



eDNA Survey for Great Crested Newts

Walled Garden,
Wynnstay Hall Estate,
Ruabon,
Wrexham LL14 6LW

Prepared on behalf of
Loxley Homes

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QUALITY MANAGEMENT

Quality Management Approved prior to Issue			
Report Ref:	SE0864-02_eDNA_J01a_DH		
Site Address:	Walled Garden, Wynnstay Hall Estate, off Rhos Y Madoc Road, Ruabon, Black Park, Wrexham LL14 6LW		
Doc Title:	eDNA Survey for Great Crested Newts		
Issue Date:	20 th July 2021	Revision No:	a
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This report has been prepared with all reasonable skill, care and diligence, within the terms of the contract with the client. This report is confidential to the Client. Biora Limited accepts no responsibility of whatever nature to third parties to whom this report may be made known.

This report is based on survey data gathered in June 2021 at this site at Wynnstay Hall, Ruabon LL14 6LW

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1.0 SUMMARY

- 1.1 Wynnstay Hall is a country house located in landscaped grounds approximately 1.3 km south-east of Ruabon, near Wrexham, Wales.
- 1.2 The former walled garden of Wynnstay Hall is subject of a planning application for residential development.
- 1.3 The site is in an area that has been identified as possibly supporting a population of Great Crested Newts (GCN) *Triturus cristatus*, a European Protected Species.
- 1.4 The proposed development work lies in proximity to potential GCN breeding ponds.
- 1.5 A GCN eDNA presence/absence survey was commissioned in June 2021 by Mr Steve Dobie of Loxley Homes for this location.
- 1.6 The eDNA survey of ponds within 250 m of the site, not separated by barriers, carried out in June 2021, returned negative results for GCNs.
- 1.7 It can be concluded that there are no breeding GCNs at this location and that the development can proceed without risk of harm to this protected species.
- R1 Should GCNs be subsequently identified at this location during the development works, all work should halt, and Natural Resources Wales be contacted for guidance.**
- R2 Amphibian hibernation period should be avoided where possible (February to November).**
- R3 Building materials should be stored within existing areas of hard-standing and should be raised above ground level using pallets to prevent amphibians from seeking shelter underneath. Storage should be kept away from woodland margins.**
- R4 All trenches, or holes should not be left open overnight. They should either be backfilled or covered, and the edges sealed to prevent amphibians getting trapped overnight. They should be checked in the morning prior to work restarting.**
- 1.8 For further information on this survey report, please contact:

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2.0 INTRODUCTION

2.1 Background and Scope of Survey

- 2.1.1 Wynnstay Hall is a country house located in landscaped grounds approximately 1.3 km south-east of Ruabon, near Wrexham, Wales.
- 2.1.2 The site is located in an area that has been identified as possibly supporting a population of Great Crested Newts (GCN) *Triturus cristatus*, a European Protected Species, and the proposed development work lies in proximity to potential GCN breeding ponds.
- 2.1.3 Biora was commissioned in 2018 by Mr Steve Dobie of Loxley Homes to produce a Reasonable Avoidance Measures (RAMs) for Great Crested Newts (GCNs) in satisfaction of condition 3 of the Reserved Matters Application of December 2006 ref: RUA P/2005/0432
- 2.1.4 The condition states that *'Development shall not commence until a scheme of Reasonable Avoidance Measures in respect of Great Crested Newts has been submitted to and approved in writing by the Local Planning Authority. The development shall only be carried out in strict accordance with such details as approved.'*
- 2.1.5 A RAMs document for GCNs at this location was produced by Biora in October 2018 (SE0864-01_J01a_RAMs_DH).
- 2.1.6 Due to delays caused by Covid-19 the RAMs methodology was unable to be actioned. To prevent costly delays to the development but also ensure GCNs would not be harmed, a GCN eDNA presence/absence survey was commissioned in June 2021 for this location as an alternative approach. The following is the reported results of this survey.

2.2 Proposed Development Works

- 2.2.1 The proposed development applications is for the erection of seven residential dwellings and associated landscaping at this location [Plan 1](#).

Plan 1. Proposed Residential Development (not to scale)



2.3 Aims of the Survey

- 2.3.1 The eDNA survey aimed to:
- Determine the presence/absence of GCNs at this location;
 - Assess the likely impacts of development on this protected species; and
 - Advise on the requirement for further survey, mitigation, compensation, or licensing should the proposed re-development be considered likely to result in adverse impacts on GCNs or fail compliance with current ecological legislation and/or planning policies.

2.4 Site Description and Context

- 2.4.1 The site is the walled garden associated with Wynnstay Hall. The site is surrounded by high walls (approximately 3 m), with an access road and entrance gates.
- 2.4.2 The site is centred on OS grid reference [SJ 31079 42681](#)
- 2.4.3 The application boundary is presented as a red line at [Plan 2](#).

3.0 SURVEY AND EVALUATION METHODOLOGIES

3.1 Field survey

3.1.1 eDNA survey followed the training and protocols set out by Surescreen Scientifics Ltd, a forensic ecology consultancy based in Derbyshire.

