



global environmental solutions

UK Coal Mining Ltd and Gleeson Homes

Results of great crested newt surveys

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CONTENTS

1.0	Introduction	3
1.1	Background	3
1.2	Site description	3
1.3	Relevant Legislation and Policy	3
1.3.1	Great crested newt legislation	3
1.3.2	Policy	4
2.0	Methodology	5
2.1	Field Survey	5
2.1.1	Great crested newt	5
2.1.1.1	Torchlight counts	5
2.1.1.2	Bottle Trapping	5
2.1.1.3	Netting	5
2.1.1.4	Egg searching	6
2.2	Limitations	6
2.2.1	Field Survey	6
2.3	Quality Assurance and Environmental Management	6
3.0	Results	7
3.1	Great crested newt	7
4.0	Discussion	9
4.1	Great crested newt	9
4.1.1	Summary of Great crested newt results	9
4.1.2	The need or otherwise for an European protected species License	9
4.1.2.1	Implications for the main development site	10
4.2	Recommendations for mitigation	11
5.0	Closure	11
Table 1:	Weather data	7
Table 2:	Great crested newt survey data	8
DRAWING 01:	VALUE OF GCN TERRESTRIAL HABITAT AND PROPOSED POSITION OF HERPTILE FENCING	12
Appendix A:	Design for one way Herptile Fencing	13
Appendix B:	Plates of site and surrounding areas	14

1.0 INTRODUCTION

1.1 Background

SLR Consulting Limited, which acquired Andrew McCarthy Associates (who undertook the original Extended Phase I Habitat Survey for this site) in 2010 was commissioned by UK Coal Mining Ltd and Gleeson Homes to undertake great crested newt *Triturus cristatus* surveys on a site on the southeast side of Goldthorpe on land adjacent to Barnburgh Lane (OS grid reference SE 466 038).

These surveys were undertaken between April and May 2011.

Previous recommendations to undertake reptile surveys of the southern part of the site, as defined by land to the south of the hedgerow which divides the larger of the two fields forming the site, do not apply, as this part of the site shall remain unaffected.

1.2 Site Description

Survey involved a large pond on the south side off Barnburgh Lane (Pond 1) and a much smaller pond north of Barnburgh Lane on developed land just beyond the old railway line (Pond 2); access to Pond 2 was via a public pathway.

1.3 Relevant Legislation & Policy¹

1.3.1 Legislation

1.3.1.1 Great crested newt

In England, great crested newt is protected under the Conservation of Habitats and Species Regulations 2010, which defines European protected species, and the Wildlife and Countryside Act 1981, as amended by the Countryside & Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. These pieces of legislation combine to give substantial protection to great crested newts and their resting places, making it an offence to:

- Deliberately/intentionally kill, injure or take a great crested newt;
- Take or destroy the eggs of a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt²;
- Deliberately/intentionally or recklessly disturb³ great crested newts while they are occupying a structure or place which they use for shelter or protection.

¹ Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information. Web addresses providing access to the full text of these documents are given in the References & Bibliography section.

² The ecology of the species means that it spends the majority of its life in the terrestrial habitats surrounding breeding ponds and it has been accepted as a guiding rule that all land within 500 m of a breeding pond must be considered to be a shelter or resting place.

³ Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

This legislation applies to all life-stages of the species, from egg through larvae to sub-adults and adult newts.

1.3.2 Policy

Planning Policy Statement 9 and its accompanying document ODPM 06/2005 sets out government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications. PPS9 also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels. Great crested newt is a UKBAP priority species.

2.0 METHODOLOGY

2.1 Field Survey

2.1.1 *Great crested newt*

In compliance with best practice guidelines (Gent & Gibson, 1998; Foster, 2001), a combination of the survey techniques described below was employed to assess the great crested newt status of the two ponds that lay within 500m of the proposed development site. The railway line could potentially act as a barrier for the movement of newts. Despite this, the pond on the newly developed site north of Barnburgh Lane (Pond 2) was surveyed for 'completeness'. Three of the four survey techniques described in Sections 2.1.1 to 2.1.4 below were used during each of the visits. Pond 2 within the newly developed site was found to be virtually dry (containing only very shallow water) on all six visits and could therefore not be subject to bottle trapping.

