

AtkinsRéalis



Great Crested Newt Survey Report

West Sussex County Council

June 2026

20250110_ECO_GCN_1.0

HOMEFIELD PRIMARY SCHOOL

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1. Introduction

1.1 Terms of Reference

AtkinsRéalis UK Limited was commissioned by West Sussex County Council to undertake a great crested newt (GCN) environmental DNA (eDNA) survey and Habitat Suitability Index (HSI) assessment in connection with the design and construction of new classroom facilities at Homefield Primary School (hereafter referred to as the Proposed Development). Homefield Primary School is located in Worthing, West Sussex (hereafter referred to as the Site).

This report details the GCN eDNA survey and HSI assessment completed in relation to the Proposed Development.

1.2 The Site

The Site is located at Ordnance Survey national grid reference TQ 15436 03549, off Chesswood Road, Worthing, West Sussex). The Site Location Plan and waterbody location plan is in Appendix A.

The Site is approximately 0.54 ha and is located in a predominantly residential, urban location immediately south of a railway line. The surrounding area includes residential gardens and houses. The Site is occupied by school buildings and hardstanding (car park, play areas). A small educational 'wildlife' area is present in the north-west corner of the Site which includes an ornamental pond and planted shrubs.

1.3 The Scheme

The Proposed Development includes the construction of a new classroom block, some internal refurbishment to discreet areas of the existing school building and external rearrangement of car parking areas and landscaping. The details of the Proposed Development as currently understood are shown on the Roof Plan and Landscape External Arrangement presented in Appendix B.

The Proposed Development will require planning permission, targeted for summer 2026. Construction commencement is targeted for summer 2027.

1.4 Scope of the Assessment

This report presents ecological information obtained during the following:

- A GCN eDNA survey and HSI assessment undertaken on 23/04/2026.

Full details on methods are present in Appendix C, alongside any site specific survey limitations.

2. Results

2.1 Presence/likely absence eDNA survey

The results of the HSI assessment and eDNA survey are provided in Table 1, below. See Appendix D for eDNA result provided by SureScreen Scientifics.

Table 3-1 - GCN Habitat Suitability Index and eDNA survey results

Pond ID	Ordnance Survey national grid reference	Date Surveyed	HSI Score	Pond Description and Photographs	eDNA Results
P1	TQ 15352 03539	23/04/2026	Poor	This pond is an ornamental pond lined with plastic, approximately 15 m x 6 m in size. Some emergent and floating non-native plants including iris. Parrots feather, a schedule 9 invasive non-native species, is present covering large areas of the pond. It is reported by site staff (during the survey visit) that pond regularly dries in the summer when only very shallow water remains.	Negative – GCN likely absent.

April 2026



April 2026



October 2025



2.2 Other survey records

During the survey, the following were also recorded:

- Smooth newt – adult male smooth newt was observed in the pond
- Parrot's feather, an invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act, was present in the pond.



3. Discussion and recommendations

Pond 1 was subject to a HSI assessment and eDNA survey on 23/04/2026. The HSI assessment returned a poor score for habitat suitability and the eDNA survey returned a negative result, confirming the likely absence of great crested newt from the pond. Therefore, there are no mitigation requirements for great crested newt.

A smooth newt was identified during the survey. As the pond is to be removed it is recommended that consideration is given to sensitive drain down to reduce harm to species present. It is recommended that the pond is drained down during the autumn/winter, using a fine mesh filter, followed by hand and destructive searches of the pond bed and immediate surroundings to capture any animals present. Alternatively, if the pond is dry in the summer, it can be removed/filled at this time.

Due to the presence of parrot's feather measures should be implemented to prevent spread of this species in accordance with legal obligations under Schedule 9 of the Wildlife and Countryside Act 1981. A specialist invasive species contractor should be appointed to provide advice on containment, management or eradication.

3.1 Report Validity

In the event of scope or programme changes or if works do not commence within 12 months of the date of this report then updates to the surveys may be required to ensure the validity of the data, as per CIEEM guidance¹.

¹ CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys



APPENDICES

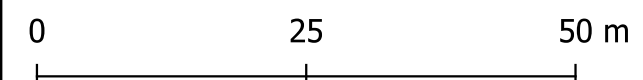
Appendix A. Site and Waterbody Location Plans





Legend

- Draft red line boundary
- Waterbody P1



AtkinsRéalis Woodcote Grove Ashley Road Epsom England KT18 5BW	Project: Homefield Primary School	Title: Waterbody Location Plan	Original scale: 1:700	Drawn by: EH	Checked by: JB	Reviewed by: SC
	Client: West Sussex County Council			Date: 29/04/2026	Date: 12/05/2026	Date: 19/06/2026

Appendix B. Proposed Development – Landscape External Arrangement



Appendix C. Methods

C.1 Desk study

Ordnance Survey maps² and aerial imagery were used to identify the presence of waterbodies within 500 m of the Site boundary, in order to establish if the land within and immediately surrounding the Site could be used as terrestrial habitat for GCN. This species typically uses suitable terrestrial habitat up to 500 m from a breeding pond³. However, there is a notable decrease in GCN abundance beyond a distance of 250 m from a breeding pond⁴.

One pond, P1, is present within the Site. No other waterbodies were identified within 500 m of the Site.

C.2 Field Survey

All great crested newt surveys have been undertaken in accordance with good practice guidance⁵ and CIEEM competencies for undertaking great crested newt surveys⁶. Field surveys were led by a surveyor with a Natural England great crested newt survey licence.

