

Ysgol Gymraeg
Bro Morgannwg
Colcot Road
Barry

An **Ecological Survey**
Report By:



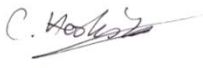

On **Behalf Of:**



Interior Services
Group PLC

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Client	Interior Services Group PLC
Project Name	Ysgol Gymraeg Bro Morgannwg, Barry
Report Title	An Ecological Survey Report for Reptiles
File Reference	REP4918

Status	Signed	Name	Position	Date
Author		Carola Hoskins BA (Hons) MSc ACIEEM	Senior Ecologist	6th June 2019
Reviewer		Phillip L Morgan CEnv MCIEM	Principal Ecologist	7th June 2019

Members: Phillip Morgan CEnv MCIEM Diane Morgan BA (Hons) ACIEEM
Carola Hoskins BA (Hons) MSc ACIEEM Robert Morgan

Issuing Office: Plas y Ffynnon, Cambrian Way, Brecon LD3 7HP

Web Site: www.justmammals.co.uk **E-Mail:** carola@justmammals.co.uk **Telephone:** 01874 623616

Registered In: Cardiff **No:** OC345272 **Registered Address:** Llys Newydd, Llanfihangel Talyllyn, Brecon LD3 7TG
Vat No: 821 6376 35

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1 Executive Summary

- 1.1 A reptile survey was undertaken at Ysgol Gymraeg Bro Morgannwg, in Barry. Proposals for the site include for the erection of several buildings and associated works, and ecological input was required to inform the planning process. Reptiles were identified as potentially present, and a targeted survey for these animals was carried in May and June 2019.
- 1.2 Survey was undertaken in suitable weather conditions and following recognised guidelines. A total of 60 refugia were distributed on site, and checked a total of seven times, under appropriate weather conditions. One adult male slow-worm was encountered once, under one of the tin refugia located along the south-eastern boundary of the site. It is considered very likely from this result that there is a low density population of slow-worms present at the school, which is likely to be higher than the survey result of just one animal might indicate.
- 1.3 Slow-worms are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended). It is also a UK Biodiversity Action Plan species, and included on the Environment (Wales) Act 2016, Section 7. The extent of the proposed works will potentially result in disturbance and harm to reptiles, therefore an Ecological Method Statement is recommended which will include reasonable avoidance measures to adopt during the groundworks at the site, depending on whether the animals can be retained in situ or whether a relocation is necessary. Recommendations for mitigation and enhancement are also made for the site, retaining and providing additional features and habitats for reptiles.

2 Introduction

- 2.1 A planning application is being prepared for the erection of extensions to the school with a variety of new buildings: a new sports block, with link to the existing building; design and technology block; new reception area; creation of a plant room; new MUGA, and 3G, all-weather pitch; as well as external alterations to the façade treatment at Ysgol Gymraeg Bro Morgannwg. The school is on Colcot Road in Barry, at National Grid Reference (NGR) ST 10594 69003, at an altitude of approximately 88m Above Ordnance Datum (AOD).
- 2.2 In order to assess the ecological value of the site, a Preliminary Ecological Appraisal was conducted by AECOM on the 9th of May 2018. This identified the potential for reptiles to be present on site. Currently, site features include semi-improved grassland and dense and scattered scrub, backing onto adjacent gardens. These habitats are suitable for reptiles.
- 2.3 Targeted survey for reptiles was therefore recommended and undertaken in May and June 2019 by the Just Mammals Consultancy LLP. This report details the findings of the targeted survey and makes recommendations for mitigation and enhancement in regards to reptile species.

3 Survey Team Experience

- 3.1 Leader of the survey was Carola Hoskins. Carola holds an MSc in Environmental Conservation Management and has practical expertise with bats, birds, botanical assessments, mammalian and reptile surveys. As well as assisting in conservation-based research, she has carried out biodiversity audits and ecological enquiries. Carola holds licences with Natural Resources Wales for otters, bats, white-clawed crayfish and great crested newts. She has completed a study of water voles and is currently assisting with bird ringing. Carola is a Senior Ecologist with the Just Mammals Consultancy LLP. She is an Associate Member of the Institute of Ecology and Environmental Management (ACIEEM).
- 3.2 A small team assisted with the survey effort. Details of the experience of the survey team are given in Table 1 below.

