# Great Crested Newt
# eDNA Report 2024

## Partridge Green, Horsham

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing. Whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date. This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated, only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

## 1.0 INTRODUCTION

### Background

1.1 The Ecology Partnership was commissioned by Croudace Homes to undertake a great crested newt (GCN) *Triturus cristatus* environmental DNA (eDNA) survey for land at Partridge Green, Horsham, West Sussex, RH13 8EF, hereafter referred to as the 'site'.

1.2 A wider survey area (Figure 1) was covered as to ensure that a better idea of the presence of GCN within and around the development site was known.


***Figure 1: Survey boundary (cyan) and development boundary (red).***

### Site Context

1.3 The site is situated just off Bines Road, Partridge Green, Horsham, West Sussex (TQ 18853 18751). The site consists predominately of arable fields, and semi-improved grassland field margins with hedgerows bordering its northern and eastern boundaries. Some mature scattered trees are also present along its western boundary.

### Proposed Development

1.4 The current proposals include a residential development of 101 units, with associated gardens and public green space, and sustainable drainage systems (SuDS) located within the eastern portion of the site. The current proposals are shown in Figure 2 below.


*Figure 2: Current proposals for the site.*

1.5 Six ponds are located within 250m of the site boundary (Figure 2).

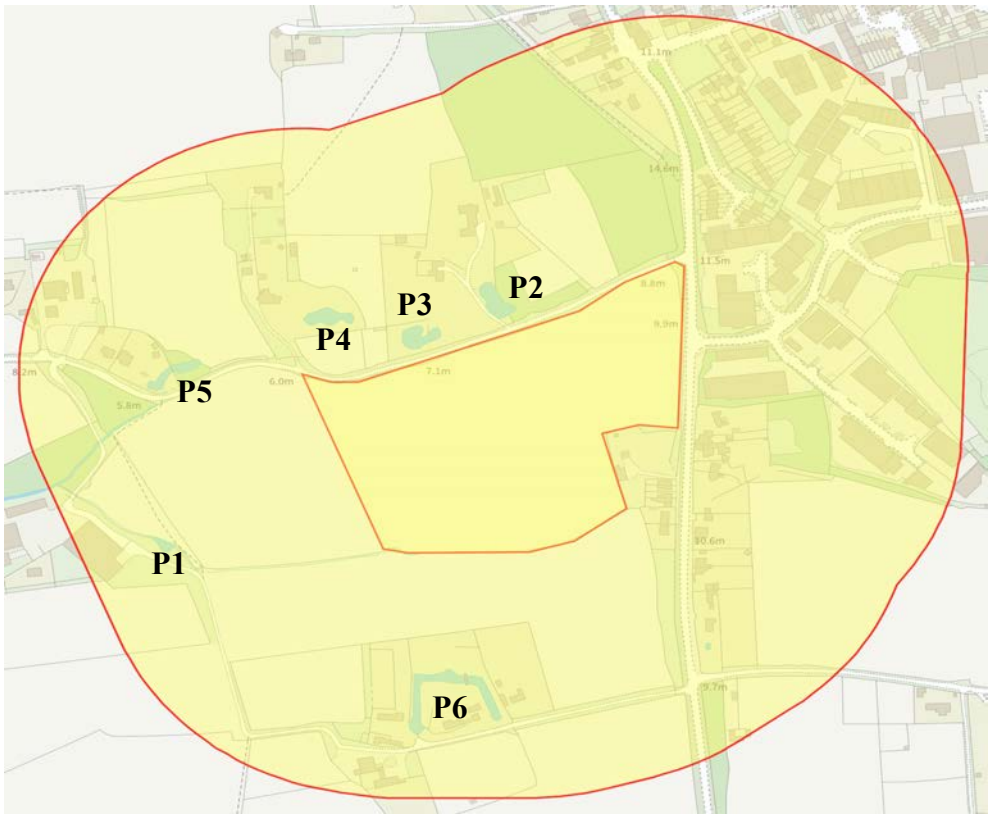


*Figure 3: Ponds within 250m of the survey area.*

## 2.0 PREVIOUS SURVEYS

2.1 The Ecology partnership conducted eDNA surveys on four of the ponds in June 2021. Access was not granted to pond P3. Ponds P1 and P4 returned positive for GCN eDNA, which indicates that GCN had been in these ponds in 2021. Ponds P2, P5-P7 returned negative results for great crested newt eDNA.

2.2 Between March and April 2023, presence / likely absence surveys were undertaken for the ponds with access granted which included ponds P1, P2, and P4. This was carried out using the following methods: bottle trapping, torching, netting, egg searching and eDNA. The results are in Table 1 below.

***Table 1: Summary of GCN Surveys 2023***

| Pond | Peak GCN count | GCN eggs found? | Other amphibians | eDNA Results |
|---|---|---|---|---|
| P1 | 0 | No | None | Negative |
| P2 | 0 | No | Smooth newt and palmate newt | Negative |
| P4 | 1 | No | None | Positive |
| P5 | N/A | N/A | N/A | Negative |

## 3.0 METHODOLOGY

3.1 Ponds P1, P2, P4, P5 and P6 were subject to an eDNA survey on 24th April 2024 to determine if great crested newts have been within the ponds this year. All water samples were analysed by SureScreen Scientifics in accordance with the protocol set out in Appendix 5 of Biggs et al. (2014).

## 4.0 RESULTS

4.1 All five ponds returned negative for great crested newt eDNA (Appendix 1) and therefore great crested newts are not considered to likely to be present currently, within these ponds.

