

Appendix 7F
Reptile Report

Welsh Government

**Global Centre for Rail Excellence
(GCRE)**

Reptile Survey Report

Version 2 | 18 January 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 264904

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Document verification







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Job title		Global Centre for Rail Excellence (GCRE)		Job number	
				264904	
Document title		Reptile Survey Report		File reference	
Document ref					
Revision	Date	Filename	Nant Helen Earthwork Reptile Survey Report DRAFT.docx		
Draft 1	18 Nov 2019	Description	First draft		
			Prepared by	Checked by	Approved by
		Name	Dan Wales Kathryn Jones	Claire Pooley	
		Signature			
Issue	20 Nov 2019	Filename	Nant Helen Reptile Survey Report Issue.docx		
		Description	Issue		
			Prepared by	Checked by	Approved by
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Issue Document verification with document



Document Verification

Job title		Global Centre for Rail Excellence (GCRE)		Job number	
				264904	
Document title		Reptile Survey Report		File reference	
Document ref					
Revision	Date	Filename	GCRE_Reptile Survey Report_Rev A.docx		
Rev A	9 Jul 2020	Description	Updated for GCRE		
			Prepared by	Checked by	Approved by
		Name	Eloise Arif	Claire Pooley	Paul Clack
		Signature			
Version 2	18 January 2021	Filename	GCRE Reptile Survey Report V2.docx		
		Description	Updated further to LPA comments		
			Prepared by	Checked by	Approved by
		Name	Claire Pooley	Paul Clack	Paul Clack
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

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1 Introduction

1.1 Background

Ove Arup & Partners Ltd (Arup) was commissioned by the Welsh Government (WG) to undertake a range of consultancy services in relation to the Global Centre for Rail Excellence (GCRE), hereafter referred to as ‘the Project’.

As part of that commission, a range of ecological surveys have been undertaken to identify the baseline ecological conditions of the Project area, to inform the assessment of impacts as part of the Environmental Impact Assessment (EIA) process.

This document describes the reptile surveys undertaken for the Project.

1.2 Objectives

The objectives of the reptile survey were to ascertain the following:

- The presence or absence of reptile species within the study area; and
- The abundance of any reptile species present within the study area.

2 Project Description and Context

The WG are proposing to develop a rail testing, maintenance, research, development and storage facility (also referred to as the Global Rail Centre for Excellence) at the site of the Onllwyn washery and Nant Helen open cast mine site. The site for development is approximately 475 ha.

The proposed site is currently being mined by Celtic Energy, who will cease extraction operations in 2021, at which point Celtic Energy will be required to restore the land in accordance with regulatory requirements and agreements with Powys County Council (PCC) and Neath Port Talbot County Borough Council (NPTCBC). This includes Section 106 planning obligations and planning conditions that need to be discharged.

Celtic Energy has submitted two recent planning applications for the site, including: the revised restoration strategy for approval (Planning reference number: 19/1899/REM) which would change the existing approved restoration scheme (for planning application ref 18/1070/REM). And, the Nant Helen complementary earthworks application for approval (Planning reference number: 20/0738/FUL) The purpose of these applications is to allow for a 'flexible and adaptable landform for a variety of future uses on restoration, including the use of the site as a rail testing and storage facility, proposed by the WG.

3 Site Description

The Project site is within the Dulais Valley located within Powys and Neath Port Talbot, with the Brecon Beacons National Park Authority boundary immediately to the north. Nearby settlements include Onllwyn, Seven Sisters, Ystradgynlais, Caehopkin, Abercrave or Coelbren.

The site is predominantly brownfield land that has been heavily worked by open cast mining. Much of the site has been revegetated.

4 Study Area

The study area (Figure 1) encompasses the majority of land within the Nant Helen open cast operational site, which at the time of commencing the ecological surveys was considered to be the likely boundary of the project site.

5 Legislation

Common reptile species receive partial protection under the Wildlife and Country Act 1981 (as amended). Common reptile species include adder (*Vipera berus*), common lizard (*Zootoca vivipara*), grass snake (*Natrix helvetica*), and slow worm (*Anguis fragilis*). Under this legislation, it is an offence to:

- Intentionally or recklessly kill or injure reptile species; and
- Sell, offer or advertise for sale, possess or transport for the purposes of sale these animals, whether alive or dead, or any part thereof.