Table 1: Survey Team Experience

Name/Position	Experience
Phil Morgan CEnv MCIEEM Principal Ecologist	Holds protected species licences for great crested newts for Wales and England. Has considerable survey experience with amphibians and reptiles over some 40 years. Phil is a Chartered Environmentalist, registered with the Society for the Environment (CEnv), and a Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). He is a Principal Ecologist with the Just Mammals Consultancy LLP
Diane Morgan BA (Hons) ACIEEM Senior Ecologist	Considerable experience (over 20 years) of surveying for mammals, including bats, otter and dormouse. She has been a full time consultant ecologist for 12 years and prior to her work as an independent consultant, Diane was the Director of Brecknock Wildlife Trust and was involved in a wide range of nature conservation work including species and

	habitat protection and conservation land management. Other areas of interest include water voles, reptiles, amphibians, fungi and crayfish. Diane is a Senior Ecologist with the Just Mammals Consultancy LLP and is an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM)
Grace Dooley BSc (Hons) MSc Ecologist	Holds an MSc in Conservation and Ecology and has 5 years' practical experience with bats, great crested newts, badger and reptile surveys, as well as botanical assessments for a variety of projects. Grace holds a GCN survey licence for Wales and England and is an Ecologist with the Just Mammals Consultancy LLP, and is an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM)
Phoebe Williams BA (Hons) Trainee Ecologist	A Geography graduate from the University of Exeter, and a former trainee at Gwent Wildlife Trust she has completed a Natural Talent trainee programme, studying Hemiptera at the National Museum of Wales. Practical experience includes survey work for dormice, botany, newts, reptiles, and invertebrates. She has also carried out practical habitat management work, and has gained public engagement experience whilst volunteering for Gwent Wildlife Trust. Phoebe is a Trainee Ecologist with the Just Mammals Consultancy LLP

4 Survey Methodology

- 4.1 In order to ascertain reptile presence on the site, 60 refugia were placed on site on Thursday the 16th of May 2019. The number of refugia placed far exceeds the usual number per hectare of area of suitable habitat. This was done deliberately in order to be able to reduce the bedding-in time usually necessary for such a survey. Refugia comprised corrugated metal sheeting (also known as tins), as well as lengths of roofing felt, which were distributed around the site in areas of suitable habitat. Refugia were placed in areas of suitable fringe habitat, and varied in size between 0.5m x 0.75m – 1.0m x 0.75m. Metal sheets were painted black on one side to maximise solar gain, no such treatment of the roofing felt was necessary.
- 4.2 Refugia were placed in three discreet areas across the site: Area 1, located at the north-eastern boundary of the site; Area 2, in the south-eastern corner, and; Area 3 in the southern corner. Roofing felt only was used in Areas 1 and 3, a mixture of felt and tins was used in Area 2, which was the largest area holding suitable habitat. Most tins were numbered, and all were mapped on a site location plan (see Appendix I). The roofing felt was not numbered, but also mapped on the same plan.
- 4.3 After placement, refugia were left in situ for seven days without disturbance, in order to give reptiles the opportunity to find them. Following this bedding-in period, seven monitoring visits were undertaken throughout May and June 2019. These were, where possible, undertaken between 8:30 am and 11:00 am, and between 16:00 and 18:30, as well as at temperatures between 9 and 18°C. Where the two parameters could not be achieved at the same time, precedence was given to survey being undertaken at the right temperatures. During each survey occasion, each refuge was carefully lifted to check specifically for the presence of reptiles. A scan of the site in general was also undertaken. Photographs and notes were taken of any reptiles found. Any other animal found under the refugia was also noted in a field note book.

5 Site Description

- 5.1 There are several different habitat types that make up the parcel of land which forms the school site. These include broadleaved woodland, scrub, standard trees, grassland, two ponds, hedgerows and the school buildings, as well as hard-standing areas. For detailed descriptions of the buildings, please refer to the AECOM Preliminary Ecological Appraisal, which also includes details of the record search.
- 5.2 Ysgol Gymraeg Bro Morgannwg is located within the town of Barry, surrounding land-use is therefore mostly housing, commercial and other anthropogenic structures. The A4226 highway runs just north of the site, and the A4050, Colcot Road, runs past the site to the east.

