In addition to recording all reptiles found any other species particularly amphibian species were also recorded.

4 Results

4.1 Survey Results

The total numbers of individuals of each species recorded on each survey visit are given in table 2. These results include species recorded using the selectively placed artificial refuges and those visually observed across the whole site.

Table 2 Total number of individual species recorded at each survey visit

Visit	Adder	Grass Snake	Common Lizard	Slow Worm	Common Toad	Common Frog
1	0	0	0	2♂ 1♀	0	0
2	0	0	0	2♂ 3♀	0	0
3	0	0	0	2♂ 1♀	0	0
4	0	0	0	02♂ 3♀	0	0
5	0	0	0	2♂ 1♀	0	0
6	0	0	0	2♂ 1♀ + Juvenile	0	0
7	0	0	0	1♀	0	0
8	0	0	0	2♂	0	0
9	0	0	0	2♂ 2♀	1	0
10	0	0	1 (on path immediately outside site boundary)	2♂ 2♀	1	0

****Sand lizard and Smooth Snake are not present in South Wales and have not been included in the above table***

4.2 Data Search

A data search was undertaken in January 2022 **LERC Reference: 0212-748** and supplied through Aderyn. No records relating directly to survey area or immediately adjacent habitats

were found. Records for reptile species including grass snake, slow worm, adder and common lizard were found for locations within a 1.5km radius of the survey boundary.

5 Evaluation

5.1 Conservation Status of Species Recorded

Two reptile species was recorded over the seven survey visits namely slow worm and common lizard (*Zootoca vivipara*). Both species is widely distributed across Wales and the UK including the Merthyr area.

Both Slow Worm and Common Lizard are species listed in Section 7 of the Environment (Wales) Act 2016 as a Species of Principle Importance for maintaining and enhancing Biodiversity in relation to Wales.

5.2 Population Estimates

The maximum number of slow worm recorded on any site visit was five (5). Based on a survey assessment for the evaluation of key reptile sites a score of three (3) individuals constitutes a good population. The maximum number of common lizard recorded was one (1) indicating a low population (Froglife, 2009).

The above population evaluation is based upon the greatest number of individuals of each species recorded on a single visit, by a single surveyor using refugia at a density of 10 per hectare.

Population estimates are difficult to calculate due to the cryptic nature of reptile species and the considerable influence on survey success by prevailing weather conditions. In general, a very rough estimate of population size can be made by assuming that the peak count over the survey period represents between five and ten per cent of the actual population. Using this rough guide an estimation of the population size of each species can be made. Estimates for the survey site are given in table 3 below.

Table 3 population Estimates for reptile species within survey site

Species	Number Recorded	Population Estimate
Slow worm	5	50-100
Common Lizard	1	5-10

Common lizard are difficult due to the nature of the animals and the ability to rapidly hide when detecting a human presence therefore the confidence level for the population of lizard is low and it is likely that the above is an underestimation of lizard numbers.

The reptiles recorded were concentrated around the periphery of the wooded areas and the edge of the open grasslands. The single common lizard was recorded at the northern end of the site on tarmac near the play area and immediately outside the survey area.

5.3 Amphibian Species

Common Toad were recorded during the survey and numbers recorded would indicate a low population.

6 Conclusions and Recommendations

The presence of reptiles has been confirmed by the results of the survey. As reptiles were found at the proposed development site appropriate avoidance and mitigation measures will be required in order to ensure that no reptiles are injured or killed during the proposed work. Based on preliminary site layouts it is probable that reptiles will require translocation to an area outside the development footprint. A detailed reptile mitigation strategy should be produced based on the following principles:

- Reptiles should be removed and excluded from the development footprint prior to any clearance works commencing. If possible, the animals should be relocated within the site boundary or as close as possible to the site, to an area with suitable habitat and which is guaranteed free from any potential damage or disturbance. If relocation within the site is not possible an alternative safe site with appropriate habitat should be selected on advice from an approved ecologist.
- The collection of animals should take place using recognised methods, at an appropriate time of year and over a timescale of sufficient duration to ensure the maximum number of animals have been rescued before works commence. This may involve the use of artificial refuges, hand searching of lying debris and selective habitat destruction but may also involve exclusion techniques such as directional strimming which will aid the natural movement of reptiles to adjacent suitable habitat. A detailed plan of the proposed methodology for relocation and or exclusion should be drawn up prior to any works commencing.
- The collection and relocation of any animals should be carried out by or supervised by the ecologist present on site.
- If a receiver site cannot be found within the existing boundary the selection of alternative site should be made with advice from an ecologist and all necessary habitat improvements completed before any ground clearance works are started at the development site.

- The vegetation manipulation should take be undertaken by hand and take place over a number of days allowing time for animals to move away from the manipulated areas.
- The habitat manipulation should be undertaken under the supervision of an appropriate ecologist who will move any animals observed to safe locations.
- The perimeter of the construction zone should be fenced with reptile exclusion fencing to prevent animals returning to the working area. The specification for such fencing is shown in appendix I. This fencing should remain intact and well maintained throughout the construction period.
- No other ground clearance works should commence until the ecologist is satisfied that the site is clear of reptiles and no other ecological issues remain.
- Common Toad were recorded within the site boundary, with all recorded beneath the artificial refugia associated with the reptile survey.

