



Landscape, Arboriculture and Ecology

Surveys – Plans – Assessments - Mitigation – Solutions – Methodology

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Great crested newt eDNA

Bridge Farm House

Cuckfield Road

Burgess Hill

West Sussex

RH15 8RE

TQ 30420 20796

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Haywards Heath
West Sussex
RH16 HE

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Flimwell
East Sussex
TN5 7PR

Document information

Report title:	DKS/1595.1 GCN eDNA survey
Client:	Gould Baxter; also FAO. Alison Essex
Document ref:	DKS/1595.1 GCN eDNA survey
Author / Surveyor:	Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist
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Approved By:	Perry Hockin BSc (Hons.), FDSoc, CIEEM – Principal Ecologist
Report date:	16 th July 2025
Declaration: The information which I have prepared and provided for this report is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct; I confirm that the opinions expressed are my true and professional bona fide opinions.	
Printed: Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist	
Signed: 	

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No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of species abundances or habitat management efficacy described in the report.

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This report and all survey work have been prepared to British Standard 42020 and rely on information and methodology from the Joint Nature Conservation Committee and the Chartered Institute of Ecological and Environmental Management.

Additionally, this report relies on information from other third parties, some of which may include, but not be limited to; DEFRA's MAGIC database, local record centres, local wildlife spotter groups such as badger groups, and the NBN atlas.

Arborweald Environmental Planning Consultancy (AEPC) were commissioned by Gould Baxter to undertake a great crested newt Habitat Suitability Index assessment and eDNA survey of a waterbody at Bridge Farm House, Cuckfield Road, West Sussex, RH15 8RE, TQ 30420 20796.

to assist with the planning application for extension of the property.

The objective of the GCN eDNA survey was to assess for the presence / likely absence of great crested newts within a waterbody within influence of the proposed development; the waterbody is a man made pond in the northwestern grounds of the property.

The results of the survey would shed light on any potential constraints that protected species may pose to development of the site.

Great Crested Newt (GCN) eDNA survey

The methods used in the GCN eDNA survey followed those outlined by Naturemetrics, who provide the eDNA kits; their methodology can be found on their website, and follows CIEEM's code of practice for ecologists. The works were undertaken to the standards set out in BS:42020.

A Habitat Suitability Index (HSI) assessment of the waterbody was also undertaken based off criteria developed by Oldham et al. (2000).

The HSI assessment uses ten key habitat criteria and is based on the assumption that habitat quality determines great crested newt population size (Oldham et al., 2000). The criteria are as follows:

- SI1 = geographic location;
- SI2 = pond area;
- SI3 = pond permanence;
- SI4 = water quality;
- SI5 = pond shading;
- SI6 = number of waterfowl;
- SI7 = occurrence of fish;
- SI8 = pond density;
- SI9 = proportion of 'newt friendly' terrestrial habitat; and
- SI10 = macrophyte (aquatic plant) content.

The results of the HSI assessment have been compared to categorised HSI scores used by the National Amphibian and Reptile Recording Scheme (Oldham et al., 2000) to identify the probability of a pond supporting great crested newts. The five categories are summarised in the table below in.

Probability of ponds supporting great crested newt	HSI score
Poor	Below 0.5
Below average	0.5-0.59
Average	0.6-0.69
Good	0.7-0.79
Excellent	Above 0.8

Survey results

A habitat suitability index assessment and eDNA survey was undertaken on the waterbody by qualified and experienced ecologist Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist, on the 24th June 2025. The results are summarised in Table 1.1 below.

Waterbody survey number	Description	HSI Score (true)	Probability of ponds supporting GCN	eDNA Results
1	A man-made concrete basin pond located in the grounds of a residential property in Burgess Hill, West Sussex. The pond is approximately 98 m² in area and kept filled although gets low. The water quality is poor due to heavy algal growth and extensive waterfowl usage, with a large number of ducks, both domestic and wild recorded. There is >50% shading from nearby trees. No aquatic vegetation was recorded, and the surrounding terrestrial habitat consists of closely mown grassland and grazed paddocks with fencing and roads. Although 2–3 other ponds are present within roughly 250 m to the southwest, connectivity is poor.	0.3 (0.34)	Poor	Inconclusive

The pond surveyed was an artificially maintained waterbody located in grounds of Bridge Farm House, with a concrete base and surrounded by short sward grassland. At the time of the visit, the waterbody remained filled through natural and artificial top-up, primarily for the benefit of a large population of domestic and wild ducks. However, the pond exhibited poor ecological quality, with heavily fouled water, negligible aquatic vegetation, and very low clarity. These conditions, coupled with the consistently high presence of waterfowl, make it an unsuitable breeding habitat for great crested newts (GCN).

Naturemetrics, who provide the kits describe 'inconclusive' results as follows:

“No GCN DNA was detected in the sample, but the internal controls failed to amplify as expected. This means that any GCN DNA in the sample might also have failed to amplify properly, so we cannot have confidence in this negative result. Inconclusive results can be caused by the degradation of the DNA (as indicated by delayed or no amplification of the DNA marker contained in the ethanol in the kits) or by inhibition of the reaction (as indicated by delayed or no amplification of the DNA marker added in the lab) caused by certain chemicals or organic compounds that may be present in the water sample.”

Whilst an ‘inconclusive’ result is not the same as a ‘negative’ result, it is the author’s professional opinion that GCN presence within the site boundary is highly unlikely due to:

- A lack of breeding habitat within the site boundary.
- The poor water quality and heavy usage by waterfowl
- The homogenous short sward height of the cleared habitats that would be unsuitable for commuting and foraging.
- The abundance of higher quality habitat in the wider landscape that will be retained.