6 Survey Constraints

- 6.1 Ysgol Gymraeg Bro Morgannwg is an active school site, which always raises concerns regarding disturbance or potential removal of the refugia by members of the public, pupils, or maintenance staff. Some disturbance of the refugia was noted, but no major such activities were encountered, therefore not skewing the results in a significant way.
- 6.2 Due to the extremely tight timetable for this project, an unusual approach to the survey was taken, with a very large amount of refugia being put down in order to be able to cut down on the

bedding-in time required. The whole of the survey effort was therefore carried out within three weeks, which is a very short timeframe for such surveys.

- 6.3 The whole of the site was accessible for survey and access to the site was possible at all times. As noted above, the survey team were given complete freedom to undertake survey under appropriate and suitable conditions.

7 Survey Results

- 7.1 Survey was undertaken in May and June 2019. Details of the conditions under which survey was carried out are given in Table 2. Winds speeds given employ the Beaufort scale.

Table 2: Summary of Reptile Survey Activity and Weather Conditions

Date	Activity	Timing	Weather Conditions
16/05/2019	Installation of reptile refugia (1 – 60) (GD)	N/A	N/A
23/05/2019	Monitoring of reptile refugia (PW)	9.25 – 10.00 hours British Summer Time (BST)	Air temperature: 14°C Cloud cover: 2/8 oktas Wind speed: F0, calm Conditions: Dry
25/05/2019	Monitoring of reptile refugia (PW)	10.05 – 10.35 hours BST	Air temperature: 15°C Cloud cover: 8/8 oktas Wind speed: F4, moderate breeze Conditions: Dry
27/05/2019	Monitoring of reptile refugia (DM, PM)	10.00 – 10.30 hours BST	Air temperature: 15°C Cloud cover: 4/8 oktas Wind speed: F5, fresh breeze Conditions: Dry
30/05/2019	Monitoring of reptile refugia (PW)	10.00 – 10.30 hours BST	Air temperature: 15°C Cloud cover: 8/8 oktas Wind speed: F5, fresh breeze Conditions: Dry
01/06/2019	Monitoring of reptile refugia (PW)	10.00 – 10.30 hours BST	Air temperature: 15.5°C Cloud cover: 1/8 oktas Wind speed: F1, light air Conditions: Dry
03/06/2019	Monitoring of reptile refugia (PM)	09.45 – 10.30 hours BST	Air temperature: 14°C Cloud cover: 6/8 oktas Wind speed: F3, gentle breeze Conditions: Dry
05/06/2019	Final monitoring and removal of refugia (DM)	09.45 – 11.00 hours BST	Air temperature: 14°C Cloud cover: 6/8 oktas Wind speed: F5, fresh breeze Conditions: Dry
Surveyors	Diane Morgan (DM), Phoebe Williams (PW), Grace Dooley (GD), Phil Morgan (PM)		

- 7.2 All refuges were checked during each visit, and the underneath inspected for reptiles. During the reptile surveys, a single adult male slow-worm (*Anguis fragilis*), was encountered – on the sixth visit, under the refuge numbered 57 in Area 2. Ant nests and a dead rodent, probably a species of mouse were also encountered during the survey. Full details of the results are shown in Table 3 (see Appendix III).

8 Discussion and Conclusions

- 8.1 A robust survey was carried out, and one adult slow-worm was found underneath a refuge on a single occasion. A presence/absence survey is only ever designed to ascertain whether reptiles are present on site, and which species. The likely population size cannot be deduced from the information gathered during this survey, but it is very likely that a larger population is present on site. The slow-worm was found in Area 2, at the south-east boundary of the site, with residential gardens being in close proximity. This makes it likely that there is a continuous interchange/movement between the site and the surrounding properties, even though boundary features may not be immediately obvious as being porous.
- 8.2 The reptile survey was conducted in accordance with national guidelines, with more than a suitable number of refugia for the size of the site. The survey was conducted within the optimum times of year for reptile surveys and was conducted within suitable weather parameters.
- 8.3 It is anticipated that the proposed development, involving erection of extensions, will result in ground disturbance around the site and the existing buildings. All reptile species are protected under British legislation, in particular the Wildlife and Countryside Act 1981 (as amended). The

legal protection afforded to the species makes it an offence to kill, injure or sell the animals. Measures are recommended below to avoid an offence occurring and killing or harming reptiles, as well as features to retain and provide as enhancements.

