



Mallory House GCN eDNA Survey

Prepared for Mr Jamie Anderson

11 Newbold Road, Kirkby Mallory, Leicester, LE9 7QG

July 2026

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DISCLAIMER

This document has been prepared by Pear Tree Ecology as an of four “ponds” for their potential to have suitability for Great Crested Newt. Pear Tree Ecology accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Report to:	Mr Jamie Anderson
Report Title:	Mallory House GCN eDNA Survey
Survey Site/Job:	11, Newbold Road, Kirkby Mallory, Leicester LE9 7QG
OS Grid Reference:	SK 45217 01527
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Surveyed by:	J. Partridge
Mapped by:	N/A
Report by:	J. Partridge
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1 INTRODUCTION

This report has been prepared by Pear Tree Ecology on behalf of Mr Jamie Anderson. It provides the results of a Great Crested Newt Survey environmental DNA survey undertaken on the property of 11, Newbold Road, Kirkby Mallory, Leicestershire LE9 7QG (Ordnance Survey Grid Reference SK 45217 01527).

The site survey and eDNA sampling was undertaken following good practice to identify the ecological value of the application site for the potential presence of Great Crested Newt (GCN). The evaluation and findings in this report can be used by the local planning authority (LPA) in their view of the planning application.



Figure 1 – Plan created by Elton Ecology showing “Ponds” evaluated by them. The development site has been shown by them with a red polygon.

This is a brief report following on from Elton Ecology’s Preliminary Ecological Appraisal Report 31st October 2025. Pear Tree Ecology has unfortunately found their report to be lacking in its findings and recommendations for ponds on site but an eDNA survey was requested by the client as recommended by Elton Ecology.

2 METHODOLOGY

Desk Study

A review was made of Elton Ecology's report and four 'ponds' it refers to were re-evaluated. This report relates to new GCN Habitat Suitability Index (HSI) and the results of a GCN eDNA sampling survey.

Great Crested Newt Habitat Suitability Index (HSI) Survey

Pond P1 – was an obvious carp fishery with many large specimens seen during eDNA sampling and larger shoals of smaller fish were also recorded. An HSI score was calculated at the lakes edge and calculated to be "below average". See Figure 2 HSI Matrix below.



Photograph 1 – Pond P1

Pond P2 – the "Pond P2" was in fact a ménage and has been since 2006 when it was seen to be in partial construction on Google Earth Pro.



Photograph 2 – Ménage

Pond P3 – A search was made of historic aerial photographs of Pond 3 on Google Earth Pro and it seems to have alternated between dry and watered between 1999 and 2025, before being removed some time between April 2025 and 23rd April 2026, the latter being the last available image.

Pond P4 – access was not possible to this private land and Pond P4, however, an over grazed field, Pond P1, and a well-used gravel farm track and farm buildings, may be taken as a potential barrier to any potential GCN movements toward the development site. A desktop HSI calculation was made of Pond P4 whereby some of the fields required were not visibly available and therefore taken as being potentially more favourable to a GCN population. This gave, at best, a score considered by the Matrix as good. See Figure 2 HSI Matrix below.



Photograph 3 – Overgrazed field between Pond 4 and development site



Photograph 3 – Farm track and buildings Pond 4 and development site

Pond	Location	Area	Drying	Water Quality	Shade	Fowl	Fish	Ponds	Habitat	Macrophytes	Total	HSI Score	Pond Suitability
	SI1	SI2	SI3	SI4	SI5	SI6	SI7	SI8	SI9	SI10			
P1	1.00	0.80	0.90	1.00	1.00	0.67	0.01	0.44	1.00	1.00	0.00212256	0.54	below average
P4	1.00	0.90	0.90	1.00	0.90	0.67	0.33	0.40	1.00	1.00	0.06447276	0.76	good

HSI		Pond suitability
<0.5	=	poor
0.5-0.59	=	below average
0.6-0.69	=	average
0.7-0.79	=	good
> 0.8	=	excellent

Figure 2 – Habitat Suitability Index Matrix Calculation. P1 taken at lake edge, P4 a fair but potentially raised calculation made from a desktop study.

Great Crested Newt Environmental Deoxyribonucleic acid (eDNA) Sample Survey

Pond P1 was visited on the 25th June 2026 and 20 samples were taken at even intervals around the pond from the lakes bank. Care was taken not to disturb the water or allow contamination of the sampling ladle or bag. Samples were collected in the sterile sample bag supplied and then transferred to the six provided containers. The collected samples were then delivered back to the laboratory for analysis on the same day. Analysis of the samples was undertaken on 30th June 2026 with all 12 of the samples analysed (x2 per tube) being returned as negative. See results below.

Client:
Mallory House, Jools Partridge, Pear Tree Ecology
1040091-JP, Mallory House, version 1



RSK ADAS Ltd
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-13990

Client Identifier: Mallory House

Grid references/coordinates: SK4528201511

Description: pond water samples in preservative

Condition on Receipt: Good

Date of Receipt : 25/06/2026

Volume: Passed

Determinant	Result	Method	Date of Analysis
Inhibition Control [†]	2 of 2	Real Time PCR	30/06/2026
Degradation Control [§]	Within limits	Real Time PCR	30/06/2026
Great Crested Newt*	0 of 12 (negative)	Real Time PCR	30/06/2026
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10 ⁻⁴ ng/μL) [#]	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison

Signed:

Signed:

Position:

Director: Biotechnology

Position:

MD: Biotechnology

Date of preparation:

30/06/2026

Date of issue:

30/06/2026

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for GCN if all of the replicates are negative; positive for GCN if one or more of the replicates are positive.*

[†] Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not

[§] No degradation is expected within time frame of kit preparation, sample collection and analysis.

[#] Additional positive controls (10⁻¹, 10⁻², 10⁻³ ng/μL) are also routinely run, results not shown here.

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)