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H – Reptile Survey Report

REDSTART

Goat Mill Road Enterprise Park
RIBA Stage 2

Reptile Survey Report

December 2024



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Goat Mill Road
RIBA Stage 2
Reptile Survey Report

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Non-Technical Summary

Site Location	Goat Mill Road Enterprise Park, Merthyr Tydfil. Central Grid Reference (CGR): S0 0617706853.
Proposed Development	Business Enterprise Park
Purpose of survey/s	To identify any ecological constraints of the development in relation to reptiles
Dates of survey and names of surveyors	**Installation of reptile refugia mats**: 30 May 2024 - Tara Okon (Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 1:** 13 June 2024 - Trevor Fletcher (Senior Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 2**: 04 July 2024 - Tara Okon (Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 3:** 11 July 2024 - Emma Carney (Senior Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 4:** 24 July 2024 - Charlotte Gurney-Read (Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 5:** 12 August 2024 - Tara Okon (Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 6:** 05 September 2024 **-** Megan Watts (Ecologist) and Natalie Pyatt (Assistant Ecologist) **Survey 7 and collection of refugia mats:** 20 September 2024 - Megan Watts (Ecologist) and Natalie Pyatt (Assistant Ecologist)
Overview of Results	• No reptiles were recorded during any of the seven refugia check surveys. • Common frog, common toad, vole species (bank and field), and common shrew were recorded on Site.
Recommendations	• No specific mitigation is required with respect to reptiles and this development. • If a reptile is identified at any time during the development, works within the vicinity will stop and an ecologist will be contacted for advice. • An appropriate Method Statement will be in place for de-vegetation works and will be followed to minimise the risk of killing or injuring amphibians and/or small mammals.
Opportunities for Enhancement	A pond/ponds could be created on Site to provide breeding habitat for amphibians such as common frog and toad that were recorded and to offer potential foraging habitat for grass snake that may commute to the Site from adjacent habitats.

1. Introduction

Redstart was commissioned by Merthyr Tydfil County Borough Council (MTCBC) to carry out a reptile survey of an area of land adjacent to Goat Mill Road, Merthyr Tydfil (approximate central grid reference (CGR): SO 06177 06853).

The survey was undertaken to identify any ecological constraints relating to reptiles for the proposed works at the site.

This report includes details of the survey methodologies, results and discussion and contains recommendations for further survey/mitigation where appropriate.

The area of the proposed works is referred to as 'the Site' and is shown in Figure 1.

1.1 Site Description

The Site is located in Pen-y-Darren, east of Merthyr Tydfil and is bound to the east by the A4060 and to the west and north by the A4102 Goat Mill Road which links to residential and industrial areas. Land to the east of the A4060 comprises open moorland and opencast mine workings.

The Site comprises an area of reclaimed land, formerly the location of Dowlais Great Tip which was associated with Dowlais ironworks. The Site is surrounded by plantation woodland with the central area comprising sparsely vegetated grassland with patches of bare ground and scattered trees. There are engineered watercourses within the Site.

The Site is frequently used by recreational walkers/ dog walkers and does not appear to be under any current management.

Figure 1: The Site outlined in red. Adapted from Google Earth (Google Earth, 2024). Not to scale.



1.2 Proposed works

This reptile survey has been completed in advance of enabling works on the Site, which will include vegetation clearance and ground investigation works. The vision for the Site is the development of an Enterprise Park, comprising mixed use commercial and industrial activities, with individual plots of land within the Site sold to developers by MTCBC.

2. Legislation and Policy Guidance

All native common reptile species, adder *(Vipera berus),* grass snake *(Natrix helvetica helvetica)* common lizard *(Zootoca vivipara)* and slow worm *(Anguis fragilis)* are partially protected under the Wildlife and Countryside Act 1981 (as amended). Sections 9(1) and 9(5) which affords protection against killing, injury and sale.

Reptiles are vulnerable to killing and injury during ground disturbance operations, particularly during the winter (October to March inclusive) when they are in hibernation. National Guidance (English Nature 2004) states that "where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring".

