



GREAT CRESTED NEWT EDNA REPORT

Chownes Mead, Chownes Mead Lane, Haywards Heath

On behalf of: ABIR Architects

Client:	ABIR Architects			
Project:	Chownes Mead, Chownes Mead Lane, Haywards Heath			
Reference:	LLD3233-ECO-REP-002-00-GCN			
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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.



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L I Z A R D

Landscape Design and Ecology

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by ABIR Architects to undertake amphibian surveys of ponds within and adjacent to Chownes Mead, Chownes Mead Lane, Haywards Heath (located around central grid reference: TQ 31669 23765 – hereafter referred to as ‘the site’)

8no. ponds are located within 500m of the site, of which 6no. lie within 250m of the proposed development area. 1no. of these ponds (P3) was found to be dry and was therefore discounted from further survey, while no access was available to pond P4.

Ponds P1, P2, P5 and P6 were subject to eDNA survey, with water samples collected on the 26th of April 2024 before analysis by SureScreen Scientifics.

Analysis of the samples indicated the likely absence of great crested newts within the surveyed ponds therefore no mitigation licence with regards this species is required. Given the known population of GCN to the north, basic avoidance measures should be implemented on site during works. These should include the delivery of a toolbox talk, careful removal of any debris / spoil piles and checking of footings and trenches each morning before the start of works. Should any great crested newt be found on site during site clearance or construction all works should cease while a suitably qualified ecologist is contacted for advice.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned to undertake great crested newt (GCN) surveys to inform the proposed development of Chownes Mead, Chownes Mead Lane, Haywards Heath (*Grid Reference: TQ 31669 23765 – hereafter referred to as 'the site'*).

1.2 Surveys were recommended following the original ecology survey completed by this company in April 2024, which identified ponds within the dispersal range of great crested newts.

Survey Rationale

1.3 The site is dominated by short lawns, buildings and hardstanding areas which are of negligible suitability for amphibians. Areas of scrub, rough grassland and tall ruderal with spoil and debris piles were however recorded on site. These habitats were considered to be potentially suitable for supporting great crested newt and other amphibians during their terrestrial phase. Further survey work to assess the potential impacts upon this species was therefore undertaken to rule out the presence of great crested newts in the vicinity of the site.

Site Information

1.4 The wider site covers c. 7.5 hectares (ha) of which the proposed development area encompasses c. 1.3ha of Grade II listed buildings, tennis courts, swimming pool, outbuildings and access routes. The site lies to the south of Chownes Mead Lane, to the outskirts of Haywards Heath, West Sussex.

Surrounding Landscape

1.5 The site is located within a predominantly semi-rural location, with the towns of Haywards Heath located 0.5km east and Cuckfield located 1.0km north-west. Land to the south and west is rural comprising large areas of woodland, ponds and grazing fields.

Development Proposals

- 1.6 It is understood that the proposals are for the conversion of the residential building to a hotel (use class C1), to include construction of new pool house and spa building, alterations to the existing buildings, construction of members gym and lounge, creation of a lake and repositioning of the secondary access.

Aims

- 1.7 The aim of the amphibian and great crested newt survey was;
- *To identify presence / absence of amphibians (including great crested newt (GCN) within the water bodies identified within 500.0m of the site.*
 - *To suggest population size classes for newt species recorded, where present;*
 - *To complete all data requirements for any possible application to Natural England for a mitigation licence if required; and;*
 - *To suggest mitigation to avoid / minimise impacts of the scheme to Protected Species if necessary.*

2.0 LEGISLATION

- 2.1 Legislation relating to wildlife and biodiversity of particular relevance to this report includes:
- *The Conservation of Habitats and Species Regulations 2017;*
 - *The Wildlife and Countryside Act 1981 (as amended);*
 - *The Natural Environment and Rural Communities (NERC) Act 2006.*
- 2.2 The great crested newt is included on *Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended)* and *Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)* which makes it an offence, amongst other things, to deliberately capture, injure, kill or disturb any such species. In addition, this notification also prohibits the deliberate taking or destroying of any eggs and the damaging, destroying or blocking access to a breeding site or resting place of any such species.

- 2.3 The common toad *Bufo bufo* is a target of UK and Local Biodiversity Action Plans and listed as *Species of Principle Importance under Section 41 of the Natural Environment and Rural Communities Act 2006*. Local Authorities are obliged to have regard to the purpose of conserving biodiversity with particular emphasis on targeted species.
- 2.4 In addition, the National Planning Policy Framework (NPPF) 2023 sets out the government planning policies for England and how they should be applied. '*Chapter 15: Conserving and Enhancing the Natural Environment*' states that development should be '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*'

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographical Information Centre (MAGIC) was consulted for information regarding granted EPS licences within 2.0km, and location of ponds within 500.0m radius of the proposed construction site. Protected species records within 2.0km of the site were provided by Sussex Biodiversity Records Centre.

3.2 eDNA Survey

- 3.2.1 An eDNA survey of P1, P2, P5 and P6 was completed on the 26th of April 2024.
- 3.2.2 20no. water samples were collected from the margin of each pond, with samples spaced as evenly as possible to collect a representative sample. All samples were collected using a sterile sampling kit as supplied by SureScreen Scientifics.