References

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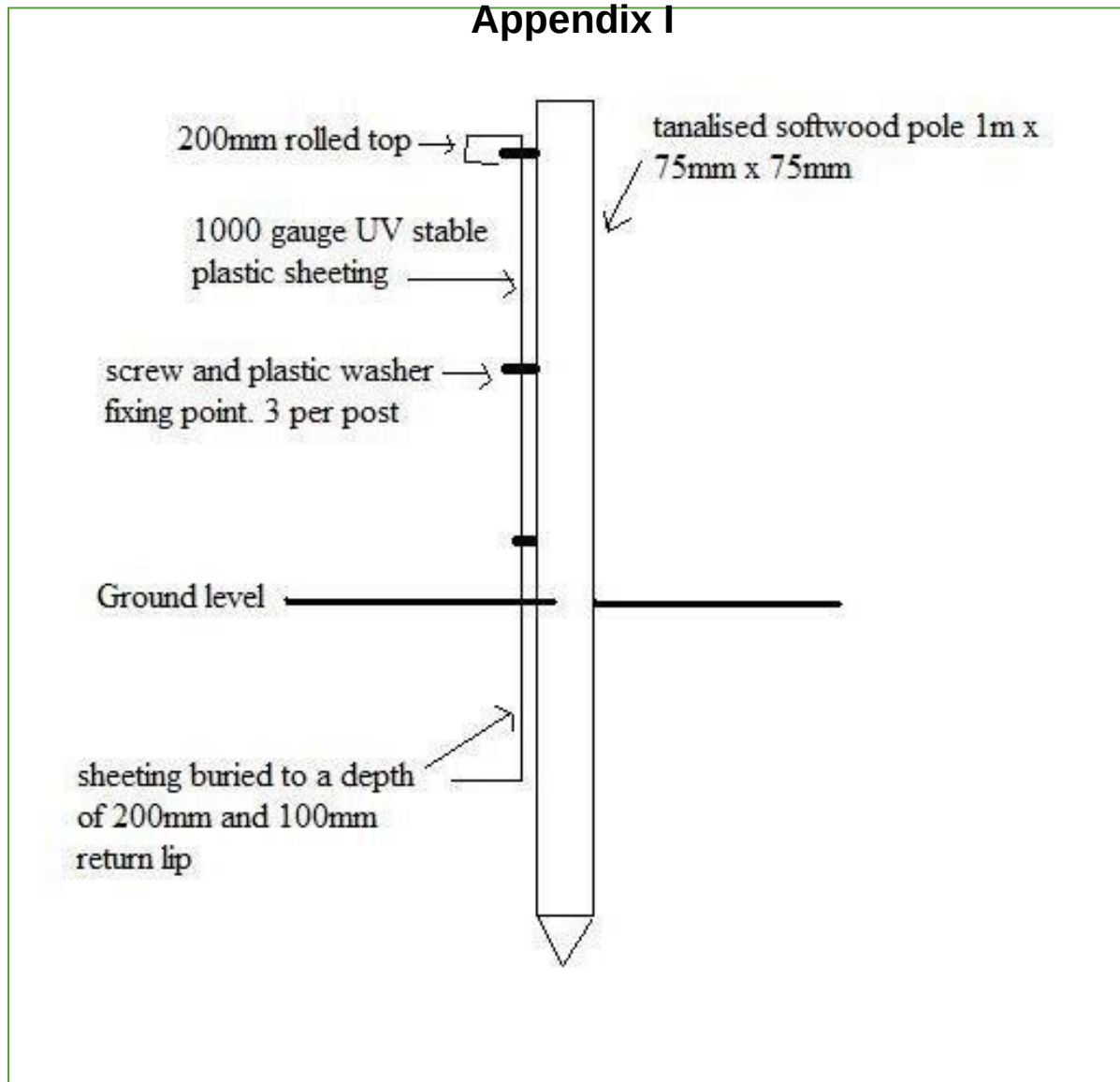
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JNCC, (1998). Species Action Plans. UK BAP, English Nature, JNCC

National Biodiversity Online Gateway Data Search accessed June 2019

South East Wales Biodiversity Records Centre (SEWBReC) Data search results January 2022. Twynyrodyn for TerrAqua Ecological Services Ltd **LERC Reference: 0212-748 Supplied through Aderyn**

Appendix I



Exclusion Fence Specification

Appendix II

Map Showing Habitats present within Survey Area

TerrAqua Ecological Services Ltd

Land at Twynyrodyn, Merthyr Tydfil
for Persimmon Homes East Wales

Preliminary Ecological Assessment

SCALE : 1 : 2500 @ A4 DATE : 1/6/2022

MAP FILENAME :
TQ/Pers.: Twyn:PEA. 2021



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Legend

- Track/path
- Un-improved Grassland
- Scrub
- Woodland
- Watercourse/Ditch
- A Amenity Grassland
- Target Note TN1 - TN4
- Site Boundary