Adder, grass snake, common lizard and slow worm are also listed in Section 7 of the Environment (Wales) Act 2016 as being species of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales. Public bodies have an obligation to have regard for these species when carrying out their functions.

3. Methodology

3.1 Desk study and Previous Survey/Report Data

A request to the South East Wales Biological Records Centre (SEWBReC) was made for information on any ecologically designated sites, habitats and protected species (including reptiles) or species of conservation concern within a 2km radius (5km for bats) of the CGR for the Site when undertaking the Preliminary Ecological Appraisal (PEA) (Redstart, 2024). This included a request for data for Priority habitats and species listed under Section 7 of the Environment (Wales) Act 2016.

The PEA report (Redstart, 2024) was also reviewed for any reference to reptiles i.e., habitat suitability and evidence for the species presence.

Where third party data is referred to, for example from online searches and Biodiversity Record Centre data, Redstart cannot be held responsible for the accuracy of the information.

3.2 Habitat Assessment

The suitability for habitats on Site to support reptiles was initially assessed by ecologists carrying out the extended Phase 1 habitat survey (Redstart, 2024). Information obtained from the PEA, in combination with aerial images of the Site (Google Earth, 2024), was used to identify suitable habitat to be incorporated into the reptile surveys. These included areas of habitat that offered opportunities for reptile basking and shelter (refugia). such as grassland, scrub, and woodland margins.

A site visit was subsequently made on the 30 May 2024 to ground truth the areas identified as suitable reptile habitat and to deploy reptile mats.

3.3 Field Survey

Surveys were carried out following best practice guidance outlined by Froglife (1999) and in the Herpetofauna Worker's Manual (Gent and Gibson, 2003).

3.3.1 Refugia deployment

A total of 71 artificial refugia were deployed across the site on the 30 May 2024.

Artificial refugia were placed in areas of habitat previously identified as suitable to support reptiles.

Where possible the refugia were placed in locations with the following features:

- a south facing aspect;
- on embankments with overhanging vegetation;
- close vicinity to the base of hedgerows or areas of scrub; and
- close to water; and
- low levels of human disturbance.

Artificial refugia predominantly comprised 50 x 50cm squares of roofing felt. A smaller number of 50cm x 50cm corrugated metal tiles (nine in total) were placed intermittently to provide a range of temperature and humidity beneath refugia.

Refugia were not placed within open habitats in central areas of the Site with low suitability for reptiles. Shelter from potential predators was limited and these areas were subject to high levels of human disturbance by the public e.g. dog walkers and off-road scramblers.

Deployment of refugia was carried out when the ground vegetation was dry to prevent plant matter under the refugia from decaying due to wet conditions, as this would deter reptiles from seeking refuge under them.

Refugia locations are illustrated in Drawing 70121691-RED-74-XX-M2-L-3004.

3.3.2 Refugia check surveys

The refugia were checked on seven separate occasions between the 13 June 2024 and 20 September 2024. The refugia were removed from the Site after the end of the 7th survey on the 20 September 2024.

Checks were carried out by experienced Redstart ecologists during suitable weather conditions, when the air temperature was predominantly between 9 and 18°C (Froglife, 1999) and avoiding heavy rain or windy conditions (see full survey details in Appendix A, see also Section 3.4 for exceptions).

During refugia checks the site was walked over slowly to detect reptiles that may be basking on the surface of or between refugia locations. Any casual observations of reptiles during survey visits were documented and any natural features or areas noted as being potential refugia i.e. stone piles, logs, corrugated sheeting, grass cuttings etc., were checked and findings recorded. Where reptiles were found, a record of species, numbers, sex, and age class of individuals were noted, and their location marked on a plan.

Once refugia checks were completed, calculations of the likely population size were estimated using Froglife (1999) population scores, which are used to establish key reptile sites. Calculations based on the maximum number (peak count) of individuals seen during one survey visit and are presented as either low, good or exceptional. See Table 1 for population assessment score estimates.

Table 1: Population assessment scores (Froglife, 1999).