## 5.0 DISCUSSION

5.1 All of the ponds surveyed as part of the 2024 survey effort, P1, P2, P4, P5, and P6, returned a negative result for GCN within the ponds located around the site. However, GCN have been recorded around the site previously in 2023, with a single GCN and positive eDNA being recorded from P4.

5.2 Pond 4 is approximately 145m from the red line boundary/development boundary and is separated from the site by a small road.

5.3 Where present, GCN tend to remain in close proximity to their breeding pond and whilst a maximum routine migratory range has been estimated as approximately 250m from a breeding pond (Franklin, 1993; Oldham and Nicholson, 1986; Jehle, 2000), one study by Robert Jehle, (2000) demonstrated a 'terrestrial zone' of 63m, within which 95% of summer refuges were located. A further study (Jehle, R & Arntzen, JW. 2000) showed that after the breeding season 64% of newts were recorded within 20m of the pond edge.

5.4 Research has also found that newts can travel varying distances. Movement and activity of newts from ponds depends on the surrounding habitat. If local refuges and food are abundant in habitats close to the pond, then newts are likely to remain in this area exploiting such resources. It is therefore considered that the GCN identified in P4 would most likely remain within the good quality habitat such as woodland close to the pond. This is supported by the research by (Cresswell *et al.*, 2004) which identified woodland as providing both shelter and humid microclimates to a much greater extent than habitats such as the arable habitats on site.

5.5 The habitats on site are poor in terms of GCN suitable habitat. Arable land is disturbed and managed and does not support complex microclimate required for GCNs. However, the edge habitats, notably the hedgerows do provide some value. Largely these edge habitats are to be retained.

5.6 The development is situated largely on suboptimal arable habitat. Furthermore, the development does not isolate or fragment the ponds off site, nor does the development impact directly on any ponds. All ponds therefore will retain their ecological linkage with each other and therefore their ecological functionality.

5.7 It is acknowledged that the site lies within the 'Amber Zone and Red Zone' of NatureSpace district level licensing scheme may be utilised. District-level licensing allows the developer to make a contribution to the strategy, which will assist the council in creating new or improved habitats for GCN. The approximate location of the site is shown in Figure 4 below.

***Figure 4: Approximate location of the site in relation to the Nautre Space Impact Map***

5.8 Whilst it is considered that the site lies within the red / amber zone, considering the results of the surveys and the development proposals are restricted to sub optimal habitats, reasonable avoidance measures (RAMS) are recommended.

***Reasonable Avoidance Measures (RAMS)***

5.9 The arable habitats on site are considered to provide sub optimal habitat for GCNs, as GCNs are known to show a preference for woodland habitats, and arable land does not provide the humidity and the niches that area associated with their terrestrial requirements. However, GCNs can cross such habitats and as such a precautionary method of works has been recommended.

5.10 Mitigation for GCN is as follows:

- Any potential refugia within development areas will need to be dismantled by hand or using sensitive machine work under close supervision of an ecologist.
- Demolition areas should be checks prior to removal to ensure all potential refugia are sensitively removed.

5.11 During development work construction materials, as well as skips and pallets, should be stored on hardstanding where possible and furthermore, should be elevated off the ground. This is so that no features are created that GCN could potentially use as refuge habitat.

5.12 Where trenches and holes are dug, these should not be left open overnight. GCN (and other amphibians, reptiles and small mammals) may get trapped in vertical-sided trenches. Therefore, where there is a risk of this occurring, the holes should be refilled, or planks of wood should be placed so that any trapped animals may use these to escape.

5.13 If a great crested newt is identified on site during works, then the following procedure must be followed;

- If a great crested newt is discovered at the site all works must cease immediately and Natural England and/or a great crested newt licenced ecologist must be contacted immediately to provide further advice.
- A licence might be required before works can recommence. If so, procedures will be followed to obtain a Natural England European Protected Species Mitigation Licence (EPSML) or the district level licence for the works.

5.14 It is considered that if these methods are used on site then it is considered that no individual GCN would be harmed as a result of the proposals.

## 6.0 CONCLUSION

6.1 The update survey of the ponds surrounding the site all returned a negative score for eDNA presence of GCN. Furthermore, the proposals are primarily focused on an area of highly managed arable land, which is seen to be highly unsuitable for GCN. As such, it is believed the works would not lead to any significantly impacts on GCN within the local area and therefore no further mitigation is required in regards to this species. RAMS have been recommended.

## 7.0 REFERENCES

ARG., (2010) *UK Advice Note 5: Great crested newt habitat suitability index.* Amphibian and Reptile Groups of the United Kingdom.

CIEEM., (2018)., *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.

Langton, T.E.S., Beckett, C.L. & Foster, J.P. (2001)., *Great Crested Newt Handbook.* Froglife, Halesworth.

***Internet resources:***

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

**Appendix 1: eDNA Results**

| | |
|---|---|
| Folio No: | 652-2024 |
| Purchase Order: | WSUS 3830 |
| Contact: | The Ecology Partnership |
| Issue Date: | 09.05.2024 |

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 |
|---|---|---|---|---|---|---|
| GCN0036 | Partridge Green, P5 | TQ18521876 | Pass | Pass | Negative | 0/12 |
| GCN2346 | Partridge Green, P4 | TQ18641881 | Pass | Pass | Negative | 0/12 |
| GCN2345 | Partridge Green, P2 | TQ18811883 | Pass | Pass | Negative | 0/12 |
| R579 | Partridge Green, P6 | TQ18761844 | Pass | Pass | Negative | 0/12 |
| R578 | Partridge Green, P1 | TQ18511858 | Pass | Pass | Negative | 0/12 |

Matters affecting result: none

Reported by: Daisy Chambers Approved by: Chelsea Warner

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