

## Great Crested Newt eDNA Sampling

### **Survey site:**

1 Hilltop Cottages, The Mount, Ifield, Crawley, West Sussex RH11 0LF

### **Client:**

Derek McCulloch

### **Survey date:**

30<sup>th</sup> April 2025




### **Project:**

This report is prepared to inform a planning application with the Horsham District Council. The proposal is described as:  
The construction of five residential dwellings and associated landscaping

Survey methodology and legislation can be found in Appendix 5

The site survey was undertaken by Rachel Wick MSci, Graduate Ecologist, and Ashleigh Domblides BA (Hons), Consultant Ecologist					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
30/04/2025	23	35	0	9.5	None

<b>Ecological Survey Factor</b>	<b>Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.</b>
<b>Conclusion, Impact or Recommendations</b>	<b>See pond map in appendix 1, location plan in appendix 2, eDNA results in appendix 3, and proposed plans in appendix 4.</b>
<i>Scope of report</i>	<p>This report is to be read as an addendum/in conjunction with the PEA/PRA report undertaken by Arbtech Consulting Ltd, 2025.</p> <p>This report describes the suitability of the habitats on the site and any surveyed ponds for GCN and identifies the presence or absence of GCN in these ponds. It identifies possible constraints in relation to GCN as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.</p> <p>To achieve this, the following steps have been taken:</p> <ul style="list-style-type: none"> <li>• A field survey has been undertaken, including an assessment of the suitability of the site and any ponds within influencing distance of the site for GCN.</li> <li>• An outline of potential impacts on GCN has been provided, based on the proposed development.</li> <li>• Recommendations for further surveys and mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) for GCN if appropriate.</li> </ul> <p>Opportunities for the enhancement of the site for GCN have been set out.</p>
<i>Site location and context</i>	<p>The survey site is centred on National Grid Reference TQ 22780 38095 and has an area of approximately 0.39ha. The site consists of one barn to the east of site (B1) and associated hardstanding and shingle, with managed and unmanaged modified grassland dominating the rest of site, with bramble scrub along the western site boundary, scattered tall ruderals and scattered trees also present. The site is set within a rural area, surrounded predominantly</p>

	<p>by grassland in addition to a small number of residential dwellings and associated gardens. The wider area consists of grassland, large woodland parcels and a number of small water bodies. The local area is well connected via a network of tree and hedge-filled fields, connecting the site to more substantial habitats.</p> <p>A review of OS and aerial imagery identified nine ponds within 500m of the site. Pond P1 is found ~25m west of the site, P2 is found ~60m northeast, P3 is found ~300m north, P4 is found ~400m northwest, P5 is found ~425m east, P6 is found ~475m southeast, P7 is found ~450m south, P8 is found ~450m south, P9 is found ~480m west. Ponds P1 and P2 were subject to survey.</p>							
<i>Field survey results</i>	<p><b>Pond descriptions</b></p> <p>Ponds P1 and P2 were subject to survey. The remaining ponds were not surveyed as they were scoped out of further surveys due to minimal impacts as identified from the green risk score from Natural England's Rapid Risk Assessment (Natural England 2015).</p> <p>Full pond descriptions are provided in Table 1 below.</p> <p><i>Table 1: Surveyed Ponds</i></p> <table> <tr> <th>Pond Ref</th><th>Description</th><th>Photograph(s)</th></tr> <tr> <td>P1</td><td>Pond P1 is an ornamental pond located within a neighbouring property of the site, located approximately 20m southwest of the closest point of the site boundary. While there were no direct signs of waterfowl, the presence of old duck houses suggests waterfowl are present.</td><td></td></tr> </table>		Pond Ref	Description	Photograph(s)	P1	Pond P1 is an ornamental pond located within a neighbouring property of the site, located approximately 20m southwest of the closest point of the site boundary. While there were no direct signs of waterfowl, the presence of old duck houses suggests waterfowl are present.	
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P2

Pond P2 is located ~52m northeast, within an area of land containing a large kennels. At the time of the survey, a significantly large number of tadpoles were present.



#### Habitat Suitability Index (HSI) Assessment

HSI is a standard measure of calculating the suitability of a pond to support breeding great crested newts, based on an assessment of 10 characteristics (indices), including size, shading, depth and vegetation profile. The assessment generates a number between 0 and 1 for each of the indices, which are combined to provide an overall assessment of a pond's suitability to support GCN on a categorical scale (Table 2). The assessment has not been designed for or tested on other waterbodies such as ditches. HSI assessment results are provided in Table 3 below.

*Table 2: HSI Suitability Scores*

HSI Score	Suitability	Predicted GCN Occupancy of Ponds in each Category
<0.5	Poor	3%
0.5 to 0.59	Below Average	20%
0.6 to 0.69	Average	55%
0.7 to 0.79	Good	79%
>0.8	Excellent	93%

*Table 3: HSI Assessment Results*

SI Description	P1	P2
Geographic location	1.0	1.0
Pond Area	0.40	0.05
Pond permanence	1.0	0.90
Water quality	0.67	0.33
Shade	1.0	1.0
Waterfowl effect	0.67	1.0
Fish presence	0.67	0.67
Pond Density	0.90	0.90
Terrestrial habitat	0.67	0.67
Macrophyte cover	0.70	0.30
HSI score	0.77	0.68
<b>HSI category</b>	<b>Good</b>	<b>Average</b>

**eDNA Sampling**

Sample kits and analysis was provided by SureScreen. Sampling followed the relevant sections of the method set out in the DEFRA funded study endorsed by Natural England (Biggs et al 2014). In summary the sampling protocol is as follows:

- 20 samples were taken from around the entire perimeter of the waterbody.
- The surveyor stayed out of the water while taking the samples (extension poles were used in situations where open/sufficiently deep water was at a distance from the dry banks.
- Survey locations were distributed around the pond perimeter but micro-siting was used to select locations most likely to be used by GCN.

