

VAYNOR QUARRY

Appendix 7/5 to EcIA – Reptile Survey Report
Prepared for: Hanson UK

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DRAWINGS

Drawing EC6: Summary of Reptile Survey

1.0 Introduction

This report has been prepared by SLR Consulting Limited (SLR) on behalf of Hanson UK (Hanson) and summarises the findings of a reptile survey undertaken at Vaynor Quarry in Merthyr Tydfil, hereafter referred to as 'the site'.

The site is located immediately north of Trefechan and is centred on the National Grid Reference (NGR) SO 035 103 due to its extent it occurs within both the Merthyr Tydfil County Borough Council (MTCBC) and Brecon Beacons National Park Authority (BBNPA) administrative areas.

1.1 Background

In March 2017, SLR completed an initial desk-based report¹ to inform Baseline Hydrological/Hydrogeological Surveys at the site as required to inform a Hydrological Impact Assessment (HIA).

Following this in March 2018, an initial site habitat survey was undertaken in order to review the baseline ecological conditions at the site and help inform the requirement and scope of any follow-on surveys needed to complete an Ecological Impact Assessment (EcIA). This identified habitats with the potential to support reptiles and so a survey specifically for reptiles was undertaken as set out in this report.

1.2 Legislative Context

The species of native reptile that are regarded as being widespread include adder (*Vipera berus*), grass snake (*Natrix natrix*), slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). These species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of part of sub-section 9(1) and all of sub-section 9(5) only. As such, it is an offence to intentionally kill, injure or trade these species.

The Environment (Wales) Act puts in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined-up way. Part 1 Section 6 of the Act introduces a new biodiversity duty, which replaces and enhances the biodiversity duties set out in the NERC Act 2006 and requires public authorities to seek to maintain and enhance biodiversity in the exercise of their functions and in so doing promote the resilience of ecosystems.

Section 7 of the Act lists living organisms and types of habitat in Wales, considered to be of key significance to sustain and improve biodiversity in relation to Wales, the four widespread native reptiles are such species.

1.3 Study Aims and Objectives

The aims of the reptile survey were to:

- identify the extent of suitable habitat for reptiles within the study area;
- determine whether reptiles were present and, if so, which species and the likely population size(s);
- evaluate the importance of the reptile assemblage in a local, regional and national context; and
- inform the design of an appropriate mitigation scheme if an impact was predicted in respect of the resumed operation of the site.

This report summarises the findings of the reptile survey undertaken by SLR, with details of mitigation being provided in the accompanying Ecological Impact Assessment (EcIA).

¹ SLR Reference 406.00027.00434

2.0 Methodology

2.1 Desk Study

As part of the EclA, a background search for records of protected and notable species (including reptiles) was undertaken.

The South East Wales Biodiversity Records Centre (SEWBReC) was contacted for information on pre-existing biological records within 2km.

2.2 Field Survey

Prior to commencing with the reptile survey, site habitats were assessed for their potential to support reptiles based on the known habitat requirements of reptiles, including:

- vegetation structure – reptiles prefer variation in vegetation structure and cover to provide refuge, basking areas and foraging opportunities;
- aspect and shading – to ensure suitable basking areas are present;
- connectivity to other areas of potential habitat; and
- presence of features or habitats which could act as hibernaculums.

This initial exercise assessed the majority of the study area as being unsuitable for reptiles, due to the presence of extensive areas which were found to lack the vegetation structure reptiles prefer i.e bare rock of former operational areas or heavily grazed pastureland.

Areas of suitable habitat were identified, these being areas where a more structured grassland sward occurred in areas that are yet to be worked and areas of established natural regeneration within the quarry itself.

Reptile field survey was undertaken in accordance with guidance set out by Froglife (1999) Advice Sheet 10: An Introduction to Planning, conducting and interpreting surveys for snake and lizard conservation².

A series of 210 artificial refuges were positioned in areas of suitable habitat in the areas likely to be disturbed by the resumption of quarrying activities. The refuges comprised of 0.5m² to 1m² sections of heavy-duty roofing felt which were positioned in groups and rows in the locations shown on Figure EC6.

The refuges were deployed and then left to settle into the vegetation and to allow time for any reptiles present to find them. They were then checked seven times during suitable weather conditions as detailed below.

Visits were made on days where the temperatures were between 10°C and 20°C. During each visit all the refuges were checked. Direct observation of existing refugia and basking areas was also undertaken to observe any reptiles present beyond the artificial refuges. When a reptile was observed its location, species and life stage were recorded.

2.3 Survey Personnel

The survey was conducted by ecologists from SLR who are experienced in conducting reptile surveys, with field surveys completed by Mr Robert Williams, an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and Miss Phillippa Dean, a Qualifying member of CIEEM.

² <http://www.froglife.org/documents/FroglifeAdviceSheet10.pdf>

2.4 Limitations to Survey

Overall, no significant limitations have been identified and it is considered that the surveys undertaken were sufficient to achieve the aims set out in Section 1 of this report and provide a suitable basis for completion of the EcIA.