3.1.2 The samples were taken on Wednesday 23rd of June 2021 during optimal weather conditions ([Table 1](#)).

Table 1: Survey Dates, Surveyors, Weather Conditions

Date & Time of Survey	Personnel	Weather Conditions	Survey Equipment
Date: 23/06/2021 Start time: 12.00	D. Hackett G. Spriggs	Air temperature: 18°C Wind speed: 4km/h Wind direction: N Cloud cover: 90% Precipitation: None	Binoculars Digital camera Garmin GPS unit eDNA sample kits

3.2 Survey personnel

3.2.1 **Dr David Hackett BSc (Hons) MLD PhD MCIEEM CEnv** has been a Director and Senior Ecological Project Manager at Biora (formerly Solum Environmental) for the past ten years. David is a highly-experienced ecologist, project manager and landscape architect with over 20 years' professional experience, who regularly project manages and co-ordinates teams of ecologists conducting surveys for multiple protected species to inform planning applications, Environmental Impact Statements, Natural England and Scottish Natural Heritage licences and conditions discharge. David is a full member of the Chartered Institute of Ecology and Environmental Management, a Chartered Environmentalist and a member of Cheshire Bat Group. He is highly experienced in designing and conducting ecological surveys and completed the Surescreen GCN eDNA sampling training.

3.2.2 **Gary Spriggs BSc (Hons)** is a highly experienced and trained ecological assistant, who has worked on several surveys for GCNs for more than 5 years.

3.3 Survey limitations

3.3.1 Survey was carried out during optimal season for eDNA survey; the survey followed dry weather and the water level within Pond 2 was only approximately 20 cm at the deepest. This will not have affected the results of the eDNA survey.

3.4 Evaluation and field survey methodologies

3.4.1 Use of eDNA survey for Great Crested Newts is now accepted by the regulatory authorities in the UK as a tried and tested method of detecting the presence of Great Crested Newts. It has the advantage that it can detect GCNs that have visited ponds but then left and not present at the time of survey; it cannot, however, be used to determine population size. The results are considered accurate for that survey season.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Presence/absence of GCNs

- 5.1.1 The eDNA surveys recorded no evidence of GCN presence in any of the waterbodies within 250 m of the site. Therefore, it is highly unlikely that there is a viable population of GCNs at this site, and further survey effort can be dismissed.
- 5.1.2 The primary legislation is targeted at maintaining the favourable conservation status of GCNs. If GCNs should be observed during the development operations, all work should halt and Natural Resources Wales contacted for further guidance.

5.2 Recommendations

- R1 Should GCNs be subsequently identified at this location during the development works, all work should halt, and Natural Resources Wales be contacted for guidance.
- R2 Amphibian hibernation period should be avoided where possible (February to November).
- R3 Building materials should be stored within existing areas of hard-standing and should be raised above ground level using pallets to prevent amphibians from seeking shelter underneath. Storage should be kept away from woodland margins.
- R4 All trenches, or holes should not be left open overnight. They should either be backfilled or covered, and the edges sealed to prevent amphibians getting trapped overnight. They should be checked in the morning prior to work restarting.

APPENDICES

APPENDIX 1: UK Legal Protection

A1 Great crested newt

A European Protected Species (EPS) and fully protected under the Conservation of Habitats and Species Regulations 2010¹ and the Wildlife and Countryside Act 1981 (as amended). Under the legislation it is an offence to:

- *Intentionally or deliberately capture, kill or injure great crested newts (GCNs).*
- *Intentionally or recklessly disturb them in a place used for shelter or protection.*
- *Damage or destroy a breeding site or resting place.*
- *Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.*
- *Possess a great crested newt, or any part of it, unless acquired legally.*
- *Sell, barter, exchange or transport or offer for sale great crested newts or parts of them.*

Where Great crested newts (GCNs) are present at a proposed development site it is usually possible to continue with the project, re-locating the animals in advance of development, but only upon receipt of a site-specific licence from Natural Resources Wales. Licence options for GCN can be through a 'traditional' EPS licence, or a newer District Level Licence (DLL) which is currently in the process of being rolled out throughout the UK. DLL is a simpler process but can be more costly in many circumstances. The traditional EPS licence application process can be complex and can only be conducted by a suitably qualified GCN-specialist ecologist. Each EPS licence application must be supported by:

- Full optimal-season great crested newt survey results and analysis;
- A suitable mitigation strategy that ensures that the favourable conservation status of the GCN population will be maintained (this usually involves the provision by the developer of additional land with ponds as compensation for loss of habitat and breeding sites). This mitigation strategy should usually be agreed by the ecologist through liaison with Natural England; and
- A method statement explaining how GCNs will be accommodated legally if found during the development process.

¹ HMSO (2010) The Conservation and Habitats Regulations 2010, as amended. London.

APPENDIX 2: Photographs

P1: WB02, Large ornamental pond immediately south of Walled Garden



P2: WB03, Lake to the west Wynnstay Hall



P3: WB01 - Pond to middle of arable field



APPENDIX 3: eDNA Test Results



Folio No: E11645
Report No: 1
Purchase Order: SE0864-02
Client: BIORA GROUP
Contact: David Hackett

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 05/07/2021
Date Reported: 18/07/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
4884	WYNNHALL POND 2	SJ 313 428	Pass	Pass	Pass	Negative	0
4886	POND 1	SJ 310 425	Pass	Pass	Pass	Negative	0
6806	LAKE	SJ 307 425	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Jennifer Higginbottom

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