As such, newts are not considered to pose a constraint to the proposed development subject to the application of adequate mitigation measures.

Conclusion

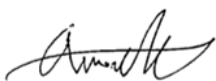
As great crested newts are considered absent from the site, works can proceed without hindrance under a precautionary approach. Although the eDNA result returned as inconclusive, this is most likely attributable to the poor condition of the pond, which contained high levels of suspended particulate matter, organic debris, and waterfowl waste, all of which are known to inhibit the effectiveness of eDNA analysis.

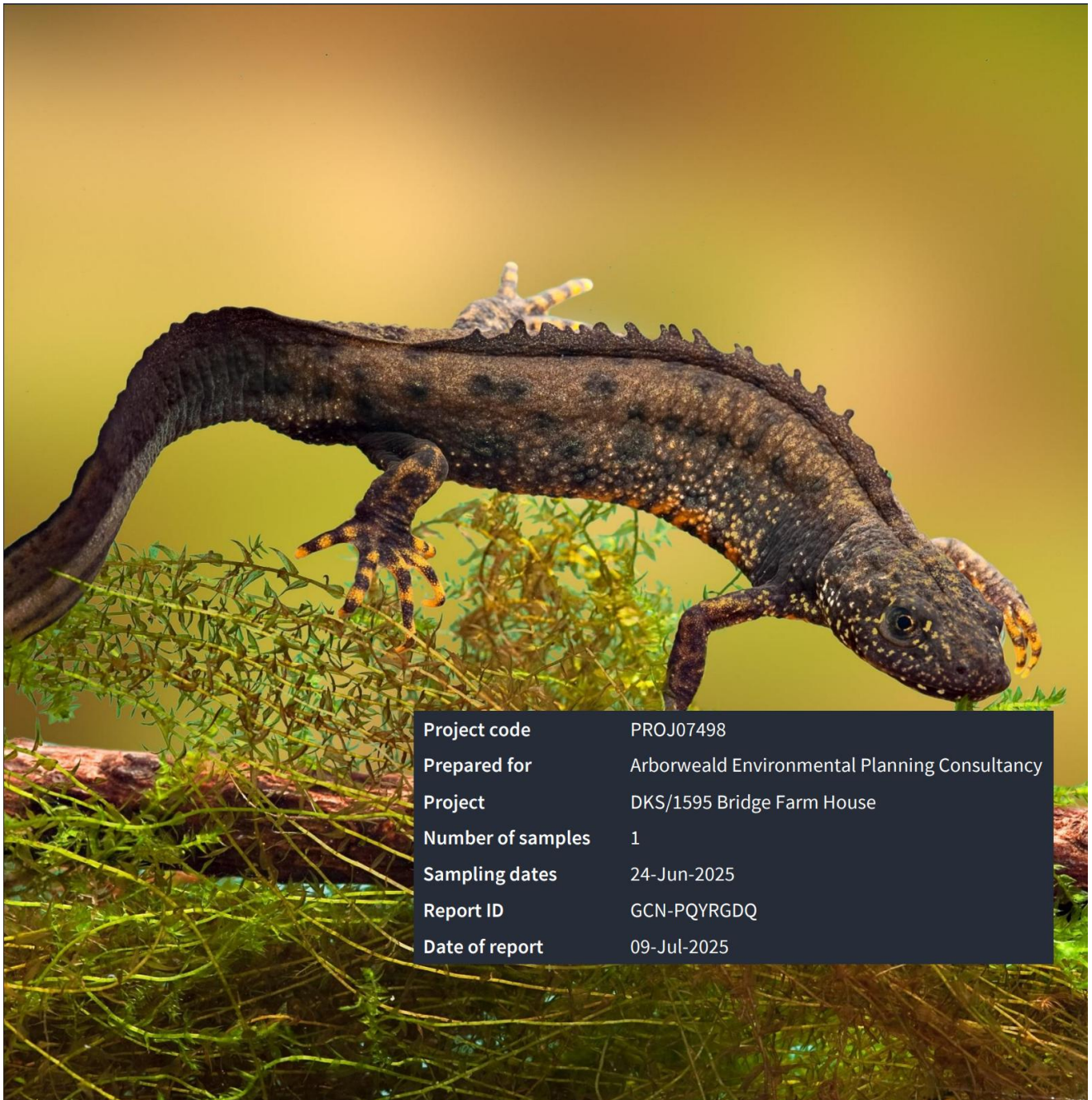
All works will take place within a previously developed area that is walled or fenced and currently offers limited suitability for amphibians. Therefore, works can proceed at any time of year, provided that a pre-commencement walkover check is undertaken by operatives immediately prior to the start of works.

If any great crested newts or other herpetofauna are encountered during site clearance or construction, works must cease immediately, and a licensed ecologist contacted for further advice.

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Printed: Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist

Signed: 



Project code	PROJ07498
Prepared for	Arborweald Environmental Planning Consultancy
Project	DKS/1595 Bridge Farm House
Number of samples	1
Sampling dates	24-Jun-2025
Report ID	GCN-PQYRGDQ
Date of report	09-Jul-2025

GCN Detection Results

Pond ID	Inhibition	Degradation	GCN Score	Result
DKS1595 25	Pass	Fail	0	Inconclusive

Sample Information

Pond ID	Kit ID	Sampling Date	Received Date
DKS1595 25	GCN-25-02042	24-Jun-2025	27-Jun-2025