



## eDNA Report 2025

### Land North of East Street, Rusper

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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 Devine Homes to undertake environmental DNA (eDNA) surveys of the pond north of the application boundary for the land North of East Street, Rusper, West Sussex, RH12 4PU, hereafter referred to as the 'site' (Figure 1).



*Figure 1: Approximate location of the site, indicated by the red-line boundary and pond surveyed outlined in blue.*

### Site Context

- 1.2 The site is located to the east of Rusper and to the north-east of Horsham (TQ 20778 37277). The site covers approximately 0.9ha and consists of a sheep-grazed field and a line of trees with mixed scrub understorey along the southern boundary. The immediate surroundings of the site consist of East Street to the south, low-density residential housing to the west, fields to the north and east, and woodland to the north-west.

## 2.0 METHODOLOGY

- 2.1 No ponds were present on site, however five were present within 250m of the site boundary. Of these, only the closest one (c.35m north of the site) was publicly accessible, as shown in Figure 1. This was subject to a Habitat Suitability Index (HSI) and environmental DNA (eDNA) assessment for great crested newts (GCN) on 15<sup>th</sup> April 2025.

### HSI Survey

- 2.2 The suitability index of the assessed pond for GCN was calculated for each of ten categories. These are then analysed using the equation below to obtain the geometric mean or HSI score of the ten suitability indices.

$$\text{HSI} = (\text{SI}_1 \times \text{SI}_2 \times \text{SI}_3 \times \text{SI}_4 \times \text{SI}_5 \times \text{SI}_6 \times \text{SI}_7 \times \text{SI}_8 \times \text{SI}_9 \times \text{SI}_{10})^{1/10}$$

- 2.3 The calculated score should be between 0 and 1 and will fall within one of several bands, which correspond to a given category for the pond. Table 1 below shows the HSI scores and their corresponding pond suitability category.

*Table 1: HSI scores and pond suitability for GCN*

HSI score	Pond suitability
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

### eDNA Survey

- 2.4 The eDNA survey involved a collection of samples of water from around the perimeter of the pond. All water samples were analysed by SureScreen Scientifics in accordance with the protocol set out in Appendix 5 of Biggs et al. (2014). Surveys were carried out by Principal Ecologist Matt Pendry BSc (Hons) MCIEEM with assistance from assistant ecologist Daniel Whitlock BSc (Hons).

### 3.0 RESULTS

#### HSI Survey

3.1 Table 2 below shows the Habitat Suitability Index scores for the ponds assessed.

*Table 2: HSI scores for offsite Pond 1*

Suitability Indices No.	Feature	Pond 1
1	Location	1
2	Area	0.9
3	Permanence	1
4	Water quality	0.67
5	Shading	0.2
6	Presence of waterfowl	1
7	Presence of fish	1
8	Pond density	0.78
9	Suitable newt habitat within 250m	1
10	Macrophyte cover	0.35
HSI score		0.71
Pond suitability		Good

3.2 As shown in Table 1, the offsite pond scored as **good** suitability for GCN. As such, if GCN are in the immediate area, they would likely be present within this pond.

#### eDNA Survey

3.3 The results of the eDNA survey returned negative for great crested newt eDNA within this pond (See Appendix 1).

3.4 Due to the negative results of the eDNA surveys of the waterbody c.35m north of the site, it is confirmed that GCN are likely absent from this pond currently, despite it being of 'good' suitability. Owing to the close proximity of this pond to the site, it is considered highly unlikely that GCN would be present within the application site in their terrestrial phase if, absent from the nearby pond in their aquatic phase.

3.5 It should be noted that a number of other waterbodies are present in the wider surrounding area, however, these are all located at a further distance from the site and on the opposite side of P1.

3.6 As a precaution, it is recommended that reasonable avoidance measures to avoid impacts on GCN are taken when clearing the small area of scrub for the site access.

