APPLIED ECOLOGY

Sturmer Hall, Haverhill

Great crested newt presence / absence survey

Produced for:	**Phil Daft**				
Job number:	**AEL2536**				
Date:	**16 July 2026**				
Subject:	**Sturmer Hall - GCN presence / absence (eDNA) surveys**				
Drafted:	**RJH**	**Checked:**	**DP**	**Approved:**	**DP**

Introduction

1 Applied Ecology (AE) was appointed by Phil Daft to undertake great crested newt (GCN) presence / absence surveys of waterbodies located at Sturmer Hall, Haverhill. The need for the survey relates a holding objection by Braintree District Council in respect of a Planning Application (BDC ref. 26/00731/OUT) which is Pending Determination.

Survey Approach

2 The Site was visited by Rob Hutchinson (RH) MCIEEM (Natural England GCN Level 2 Class License 2016-20396-CLS-CLS) on 25 June 2026 within the accepted window for completing GCN eDNA surveys.

3 Three waterbodies were identified as being potentially suitable for GCN and are shown on **Figure 1**. These were: Pond 1 – an online lake (TL 68971 43768), Pond 2 – an historic moat (TL 68968 43894), and Pond 3 - a disused water-filled swimming pool (TL 68937 43865).

4 Water samples were collected by RH from the three waterbodies using three separate ADAS test kits and inline with the recommended protocol. The samples were stored in a fridge before being returned and received by ADAS on the 6 July 2026.

Survey Results

5 The ADAS test sheets are provided in **Appendix A**, and confirm that **no evidence of GCN presence** was found in the three sampled waterbodies.

- Waterbody 1 - ADAS Sample ref. 12323
- Waterbody 2 - ADAS Sample ref. 12325
- Waterbody 3 - ADAS Sample ref. 12328

Conclusions

6 Three waterbodies were identified by AE at Sturmer Hall that were considered potentially suitable for GCN. GCN presence / absence surveys of these waterbodies using ADAS supplied and analysed test kits found no evidence of GCN presence, and therefore GCN are considered to be absent from these waterbodies.

Sturmer Hall, Haverhill

Waterbodies subject to GCN presence / absence (eDNA) survey

Waterbodies (1-3)

Figure 1

Map Scale @ A4: 1:2,500

Surveyed by: RJH	
Survey date: 25 June 2026	
Drawn by: RJH	
Checked by: DP	
Status: Final	

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Appendix A
ADAS Test Sheets

Client:
Sturmer Hall, Duncan Painter, Applied Ecology
1040091-AppEcol-DP, Sturmer Hall, 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-12323	
Client Identifier: Sturmer Hall	Grid references/coordinates: Not Supplied
Description: pond water samples in preservative	Condition on Receipt: Low Sediment
Date of Receipt : 06/07/2026	Volume: Passed

Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	14/07/2026
Degradation Control[§]	Within limits	Real Time PCR	14/07/2026
Great Crested Newt*	0 of 12 (negative)	Real Time PCR	14/07/2026
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:	14/07/2026	Date of issue:	14/07/2026

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.

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1040091-AppEcol-DP, Sturmer Hall, 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-12325	
Client Identifier: Sturmer Hall	Grid references/coordinates: Not Supplied
Description: pond water samples in preservative	Condition on Receipt: Good
Date of Receipt : 06/07/2026	Volume: Passed

Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	13/07/2026
Degradation Control[§]	Within limits	Real Time PCR	13/07/2026
Great Crested Newt*	0 of 12 (negative)	Real Time PCR	13/07/2026
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
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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-12328			
Client Identifier: Sturmer Hall		Grid references/coordinates: Not Supplied	
Description: pond water samples in preservative		Condition on Receipt: Low Sediment	
Date of Receipt : 06/07/2026		Volume: Passed	
Determinant	**Result**	**Method**	**Date of Analysis**
Inhibition Control[†]	2 of 2	Real Time PCR	14/07/2026
Degradation Control[§]	Within limits	Real Time PCR	14/07/2026
Great Crested Newt*	0 of 12 (negative)	Real Time PCR	14/07/2026
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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)