In line with the Great Crested Newt Mitigation Guidelines (Foster, 2001), six survey sessions were undertaken between early April and late May, to establish whether or not great crested newt was present (first four surveys) and to determine a population size estimate (additional two surveys).

Survey work was carried out by Chris Morrell (Natural England great crested newt license holder), with assistance from Anna McGrath Louise Bunn, Andrew Hill and Sarah Rothwell all of SLR consulting. Work was undertaken in pairs for health and safety reasons.

2.1.1.1 *Torchlight Counts*

The surveyors walked slowly around the perimeter of each pond after dark and scanned the water's edge with a powerful torch (500,000 candlepower), searching for great crested newt, and other amphibians.

2.1.1.2 *Bottle Trapping*

Newt traps, comprising 2 litre plastic drinks bottles with the top cut off and inserted back into the main body of the bottle and secured to the bottom of the pond using a bamboo cane, were deployed after sunset around the perimeter of each pond. Each trap was deployed so that the top three quarters of the bottle were submerged in the water at an angle of 45°, leaving a small air pocket in the bottom of the bottle, which protruded just above the water's surface (to avoid the risk of suffocating any trapped newts). The traps were then checked for newts early the following morning and removed from the pond; the numbers of newts in each trap having been recorded. Only Pond 1 could be subject to bottle trapping, as Pond 2 was too shallow.

2.1.1.3 *Netting*

During the morning, surveyors used dip nets to sweep amongst the submerged vegetation along the edges of each pond (as this is where newts tend to be found during the day). Netting effort was standardised by carrying out three sweeps per four metres of pond bank, ensuring that each sweep was approximately the same length (1 m).

2.1.1.4 *Egg Searching*

The surveyors checked the leaves of water plants around the edge of each pond for great crested newt eggs (which can be easily distinguished from the eggs of other newt species by

their size and colour). It can be fairly easy to spot leaves which have been used for egg laying, as the female folds the leaf over each egg, which can result in giving the leaf a characteristic 'concertina' appearance when multiple eggs are laid.

2.2 Limitations

2.2.1 Field Survey

Due to its shallow and ephemeral nature, Pond 2 was too shallow to trap, and in fact was almost dry for the entirety of the survey period.

No survey constraints applied for Pond 1.

2.3 Quality Assurance & Environmental Management

All ecologists employed by SLR Consulting are members of, or are under application for, membership of the Institute of Ecology and Environmental Management (IEEM) and follow the Institute's code of professional conduct when undertaking ecological work.

All fieldwork was carried out in accordance with current best practice guidelines (Gent & Gibson, 1998; Foster, 2001), under the supervision of senior staff and licensed great crested newt ecologists or accredited agents working under their licence.

3.0 RESULTS

3.1 Great crested newt survey results

Very low numbers of great crested newt were found in Pond 1 (with a maximum count of one GCN found on three occasions). Pond 2 had no presence of any newt or amphibian species whatsoever and is therefore not included in this summary. Three other species of amphibian were also found within Pond 1, these being the smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and common toad *Bufo bufo*. These results are summarised in Table 2 (overleaf), using the key below. The weather conditions for the survey visits are detailed in Table 1.

Key

GCN male	Great crested newt, male
GCN fem	Great crested newt, female
SN male	Smooth newt, male
SN fem.	Smooth newt, female
CT	Common toad
CF	Common frog
√	Indicates presence
T	Torchlight counts
B	Bottle trapping
N	Netting
E	Egg searching

Table 1. Weather data

Visit No.	Date	Weather
1	06.04.11	Clear, calm and dry 15 °C
2	11.04.11	Clear, calm and dry, 11 °C
3	19.04.11	Clear, calm and dry, 8 °C
4	05.05.11	Cloudy, wet underfoot, 13 °C
5	17.05.11	Clear and dry, no wind, 12 °C
6	26.05.11	Scattered showers, cloudy, breezy, 13 °C

Table 2. Great crested newt survey data

Pond No.	Visit No.	Methods used	Great crested newt		Other Amphibian Species				Fish
			GCN male	GCN fem.	SN male	SN fem.	CT	CF	
1	1	T,BT,N	1		1	4			√
	2	T,BT,N							√
	3	T,BT,N				1			√
	4	T,BT,N	1			1	2	2	√
	5	T,BT,E							√
	6	T,BT,N	1						√

4.0 DISCUSSION

4.1 Great crested newt

4.1.1 Summary of Great crested newt Survey Results

Great crested newts were not recorded in Pond 2 throughout the six survey visits during 2011.