The Environment (Wales) Act 2016 includes a duty on all public authorities to have regard to the conservation of biodiversity in the exercise of their functions. This duty applies to government bodies, local authorities and statutory undertakers. The Act also requires lists to be published of Habitats and Species considered to be of Principal Importance for the Conservation of Biological Diversity. These are referred to as Section 7 habitats and species after the sections of the Act which require the publication of lists in each devolved area. All common reptiles are listed as a Section 7 Species.

All four common reptile species are listed as UK Biodiversity Action Plan (UKBAP) Priority Species. Action Plans exist for each UK BAP Priority Species to demonstrate the UK's commitment to help reduce or halt the significant losses in global biodiversity¹.

¹ The UKBAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species.

6 Methodology

6.1 Desk Study

An ecological data search was carried out to identify reptile species within 5 km of the site's centre point. Such data was obtained from the Biodiversity Information Service for Powys & Brecon Beacons National Park (BIS). Data was obtained on 21 November 2018 and is also presented within the Extended Phase 1 Habitat Survey Report in relation to the Project².

In addition, existing data for the site is available in the form of a reptile survey undertaken in 2010, to inform the 2011 Environmental Statement for a western extension to the Nant Helen (Extension) Surface Coal Mine³.

6.2 Field Surveys

The reptile survey methodology followed best practice guidelines⁴, utilising artificial refugia placed in representative areas of suitable habitat for reptiles across the site. Artificial refugia comprised roofing felt mats measuring 0.5 m x 0.5 m, placed in 25 transects of 10 mats per transect, spaced approximately 10 m apart.

A total of 250 refugia were placed, primarily in sunny areas, on top of flattened vegetation (where possible). Locations of refuges deployed across the site are shown on Figure 2. Refuges were deployed no less than a week ahead of the first survey, to allow refuges to 'bed in' to the environment.

During each survey, the area around each refuge was first checked from a suitable distance before it was approached. Each refuge was approached slowly to check for basking reptiles; each refuge was then lifted and the area beneath checked for reptiles. Where possible, a photograph was taken of any reptile observed. Once checked, the refuge was replaced in its original location. Incidental records of reptiles that were not under mats were also recorded during the surveys.

All of the survey visits were split across two days due to the size of the site. The order in which all refuges were checked was altered during each survey visit.

Dates of surveys, as well as weather conditions during each survey are presented in Table 1.

² Arup (2019). *Nant Helen Complementary Restoration Earthworks. Extended Phase 1 Habitat Survey*.

³ Celtic Energy (2011). *Environmental Statement*.

⁴ Gent, T. and Gibson, S. (2003). *Herpetofauna Workers Manual*. JNCC, Peterborough.

Table 1. Survey dates and weather conditions.

Visit Number	Date	Temp. (°C)	Weather Conditions ⁵
1a	6 June 2019	11	W: 1 / CC: 60 / P: light showers
1b	14 June 2019	13	W: 1 / CC: 100 / P: none
2a	26 June 2019	15	W: 2 / CC: 80 / P: none
2b	27 June 2019	10	W: 3 / CC: 0 / P: none
3a	2 July 2019	13	W: 2 / CC: 0 / P: none
3b	3 July 2019	14	W: 1 / CC: 0 / P: none
4a	2 Sept 2019	15	W: 1 / CC: 70 / P: none
4b	3 Sept 2019	14	W: 2 / CC: 100 / P: light drizzle
5a	10 Sept 2019	16	W: 2 / CC: 50 / P: none
5b	16 Sept 2019	16	W: 1 / CC: 100 / P: none
6a	17 Sept 2019	15	W: 1 / CC: 5 / P: none
6b	23 Sept 2019	14	W: 2 / CC: 90 / P: none
7a	25 Sept 2019	15	W: 2 / CC: 100 / P: light showers
7b	03 Oct 2019	9	W: 4 / CC: 80 / P: none

All surveys were completed by Suitably Qualified Ecologists (SQE) who are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and have the relevant experience for undertaking such surveys.

⁵ Weather conditions are reported as follows – W: Wind on the Beaufort Scale / CC: Cloud Cover as a % / P: Precipitation

6.3 Assessment of Reptile Populations

Guidance published by Froglife⁶ has been used as a guide to estimate population size, although as discussed in limitations, additional survey visits would be required to provide a more accurate population size in accordance with Froglife guidance.

Table 2 below details the population size class groups based on the highest peak count recorded during one day, where the peak count is the total number of adults recorded in any one survey.

Table 2. Population size classes of reptiles.