3.7 If no development occurs on site within two years, then an update survey of this pond should be undertaken to confirm presence/likely absence.



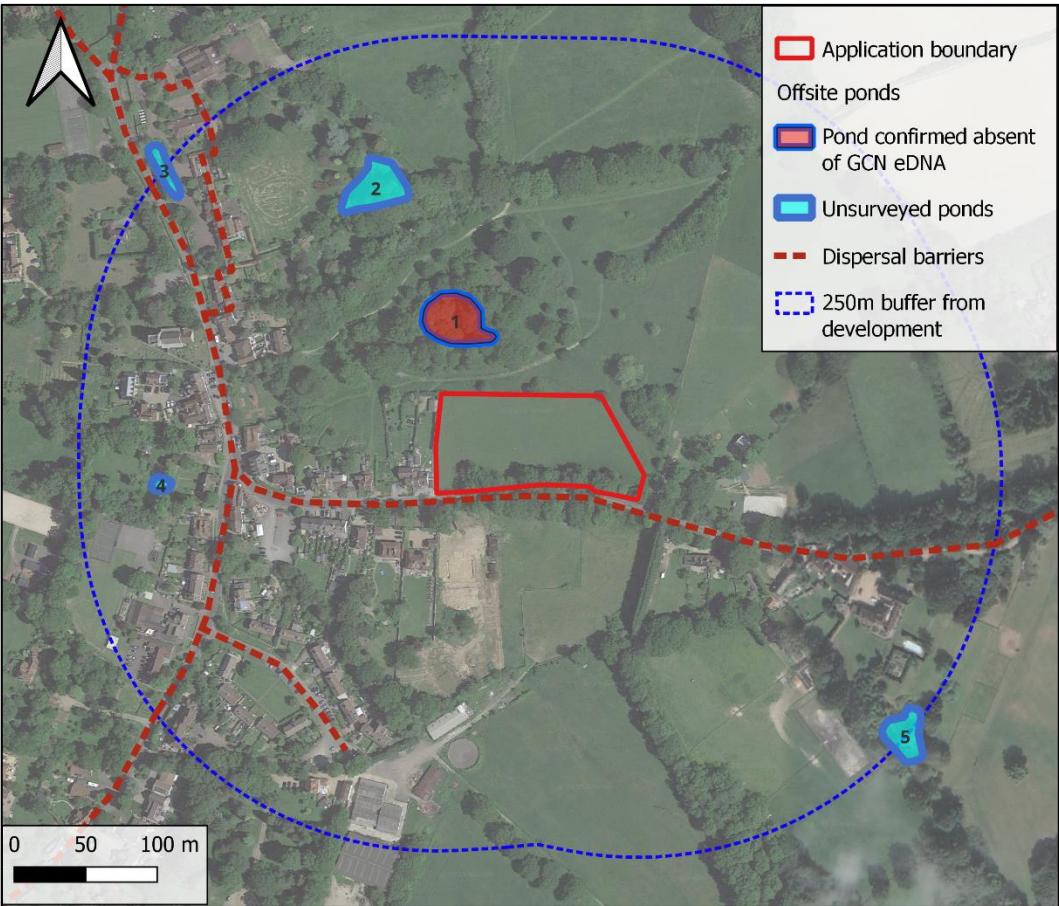


Figure 2: Location of ponds within 250m of the application site



Figure 3: SE corner of Pond 1 surveyed to the north of the site.

#### 4.0 REFERENCES

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

Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., & Griffiths, R. A. (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford

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](http://www.google.co.uk/maps)

Magic Interactive Map: [www.magic.gov.uk](http://www.magic.gov.uk)

Appendix 1: eDNA Results

Folio No:  
Purchase Order:  
Contact:  
Issue Date:  
Received Date:

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WSUS 6797  
The Ecology Partnership  
02.05.2025  
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# 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
R25 0206	Rusper	TQ 2071 3736	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Chelsea Warner

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