A single great crested newt was recorded in Pond 1, on three separate occasions; (Visit 1, 4 and 6 respectively); this may have been the same animal on each occasion. This categorises the GCN population as 'small' (i.e. less than 10 individuals). The presence of fish within Pond 1 significantly lowers its potential for breeding great crested newt; at present Pond 1 does not support a viable GCN population, and has no appreciable potential to do so.

4.1.2 The need or otherwise for a GCN European Protected Species Licence (EPSL)

Advice from Natural England on the need, or otherwise, for a great crested newt European Protected Species (EPS) licence takes the form of the 'template for Method Statement to support an application for a licence under Regulation 44(2)(e) in respect of great crested newts (*form WML-A14-2, version March 2011*)', available from the Natural England web site. This contains a section entitled '*Application tools: Do I need a license?*'

This gives Natural England's position on situations when a European Protected Species Licence (EPSL) is likely to be needed, and not needed:

Part (I) "licence risk assessment" of this document, under "background" states:

"In recent years there has been a trend towards increasingly precautionary applications, resulting from a risk-averse approach to [great crested newt] mitigation. Whilst considering potential risks to great crested newts is laudable, many recent mitigation schemes were designed for developments that actually had very little or no effect on the newt population....Newts tend to be present at increasingly low density the further one looks from ponds....further from ponds there is a corresponding reduction in the scale of impact on populations. Given that great crested newts can disperse over 1 km from breeding ponds, the potential for offences may seem vast, yet the probability of an offence outside the core breeding and resting area is often rather small, and even if an offence takes place, the effect on the population may be negligible".

This document goes on to state:

"Natural England recognizes that the two key factors leading consultants to adopt this risk-averse approach are: (a) uncertainty over the presence of newts and whether there will be an offence in areas distant from ponds; (b) undertaking mitigation under license "just in case", so that there is no perceived risk of litigation for their client. Natural England wishes to see mitigation planning shift away from such a highly risk-averse starting point. The domestic legislation protecting great crested newts arises largely from the Habitats Directive, which has a central aim to restore scheduled species to a favorable conservation status. A more proportionate approach to mitigation, addressing tangible impacts on populations whilst giving lower priority to negligible effects, is consistent with the aims of the Directive. The recent loss of the "incidental result" defence from the legislation may create a tension with this approach, but it is hoped that the guidance here will assist".

4.1.2.1 Implications for the main development site (Land adjacent to Barnburgh Lane)

Drawing 1 illustrates the location of Ponds 1 and 2, along with the value of the habitat for great crested newt, in their terrestrial phase. From this it may be seen that the field containing Pond 1, and another small field immediately to the west of it have high suitability for GCN (see photo 1, Appendix B); these fields contains scrub, lightly grazed pasture and tussocky grassland, affording shelter to GCN, and providing habitat for invertebrates, upon which GCN feed.

The southern part of the application site is classed as having medium value for GCN (see photo 2, Appendix B), and the northern part of low value for this species (see photo 3, Appendix B). Most of the rest of the surrounding landscape, primarily consisting of arable land or built up areas, is also of low value for GCN.

Given that only a single male GCN was recorded throughout the six visit survey programme, and that the best terrestrial habitat is located immediately adjacent to the pond, to the south and south-west of the application site, it is considered unlikely that the application site itself is used by the very small population of GCN found within Pond 1 (potentially comprising just a single non-breeding animal).

Indeed, the fact that Pond 1 was only found to contain a single great crested newt, strongly suggests that this newt was a 'wanderer' from a more distance meta-population, and not part of a self-sustaining colony. In time, Pond 1 might become colonised by a viable population of great crested newts, but at present, this is certainly not the case; furthermore this seems unlikely long as long as Pond 1 continues to support fish, which may predate upon GCN, particularly larval GCN.

Taking into account the advice from Natural England in 'WML-A14-2', summarised in Section 4.1.2, no European Protected Species Licence is therefore considered necessary for the application site.