Temperatures during 2018 were typically above average during a prolonged hot and dry summer period experienced throughout the UK. Survey timings were adjusted accordingly to ensure refuge checks were undertaken at times of the day where temperatures were appropriate for reptiles to be recorded, however it is possible that actual numbers represent and underestimate if reptiles were less reliant on artificial refuges for basking due to generally higher ambient temperatures than may be expected in a typical year. This potential limitation is taken into account in the EcIA.

3.0 Results

3.1 Contextual Information and Background Records

The SEWBRc search identified the presence of common lizard (*Zootoca vivipara*) and slow-worm (*Anguis fragilis*) within the 2km search area, the closest record was for slow-worm 0.3km south of the site.

3.2 Field Survey Results, Timing and Climatic Data

The results of the survey are presented in Table 3-1 below, with the locations of artificial refuges and reptile observations being shown on Drawing EC06. In the results column of Table 3-1, the refuge(s) where reptile observations were made are references as 'R2.1' referring to Row 2, refuge 1 and 'R3.3' would equate to Row 3, refuge 3 etc with 'CL' denoting common lizard and 'SW' denoting slow worm.

Table 3-1
Survey Results, Timing and Weather Conditions

Survey Date	Surveyors	Survey Start Time	Weather Conditions	Results
2 nd May 2018	Phillippa Dean & Robert Williams	N/A	N/A	Set up visit.
9 th May 2018	Phillippa Dean & Robert Williams	16:30	13.5°C, cloud cover 8/8, gentle breeze (Beaufort scale 3).	No reptiles recorded.
10 th May 2018	Phillippa Dean & Robert Williams	09:30	10.5°C, cloud cover 4/8, light breeze (Beaufort scale 2/3).	4 CL (R2.5, R11.1, R11.4, R4.7) and 1 SW (gravid R20.4)
14 th May 2018	Phillippa Dean & Robert Williams	19:20	18°C, cloud cover 0/8, calm (Beaufort scale 0).	3 CL (R9.5, R7.7, R2.6).
15 th May 2018	Phillippa Dean & Robert Williams	07:50	11°C, cloud cover 0/8, calm (Beaufort scale 0).	3 CL (R11.4, R17.6), 1 SW (gravid R20.4).
22 nd May 2018	Phillippa Dean & Robert Williams	19:30	17°C, cloud cover 1/8, light breeze (Beaufort scale 2).	3 CL (R2.4, R7.10 x 2).
23 rd May 2018	Phillippa Dean & Robert Williams	08:23	10.5°C, cloud cover 1/8, light breeze (Beaufort scale 2).	4 CL (R4.1, R2.4, R2.6, R1.1) and 2 SW (R20.4, R20.10).
7 th June 2018	Phillippa Dean	07:50	13°C, cloud cover 7/8, light breeze (Beaufort scale 2).	3 CL (R3.9, R3.10, R6.1).

The survey confirmed a population of common lizard to be present within the site, with a maximum of four individuals being recorded in a single visit. A population of slow worm was also confirmed to be present, with a maximum of two individuals being recorded in a single visit.

4.0 Discussion and Evaluation

The habitats of the study area are of variable suitability for reptiles. Nonetheless, the survey confirmed the presence of common lizard and slow worm within the site. With reference to the Key Reptile Site assessment guide from Froglife (1999), the population of common lizard recorded is classified as 'Low', and the population of slow-worm recorded is also classified as 'Low', although as noted in the Limitations section above actual numbers recorded may be an underestimate. It is therefore considered likely that both common lizard and slow worm are likely to occur at low densities throughout the site where suitable habitats occur.

The Environment (Wales) Act 2016 identifies common lizard and slow worm as Priority Species³ although both are regarded as being 'common' reptile species, with a widespread distribution in Wales and much of the UK.

These species are likely to occur frequently in the local area as comparable and higher suitability habitats are widespread and continuous beyond the site, including open moorland habitats which are continuous beyond the northern site boundary.

The reptile assemblage recorded is therefore assessed as being of site-level importance only.

³ <https://www.biodiversitywales.org.uk/Environment-Wales-Act>

5.0 Summary and Conclusions

This report sets out the details of a reptile survey undertaken at Vaynor Quarry in 2018.

The data collected from the surveys identified a population of both common lizard and slow-worm within the site, with a maximum of four adult common lizard and two adult slow-worm observed in a single survey visit. Actual numbers are likely to be higher and it is considered that both species are likely to occur at low densities throughout areas of suitable habitat.

In the absence of mitigation, any works within the site requiring disturbance or removal of suitable reptile habitat has the potential to impact directly upon common lizards and slow-worms, causing injury or death, and would lead to the loss of habitat used by both populations present.

Avoidance and mitigation measures are therefore required to reduce the risk of having these effects on either species and further details of which are set out in the EclA.

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