Species	Population size class		
	Low Population	Good Population	Exceptional Population
Adder	< 5	5 – 10	> 10
Grass snake	< 5	5 – 10	> 10
Common lizard	< 5	5 – 20	> 20
Slow worm	< 5	5 – 20	> 20

6.4 Limitations

The majority of the surveys were undertaken in suitable weather conditions (dry, mild days) and during the optimum survey period (April, May and September)⁶.

Two survey visits were conducted during light rain/drizzle, which is suboptimal for reptile surveys. However, reptiles were still observed and on one of the visits a relatively high number of common lizard were recorded. Therefore, the weather conditions are not considered to have had a negative effect on survey results.

Three survey visits were conducted during July and October (outside of the optimal survey period), however the air temperature was within the optimum range and reptiles were recorded, so this is not considered to be a significant survey limitation.

Seven survey visits were undertaken which in accordance with Froglife guidance⁶ is sufficient to confirm presence / likely absence. Twenty visits are required to estimate population sizes in accordance with Table 2. As such peak counts are considered to be a minimum number, and higher numbers of each species should be allowed for when estimating population sizes.

⁶ Froglife (1999) *Advice Sheet 10: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife, Peterborough.

The findings presented in this study represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors which affect the presence of flora and fauna, factors such as the time of year and natural behaviour of the animals. Nevertheless, these surveys were conducted at the optimal survey periods and using methodologies which are in accordance with published guidelines.

7 Results

7.1 Desk Study

Surveys of the site between May 2010 and October 2010³ demonstrated that common lizard and slow worm were present within the site boundary in low numbers.

Additional records of reptile species present within 5 km of the site provided during the ecological data search by BIS are summarised in Table 3. The distance provided is that to the closest point of the site boundary.

Table 3. Records of reptile species within 5 km of the site.

Species	Scientific Name	Number of Records	Approximate distance of closest record (m)
Common lizard	<i>Zootoca vivipara</i>	14	700
Grass snake	<i>Natrix helvetica</i>	7	1000
Slow worm	<i>Anguis fragilis</i>	10	2000

7.2 Field Surveys

Presence / absence surveys recorded peak counts of 17 common lizard and 2 slow worm (as shown in Table 4). The locations of reptiles recorded during the surveys are presented in Figure 3. Full reptile survey data is presented in Appendix A. Photographs are given in Appendix B.

In addition to records of adults, there were records of juveniles and sub-adults of both common lizard and slow worm during the surveys, indicating that both of these species breed on site.

Table 4. Peak reptile species populations recorded during seven survey visits.

Species	Scientific Name	Peak count / Visit number	Minimum Population size class
Common lizard	<i>Zootoca vivipara</i>	17 / Visit 6a	Good
Slow worm	<i>Anguis fragilis</i>	2 / Visit 3b	Low

Incidental recordings of reptile species sighted during ecological surveys or site visits throughout 2019, other than the reptile surveys described within this report, are reported in Appendix A. These records are not considered within peak counts of reptile species populations and only relate to common lizard.

8 Conclusions

Reptile presence / absence surveys undertaken in 2019 within the study area, recorded peak counts of 17 common lizard and 2 slow worm.

As acknowledged in the reptile survey limitations, seven survey visits was only enough to confirm presence / likely absence, and if 20 visits were completed in accordance with survey guidance for population assessments, it is possible that a higher number of reptiles would have been recorded. As such peak counts are considered to be a minimum number, and an 'excellent' population of common lizard and 'good' population of slow worm should be allowed for based on the presence of optimal habitat within the Site.

No other reptile species are thought to be present, though desk study records indicate the presence of grass snake within 1 km of the site.

A full ecological impact assessment will be included within the Environmental Statement for the project and this will include an assessment of the significance of impacts from the project on protected and/or notable reptile species. This will also detail any mitigation or compensation measures required to ensure there is no significant effect on reptile species within the site.

This report is the result of the survey work undertaken between April and September 2019. This report refers, within the limitations stated, to the condition of the site at the time of the surveys. Changes in legislation, guidance, best practice, etc. may necessitate a re-assessment/survey. No warranty is given as to the possibility of future changes in the condition of the site.

The results of these surveys are considered valid for a minimum of 18 months to a maximum of 3 years. If more than 18 months elapses before any planning application is submitted, the requirement for repeat surveys should be reviewed⁷.

⁷ Chartered Institute of Ecology and Environmental Management (2019). *Advice Note on the Lifespan of Ecological Reports and Surveys*.