Reptile species	Low population score (Score 1)	Good population score (Score 2)	Exceptional population score (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

3.4 Survey constraints

The temperatures during the fifth survey visit (12 August 2024) were higher than forecasted, (at 18°C - 21°C). The survey was completed and although temperatures were outside of the optimal parameters for survey, as all other surveys were undertaken within the acceptable parameters and no reptiles were identified it is not considered this had any impact on the overall results of this report.

Refugia mats 12, 34 and 35 were missing for all/or most of the surveys undertaken following their installation in May 2024. These were in areas of the Site where human activity appeared to be more prevalent and replacement of refugia was ruled out on the basis that there was a reasonable likelihood of replacement refugia being moved/misplaced. The remaining 68 refugia still provided good coverage of the Site and the absence of these refugia is not considered to have had an effect on the results.

Any ecological survey can only identify what was present in the survey area at the time it was conducted. Some species, for example grass snake, are highly mobile and may use the site but may not be present at the time of survey. Habitat use by species can change over time. The length of time that the survey data remains valid will depend on a case-by-case basis, but it is considered that if the development or proposed works do not commence within 2 years of the last survey date stated in this report, then an update may be required.

4. Results

Full details of survey visit are listed in Appendix A.

4.1 Desktop study/ Previous Report Data

One record for a reptile species, namely slow worm, was returned within 2km of the Site. The record comprised a dead individual found on Mitchell Crescent, Merthyr Tydfil, approximately 1.3km north-northwest of the Site (SEWBReC, 2024).

A presence/absence survey of the Site, conducted in 2020 produced no evidence for the presence of reptiles (FPCR, 2021).

4.2 Habitat Assessment

Open mosaic habitat, extensive areas of grassland, bare ground, and scrub within the Site were suitable to support common reptile species. Marshy grassland and streams offered suitability for grass snake to be present, particularly those found to support common frog *(Rana temporaria),* a favoured prey of the species (see also 4.4).

4.3 Field Survey

No reptiles were recorded during the survey checks (see Appendix A).

4.4 Incidental recordings – non-reptile species

During the survey, amphibians comprising common frog and common toad *(Bufo bufo)* were observed under refugia mats. See photographs in Appendix B.

Breeding was also confirmed for common frog. Both spawn and tadpoles were recorded in ephemeral pools in marshy grassland and in ditches at the northern extent of the Site during the Extended Phase 1 habitat survey (Redstart, 2024).

Further species recorded included small mammals comprising field vole *(Microtus agrestis),* bank vole *(Myodes glareolus*), and common shrew *(Sorex Araneus)* which were either physically recorded and/or indirectly evidenced e.g. runs, or nests recorded under several refugia.

5. Discussion and Conclusions

5.1 Recommendations/ Mitigation

5.1.1 Reptiles

No reptiles were found during the survey; in keeping with the previous survey conducted in 2020 and reptiles are highly likely to be absent from the Site. An exception may be grass snake, which is a highly mobile species and more difficult to detect than common lizard and slow worm. Grass snakes may be attracted to the Site to forage in marshy grassland areas on the Site.

No specific mitigation with respect to reptiles is required for the proposed development, however, suitable habitat is present and if a reptile is identified at any time during the development, works in the vicinity will stop immediately and an ecologist will be contacted.

5.1.2 Amphibians/ Small mammals

An appropriate method statement outlining a suitable de-vegetation regime and ecological supervision requirements will be in place and followed to minimise the risk of killing or injuring amphibians/ small mammals.

5.2 Enhancement Opportunities

As common reptiles, common lizard and slow worm are likely to be absent on the Site and not likely to colonise the Site following development, enhancement for these species is not appropriate.

Waterbodies could be created on Site to provide breeding habitat for amphibians such as common frog and toad that were recorded and to offer potential foraging habitat for grass snake that may commute to the Site from adjacent habitats.

The pond(s) should have gently sloping sides and marginal vegetation cover should be allowed to naturally colonise the pond’s edge.