	<ul style="list-style-type: none"> <li>At each sample location the water column was stirred prior to taking the sample but care was taken to avoid disturbing the sediment on the base of the pond.</li> <li>Once all 20 samples were taken, 15ml of the total sample were pipetted into each of the 6 sampling tubes, whilst ensuring that the water in the sample bag was mixed before taking each 15ml sample and that only one sample tube was opened at any one time.</li> <li>At all times the surveyor ensured that the risk of contaminating the sampling equipment was minimised by avoiding the placement of the ladle or pipette on the ground or on any otherwise potentially contaminated surfaces and by changing gloves between the initial sampling stage and the pipetting stages of the method.</li> <li>Samples were sent to SureScreen for analysis.</li> </ul> <p>Full eDNA results are provided in Table 4. The SureScreen lab results are included in Appendix 5.</p> <p><i>Table 4: eDNA Survey Results</i></p> <table> <tr> <th>Pond Ref</th><th>eDNA Result</th></tr> <tr> <td>P1</td><td>Positive</td></tr> <tr> <td>P2</td><td>Positive</td></tr> </table>	Pond Ref	eDNA Result	P1	Positive	P2	Positive
Pond Ref	eDNA Result						
P1	Positive						
P2	Positive						
<i>Foreseen Impacts</i>	<p>The proposed development will result in five new dwellings on site. The site covers approximately 0.39 ha. Assuming a worst-case scenario, the likely impact of all 0.39 ha of land, the Rapid Risk Assessment calculator provided by Natural England gives a result of <b>"AMBER: Offence Likely"</b>.</p>						
<i>Recommendations</i>	<p>An EPSL application to Natural England will be required to legally permit impacts to GCN terrestrial habitat within influencing distance of a confirmed GCN pond. The EPSL application requires that surveys have been undertaken within the most recent active GCN season (March to June), and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p> <p>GCN population estimate surveys may be required to inform the EPSL application. This will comprise up to six visits between mid-March and end of June with at least two visits between the core period of mid-April to mid-May to establish a population size estimate.</p>						

	<p>A Material Changes Check will be required within three months of the EPSL submission, if no survey work has been undertaken within that period.</p> <p>The EPSL will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level so as to maintain (or enhance) the Favourable Conservation Status (FCS) of the local GCN population.</p> <p>The EPSL will include the following measures:</p> <ul style="list-style-type: none"><li>• Timing of works to avoid the hibernation season (November to February)</li><li>• The installation of one way GCN fencing around the working area and completion of a trapping scheme of at least 30 days in appropriate conditions with a designated receptor site (subject to the size of the GCN population that is present).</li><li>• The provision of a toolbox talk to contractors, by the Named Ecologist or an Accredited Agent, to inform them of the presence of GCN.</li><li>• Staged vegetation clearance under the supervision of the Named Ecologist or an Accredited Agent including hand searches where appropriate.</li><li>• Habitat creation and/or enhancement suitable for GCN and other amphibians to compensate for loss of terrestrial habitat.</li><li>• Subject to population size, post-development monitoring surveys and site management may be required.</li></ul> <p>An alternative route to the EPSL would be participation within the District Level Licensing (DLL). This involves the payment of an agreed financial sum to the DLL scheme provider which will be used for GCN habitat creation in the local area. This negates the requirement for the completion of trapping or provision of onsite mitigation; however, the cost of DLL can be prohibitive to smaller developments.</p>
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# Appendix 1: Pond map






**Appendix 2: Location map**



Appendix 3: eDNA results

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

1900-2025  
1 Hilltop Cottages RH11 0LF  
Arbtech  
19.05.2025  
02.05.2025



# 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
GCN25 4460	Hilltop Cottages - P1	TQ 22717 38062	Pass	Pass	Positive	6/12
GCN25 4461	Hilltop Cottages -P2	TQ 22852 38168	Pass	Pass	Positive	3/12

Matters affecting result: none

Reported by: Amy Bermudez

Approved by: Lauryn Jewkes

SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE, UK  
+44 (0)1332 292003 | scientific@surescreen.com | surescreenscientifics.com





Appendix 4: Proposed plans



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Do not scale from this drawing unless for Local Authority planning purposes.

All dimensions must be checked on site prior to commencement of works.

Construction (Design and Management) Regulations 2015

This drawing is intended for Planning purposes only and as such does not highlight residual design related health and safety risks.

This information can be provided on request; however, it is anticipated that the full extent of residual risks will be identified during the detailed Building Regulations or construction design Status and prior to construction works commencing on site.

All responsibilities and duties of Principle Designer as stated within the above regulations now revert to the client unless Manorwood are appointed to undertake Building Regulations or construction drawings.



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Drawing No. 2503HI\_R0\_400

Scale @ A3 1:500

Job No. 2503HI\_R0

Drawn By MD

Checked By BK

Drawn On 30.06.2025

Issued On 30.06.2025

Status Proposed

Drawing Block Plan

Submission Planning

Revision 000



Indicative: 0.0m



## **Appendix 5: Legislation and planning policy**

### **LEGAL PROTECTION**

The great crested newt receives full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

This species are also listed on Schedule 5 of the Wildlife and Countryside Act and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

### **NATIONAL PLANNING POLICY**

#### ***National Planning Policy Framework 2021***

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

#### ***The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty***

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

### **EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS**

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places of great crested newts protected. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.



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Updated	2.0	Ashleigh Domblides BA (Hons), Consultant Ecologist	22/07/2025