Notwithstanding this, the erection of one-way fencing has been recommended, as a precaution (see below).

4.1.3 Recommendations for Mitigation

Even though an EPSL is not considered necessary for the application site, it is recommended that a one-way herptile fence is erected around the southern half of the field which contains the development plot, as illustrated in Drawing 1.

The fence would be angled 'inwards' at 45°, preventing GCN from entering the development site from the south, whilst not obstructing the movement of animals towards Pond 1, from the north. It is stressed, that this fence shall be constructed as a precaution; it is, as previously stated, unlikely that GCN occur on land to the north Pond 1, due to the very small GCN population involved and the fact that much better quality habitat occurs immediately to the west, east and south of this pond (see Drawing 1).

A suitable design for one way herptile fencing, manufactured by Herpetosure, is provided in Appendix A of this report.

5.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of UK Coal Mining Ltd. and Gleeson Homes; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

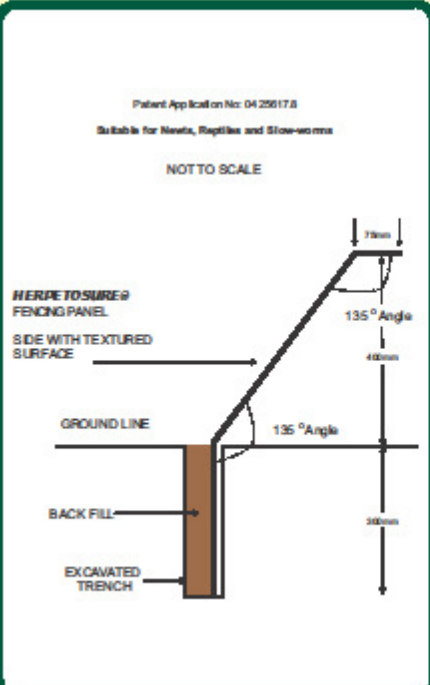
SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

DRAWING 1: VALUE OF GCN TERRESTRIAL HABITAT AND PROPOSED POSITION OF HERPTILE FENCING

APPENDIX A: DESIGN FOR ONE WAY HERPTILE FENCING



Photographs © 2007 David Green www.natureimages.co.uk




ONE WAY FENCING

FENCING SPECIFICATIONS

Fence panel size; 1500 X 950 X 4.5mm green recycled polypropylene panels

FITTED MEASUREMENTS

300mm vertically below ground, 400mm vertically above ground

TECHNICAL DATA

Density	Kg/m ³	930
Tensile strength (Mpa)	N/mm ²	26.0
Elongation at break	%	460
Flexural yield strength (Mpa)	N/mm ²	42.0
Flexural modulus (Mpa)	N/mm ²	1250
Linear Thermal expansion	mm/m/°c	0.150
Surface spread of flame		Class 3

FITTING DESCRIPTION

The fence panels are fitted either into a 300 x 50mm slit created by a V backed sub soiler or "wiz" plough pulled by a tractor or in a trench excavated using a chain trencher or mini digger. Alternatively, if necessary, the trench is dug by hand.

The preferred method for best results and most efficient fitment is the slitting method, where conditions suit. Once the panels are sited the slit is closed up by driving back along the line of the fence with a tractor, vehicle or compacted by hand. This creates a total seal between the soil and panels, which are fitted to the side of the trench nearest to the relevant population or the inside if a containment area. The panels are overlapped by 50mm then secured by aluminium blind rivets along the overlap joint. Panels can be cut down or the overlap increased to allow for uneven ground or contours.

HERPETOSURE® fencing is designed to be reusable and recyclable, it also has a high level of impact resistance, therefore offering a much higher level of boundary security and removing the need to landfill expired fencing materials at the end of the project. **ZERO project waste.**

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APPENDIX B PLATES OF SITE AND SURROUNDING AREA

Plate 1: High value terrestrial habitat off-site (grassland with wet hollows and rush patches, and scattered scrub/hedgerow).



Plate 2: Medium value terrestrial habitat (long-sward improved grassland) located within the southern part of the application site, which is not being directly affected).



Plate 3: Low value terrestrial habitat (arable land) comprising the northern half of the application site.