References

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Drawings

- 70121691-RED-74-XX-M2-L-3004 - Refugia Mat Locations



© 2024 Microsoft Corporation © 2024 Maxar © CNES (2024) Distribution Airbus DS

Key:

Site

Refugia mat locations:

Felt

Metal

P01 NP TO GP First Issue. 17/12/2024

Purpose of issue

S2 - Issued for Information

Classification

Confidential

Client

Merthyr County Borough Council

Project

Goat Mill Road Enterprise Park
RIBA Stage 2

Drawing Title

Refugia Mat Locations

Drawn NP Checked TO Approved GP

Project No	Date	Scale	Size
70121691	December 2024	1:3,500	A3

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Appendix A – Refugia Check Survey Results

Abbreviations	
Wind-Ordinal directions	**N** - North, **S** - South, **E** - East & **W** - West
Age	**A** – Adult; **J** – Juvenile
Sex	**M – Male; F- Female, U - Unknown**

Survey No.:	**1**			
Date:	13 June 2024			
Surveyors	Trevor Fletcher (Senior Ecologist) and Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	8:15	11:15		
Temperature (ºC):	12	14		
Weather conditions:	Sunny and dry			
Precipitation	None			
Other notes:	Refugia no. 35 and 1 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Adult common frogs under refugia mats 15 and 16 • Adult common toad under refugia mat 38 • Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	**2**			
Date:	04 July 2024			
Surveyors	Tara Okon (Ecologist) and Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	8:15	11:15		
Temperature (ºC):	13	16		
Weather conditions:	Cloudy with sunny spells			
Precipitation	None			
Other notes:	Refugia no. 1, 2, 12, 35, not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Adult common frog under refugia mat 15 • Live vole species under refugia mat 71 • Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	**3**			
Date:	11 July 2024			
Surveyors	Emma Carney (Ecologist) and Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	8:15	11:15		
Temperature (ºC):	15	16		
Weather conditions:	Sunny with scattered clouds			
Precipitation	None			
Other notes:	Refugia no. 12 and 35 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Adult common frog under refugia mat 4 • Adult common toad under refugia mat 31 • Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	**4**			
Date:	24 July 2024			
Surveyors	Charlotte Gurney-Read (Ecologist) Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	8:15	11:15		
Temperature (ºC):	16	17		
Weather conditions:	Cloudy with sunny spells			
Precipitation	None			
Other notes:	Refugia no. 12, 34 and 35 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Adult common toad under refugia mat 65 • Vole species under refugia mat 66 • Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	5			
Date:	12 August 2024			
Surveyors	Tara Okon (Ecologist) Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	07:45	10:45		
Temperature (ºC):	18	21		
Weather conditions:	Dry and sunny			
Precipitation	Single, light and very brief scattered shower			
Other notes:	Refugia no. 12, 34 and 35 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Common shrew under refugia mat 71 • Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	**6**			
Date:	05 September 2024			
Surveyors	Megan Watts (Ecologist) and Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	08:00	11:00		
Temperature (ºC):	10	13		
Weather conditions:	Cloudy with scattered sunny spells			
Precipitation	Light rain/ drizzle at start of survey clearing quickly			
Other notes:	Refugia no. 12, 34 and 35 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Mammal runs, vole and ant nests recorded under several refugia mats • Anthills noted on grass slopes at easterly extent				

Survey No.:	**7**			
Date:	20 September 2024			
Surveyors	Megan Watts (Ecologist) & Natalie Pyatt (Assistant Ecologist)			
	Start	**Finish**		
Time:	8:30	11:30		
Temperature (ºC):	15	16		
Weather conditions:	Overcast			
Precipitation	None			
Other notes:	Refugia no. 12, 34 and 35 not located during survey.			
	Species Recorded			
Refugia No.	**Common Lizard**	**Slow worm**	**Grass snake**	**Adder**
-	-	-	-	-
Total recorded	**0**	**0**	**0**	**0**
Additional non-reptile species recorded				
• Mammal runs recorded under several refugia mats – live vole species under refugia mat 49 • Anthills noted on grass slopes at easterly extent				

Appendix B – Photographs



Photograph 1: Common toad under refugia 65.



Photograph 2: Common frog under refugia 4.

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