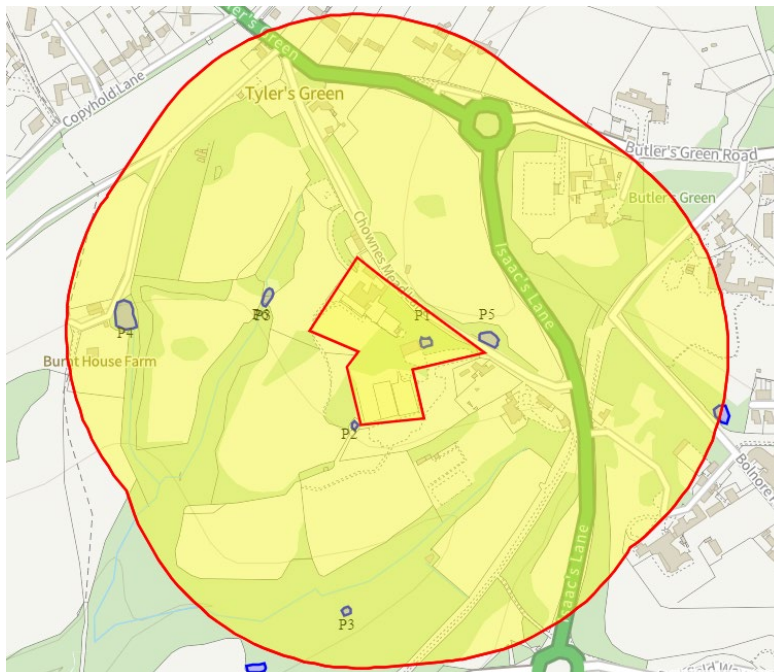


Figure No. 01 – Location of Ponds

- 3.2.3 Each sample was stored in a refrigerator before return to SureScreen Scientifics for analysis. The results of the survey indicate the presence of absence of great crested newt environmental DNA within the water body.

4.0 RESULTS

4.1 Desk Study

- 4.1.1 Numerous records of great crested newts exist locally, including within ponds c. 500m north on the far side of the A272. No records to the south of this main road, and within a reasonable commuting distance to the site, were returned by the records search.

4.2 Pond Assessment

- 4.2.1 No access was possible to pond P4, and Pond P3 was discounted from further study as it was dry during the preliminary assessment.

- 4.2.2 Pond P1 is located immediately adjacent to the proposed construction zone. This pond measured approximately 100m² and was covered with a dense layer of duckweed at the time of the survey. An area of woodland is present to the north, with willow scrub shading the pond. Water quality was relatively poor however no fish or wildfowl were noted.
- 4.2.3 Pond P2 is located to the south of the existing tennis courts. This pond covers c. 50m², and was heavily vegetated by reeds, with areas of water mint also noted. Water quality was good with no fish or wildfowl present. The pond was not shaded with areas of suitable terrestrial habitat present to the south and east.
- 4.2.4 Pond P5 is located outside the site, approximately 10m away on the opposite side of Chownes Mead Lane. The pond was heavily shaded with no macrophyte coverage and poor water quality. No fish or fowl were recorded and surrounding terrestrial habitat was good.
- 4.2.5 Pond P6 is located within the red line boundary but c. 80m west of the proposed works areas. This pond was part of a ghyll within ancient woodland. A small number of mallards were present and the presence of fish could not be discounted. The pond was heavily shaded but surrounding terrestrial habitat was good.

4.3 eDNA Survey

- 4.3.1 Each sampled waterbody was negative for great crested newt environmental DNA, suggesting the absence of GCN within these ponds. The results suggest it is highly likely that GCN are absent locally.

4.4 Survey Constraints / Considerations

- 4.4.1 All phase 2 surveys were undertaken at the appropriate time of the year by trained, licenced surveyors. There were no constraints recorded relating to survey methodology, therefore the results are considered to be a true representation of conditions on site.

- 4.4.2 No access was possible to pond P4 however given the absence of GCN within other ponds this is not considered to be a major constraint to the overall conclusions of this report.

5.0 CONCLUSION AND RECOMMENDATIONS

- 5.1 Given the known population of GCN to the north, basic avoidance measures should be implemented on site during works. These should include the delivery of a toolbox talk, careful removal of any debris / spoil piles and checking of footings and trenches each morning before the start of works. Should any great crested newt be found on site during site clearance or construction all works should cease while a suitably qualified ecologist is contacted for advice.
- 5.2 Great crested newts were found to be likely absent locally, therefore works stand a negligible risk of contravening protection afforded GCN by The Conservation of Habitats and Species Regulations 2017 (as amended) provided the above avoidance measures are followed.

6.0 REFERENCES

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

Froglife (2001) Great Crested Newt Conservation Handbook. Froglife.

Joint Nature Conservation Committee, (1998) Herpetofauna Workers' Manual. JNCC, Peterborough.

Natural England (2015) Template for Method Statement to support application for licence under Regulation 53(2)e of The Conservation of Habitats and Species Regulations 2010 (as amended) in respect of great crested newts (Triturus cristatus). Form WML-A14-2 (Version December 2015).

Appendix A – Images of Waterbodies



Image 01 – Pond P1, which tested negative for great crested newt eDNA.



Image 02 – Pond P2, which tested negative for great crested newt eDNA.



Image 03 – Pond P5, which tested negative for great crested newt eDNA.



Image 04 – Pond P6, which tested negative for great crested newt eDNA.

Appendix B – eDNA Results

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GCN Report

Technical Report



SureScreen Scientifics

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
GCN3188	Chownes Mead, Pond 1		Pass	Pass	Negative	0/12
GCN3189	Chownes Mead, Pond 2		Pass	Pass	Negative	0/12
GCN3190	Chownes Mead, Pond 5		Pass	Pass	Negative	0/12
GCN3191	Chownes Mead, Pond 6		Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Daisy Chambers

Approved by: Chelsea Warner



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.