C.2.1 HSI Assessment

The waterbody was assessed for its potential to support GCN using the HSI assessment⁷. This technique provides a standardised assessment of the potential of a waterbody to support GCN and is recognised by the licencing authorities. The HSI is calculated using ten habitat variables ('suitability indices') which are known to affect the survival of GCN. These are:

- SI1: Geographical location (i.e. with respect to the range of GCN);
- SI2: Pond area;
- SI3: Permanence (how regularly does the pond dry out);
- SI4: Water quality;
- SI5: Shade;
- SI6: Waterfowl⁸;
- SI7: Fish;
- SI8: Pond count (number of ponds within 1 km);
- SI9: Terrestrial habitat (quality of terrestrial habitat local to the pond); and
- SI10: Macrophytes (% cover of aquatic plant cover during the newt breeding season March-May).

² Available on MAGIC [Accessed 18/12/2025]

³ English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.

⁴ English Nature (2004). *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt* (ENRR576) [Online]. Available at: <http://publications.naturalengland.org.uk/publication/134002> [Accessed 28/02/2026].

⁵ English Nature (2001) Great Crested Newt Mitigation Guidelines: Natural England guidance provided at [Great crested newts: advice for local planning authorities - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/264002/Great-crested-newts-advice-for-local-planning-authorities-2001.pdf)

⁶ CIEEM (2013) Competencies for Species Survey: Great Crested Newt.

⁷ Oldman, R. S., Keeble, J., Swan, M. J. S., and Jeffcote, M. (2000). Evaluating the Suitability of Habitat for the Great crested newt (*Triturus cristatus*) *Herpetological Journal* 10 (4), 143-155.

⁸ Where evidence of waterfowl was not recorded but considered by the surveyors to be a possibility of presence, these were recorded as 'minor' category in the HSI assessment.



The values for each of these variables are then multiplied together to give an overall GCN suitability value for the waterbody.

C.2.2 Presence/likely absence surveys – environmental DNA (eDNA) survey techniques

Presence/likely absence survey was carried out at pond P1, located at Ordnance Survey national grid reference TQ 15352 03539 within the Site (see Plan in Appendix A).

The presence/likely absence survey followed the methodology provided by Department for Environment, Food & Rural Affairs (Defra) in Appendix 5 of the report for Defra project WC10673: *Analytical and methodological development for improved surveillance of the Great Crested Newt*⁹. The survey involved taking 20 water samples at each suitable waterbody to send for laboratory analysis to test for the presence of GCN eDNA. This technique provides presence/likely absence only and is currently unable to provide an estimate of population size-class.

All eDNA surveys, survey sample storage and analysis were conducted in accordance with the Defra protocol as provided with the eDNA test equipment. The survey was completed by a licensed ecologist on 23/04/2026. The sample kit was sent by overnight courier to the laboratory on 25/04/2026. Samples were refrigerated between collection and courier.

The samples were analysed by SureScreen in accordance with the stipulated methodology for eDNA analysis found in Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

C.3 Limitations

The search for waterbodies within 500 m of the Site was undertaken by using Ordnance Survey plans and aerial photographs only. These sources may not show all waterbodies within 500 m of the Site boundary (e.g. garden ponds) and, therefore, some waterbodies may not have been identified.

⁹ Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford



Appendix D. HSI and eDNA Survey Results

D.1 Laboratory report



Folio No: 1044-2026
Purchase Order: 100124937.010
Contact: Atkins Réalis
Issue Date: 08.05.2026
Received Date: 30.04.2026

GCN Report

Technical Report



SureScreen Scientifics

Folio No: 1044-2026
Purchase Order: 100124937.010
Contact: Atkins Réalis
Issue Date: 08.05.2026
Received Date: 30.04.2026

GCN eDNA Analysis

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 analyzing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

Results

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN26 04665	Homefield School		Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Ruby Fielding

Approved by: Lauryn Jewkes

Methodology

The samples detailed above have been analyzed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample tube which then undergoes DNA extraction. The extracted sample is then analyzed using real-time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded. Analysis of eDNA requires attention to detail to prevent the risk of contamination. True positive controls, negative controls, and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added analytical security.

SureScreen Scientifics Ltd is ISO9001 accredited and participates in Natural England's proficiency testing scheme for GCN eDNA testing.

Interpretation of Results

Sample Integrity Check:

When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results. Any samples which fail this test are rejected and eliminated before analysis.

Degradation Check:

Pass/Fail. Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

Inhibition Check:

Pass/Fail. The presence of inhibitors within a sample is assessed using a DNA marker. If inhibition is detected, samples are purified and re-analyzed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

Result:

Presence of GCN eDNA (Positive/Negative/Inconclusive)

Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.

Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with the WC1067 Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.

Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.

Inconclusive: Controls indicate inhibition or degradation of the sample, resulting in the inability to provide conclusive evidence for GCN presence or absence.



D.2 HSI Results

Table D-1 - Homefield Primary School Pond P1 HSI scores

Indices	Score
SI1 - Location	1
SI2 - Pond area	0.2
SI3 - Pond drying	0.5
SI4 - Water quality	0.33
SI4 - Shade	1
SI6 - Fowl	1
SI7 - Fish	1
SI8 - Ponds	0.1
SI9 – Terrestrial habitat	0.33
SI10 - Macrophytes	0.5
HSI Score	0.47
HSI Category	Poor



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