9 Recommendations

- 9.1 No further survey effort is recommended for the site. The legal protection for slow-worms means that every effort must be made to ensure that they are not harmed during development. Prior to any development works occurring, an Ecological Method Statement (EMS) must be provided, which will set out the various processes including a timetable for works. If it is not possible to alter plans so as to retain the habitat suitable for reptiles on site, then a relocation effort must be undertaken prior to works being carried out.
- 9.2 If it is possible to retain the reptile habitat in its present state, the EMS will detail how the habitat and the slow-worm population will be safeguarded in-situ, and which measures must be employed to ensure this, including fencing and habitat management. If it is not possible to retain the habitat as is, then suitable replacement habitat either of the same size or smaller in size yet of higher quality, ideally both. This will need to be created prior to the relocation effort being carried out and include at least two hibernacula. A relocation can only be carried out within the active season for reptiles (April to mid-October) and then not in the months of July and August.
- 9.3 Enhancements beyond the mitigation requirements must be carried out in order to satisfy the local planning policy. This must include areas of rough grassland, as well as hibernation features, such as a stone wall or a hibernaculum. Including the mitigation requirements above in case of a relocation, three hibernacula must therefore be created on site. A general design for a log pile or a rock pile is shown in Appendix IV. These recommendations will form the basis of the measures to be included in an EMS for the site, in order to protect the reptile population and ensure its future viability.
- 9.4 Reptiles can be found unexpectedly during development works. If any such species are found during development works, all works must cease and a suitably qualified ecologist contacted for appropriate advice. All reptiles are listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and are therefore protected under its provisions.


10 References

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- Inns, H. (2009). 'Britain's Reptiles and Amphibians'. WildGuides Ltd., Old Basing
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Appendix I: Site Location Plan

Figure 1: Site location plan



Aerial View of the Site	
Site Reference: GEN4918	
Map Scale: 1:25,000 & 1:5000	
Source: © Google Satellite Imaging 2019	

Legend

- Site location
- Indicated site boundary

Figure 2: Reptile refugia location plan



Locations of Reptile Refugia	
Site Reference: GEN4918	
Created By: GD	Checked By: PM
Map Scale: 1:5,000, 500, 400 & 750	
Source: © Google Satellite Imaging 2019	

Legend

- Indicated site boundary
- General areas of reptile refugia
- Corrugated metal refugium (numbered)
- X Bitumastic felt refugium (unnumbered)



Appendix II: Site Photographs

Plate 1: One of 60 reptile refugia in situ



Plate 2: Refuge in situ in grassland



Plate 3: Slow-worm found under refuge numbered 57



Appendix III: Full Reptile Survey Results

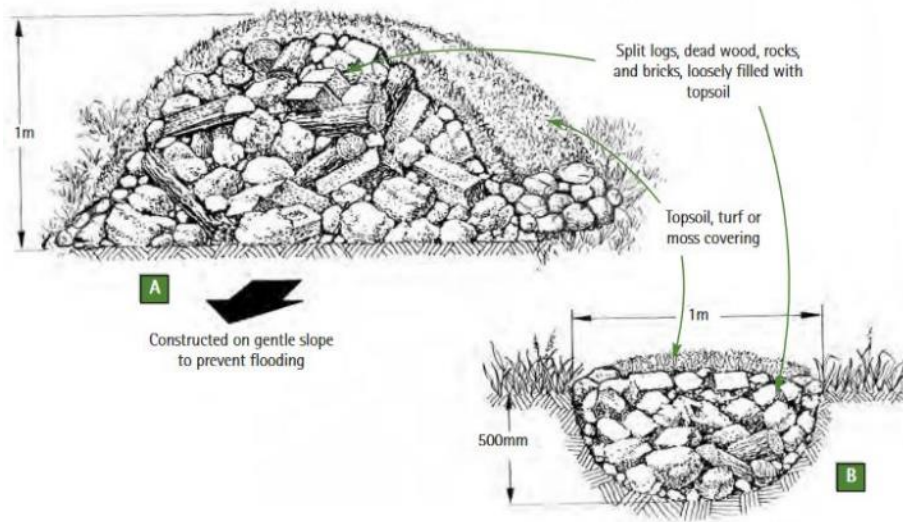
Table 3: Reptile Survey Results

Refuge	Marker	23/05/19	25/05/19	27/05/19	30/05/19	01/06/19	03/06/19	05/06/19
Area 1								
1	unnumbered	-	-	-	-	-	-	-
2	unnumbered	-	-	-	-	-	-	-
3	unnumbered	-	-	-	-	-	-	-
4	unnumbered	-	-	-	-	-	-	-
5	unnumbered	-	-	-	-	-	-	-
6	unnumbered	-	-	-	-	-	-	-
7	unnumbered	-	-	-	-	-	-	-
8	unnumbered	-	-	-	-	-	-	-
9	unnumbered	-	-	-	-	Ant nest	-	-
10	unnumbered	-	-	-	-	-	-	-
11	unnumbered	-	-	-	-	-	-	-
12	unnumbered	-	-	-	-	-	-	-
13	unnumbered	-	-	-	-	-	-	-
14	unnumbered	-	-	-	-	-	-	-
15	unnumbered	-	-	-	-	-	-	-
Area 2								
16	15	-	-	-	-	-	-	-
17	33	-	-	-	-	-	-	-
18	15	-	-	-	-	-	-	-
19	6B	-	-	-	-	-	-	-
20	48	-	-	-	-	-	-	-
21	51	-	-	-	-	-	-	-
22	54	-	-	-	-	-	-	-
23	19	-	-	-	-	-	-	-
24	11	-	-	-	-	-	-	-
25	3	-	-	-	-	-	-	-
26	2	-	-	-	-	-	-	-
27	15	-	-	-	-	-	-	-
28	61	-	-	-	-	-	-	-
29	5A	-	-	-	-	-	-	-
30	4	-	-	-	-	-	-	-
31	1	-	-	-	-	-	-	-
32	8	-	-	-	-	-	-	-
33	34	-	-	-	-	-	-	Dead mouse
34	23	-	-	-	-	-	-	-
35	18	-	-	-	-	-	-	-
36	23	-	-	-	-	-	-	-
37	13	-	-	-	-	-	-	-
38	19	-	-	-	-	-	-	-
39	12	-	-	-	-	-	-	-
40	38	-	-	-	-	-	-	-
41	37	-	-	-	-	-	-	-
42	13	-	-	-	-	-	-	-
43	9	-	-	-	-	-	-	Ant nest
44	23A	-	-	-	-	-	-	-
45	57	-	-	-	-	-	Slow-worm ♂	-
46	unnumbered	-	-	-	-	-	-	-
47	unnumbered	-	-	-	-	-	-	-
48	unnumbered	-	-	-	-	-	-	-
49	unnumbered	-	-	-	Mammal run	-	-	-
50	unnumbered	-	-	-	-	-	-	-
Area 3								
51	unnumbered	-	-	-	-	-	-	-
52	unnumbered	-	-	-	-	-	-	-
53	unnumbered	-	-	-	-	-	-	-
54	unnumbered	-	-	-	-	-	-	-
55	unnumbered	-	-	-	-	-	-	-
56	unnumbered	-	-	-	-	-	-	-

57	unnumbered	-	-	-	-	-	-	-
Tin	Marker	23/05/19	25/05/19	27/05/19	30/05/19	01/06/19	03/06/19	05/06/19
58	unnumbered	-	-	-	-	-	-	-
59	unnumbered	-	-	-	-	-	-	-
60	unnumbered	-	-	-	-	-	-	-

Appendix IV: Reptile Hibernaculum

Figure 3: Hibernaculum design



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Just Mammals Consultancy LLP, Suite 131-136, Plas y Ffynnon, Cambrian Way, Brecon LD3 7HP Tel: 01874 623616