

STAIRFOOT ROUNDABOUT / GRANGE LANE BRIDGE, BARNSELEY

Great Crested Newt eDNA Survey Results

Project name **Stairfoot Roundabout**
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 Prepared by **Rob Tiscoff BSc (Hons)**
 Approved by **Marc Jackson MRes**

Sent by email to:

Jake Rowlands

Senior Project Manager - Strategic Transport
 Environment & Transport
 Place Directorate
 Barnsley Metropolitan Borough Council

GREAT CRESTED NEWT eDNA SURVEY SUMMARY

1. Introduction

Ramboll UK Limited ("Ramboll") was commissioned by Barnsley Metropolitan Borough Council (Barnsley Council) in May 2026, to undertake an environmental DNA survey of two ponds near Stairfoot roundabout in Barnsley to confirm the presence/likely absence of great crested newts (*Triturus cristatus*) (GCN). The survey was conducted in May 2026 with the findings documented herein.

2. Introduction

Ramboll was commissioned in February 2026 by Barnsley Council to conduct a Preliminary Ecological Appraisal (PEA) of land around Stairfoot roundabout/Grange Lane Bridge, in Barnsley (see Figure 1). The purpose of the PEA was to identify potential ecological constraints associated with proposed highways improvement works at the site. The assessment reported on previous surveys and included a desk study to identify known records of protected species, including GCN, within 2km.

The site was noted to contain no open water and limited areas of terrestrial habitat suitable for GCN. No previous records of GCN within 2km were reported from the desk study. The road network was considered to represent a notable barrier to the movement of GCN onto the site from much of the wider landscape, though two ponds were identified within 250m with a degree of habitat connectivity.

A pond to the south of the site (see Figure 1: Pond 2¹ - Grid Reference SE 37418 05336) was noted to be dry and isolated from wider sources of potential GCN colonisation by the road network. It was further considered unsuitable for GCN in 2023. A pond to the north (see Figure 1: Pond 1 - Grid Reference SE 37142 05753) was noted to be in connected habitat and was considered to have "average" suitability for GCN under a Habitat Suitability Assessment.

GCN and their habitats are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

Whilst adopting sensitive working methods during construction was considered (by rapid risk assessment) to be sufficient to make an offence under relevant wildlife legislation unlikely, it was recommended that an eDNA survey of the pond to the north be conducted to confirm the

¹ Note the ponds were given different reference numbers in the original PEA.

presence/likely absence of GCN. EDNA survey of the southern pond was also recommended to be conducted where possible, for comprehensiveness.

3. Survey Methodology

The eDNA survey was undertaken on **20 May 2026** by **Jordane Marsh (Senior Ecologist)** and **Robert Tiscoff (Assistant Ecologist)** under optimal survey conditions.

A water sample was collected from Pond 1 and submitted to SureScreen Scientifics for laboratory analysis for the presence/likely absence of GCN eDNA.

4. Results

The eDNA sample collected from Pond 1 was analysed by SureScreen Scientifics under laboratory reference **R26 00924**. The degradation check and inhibition check both passed, and SureScreen Scientifics recorded that there were **no matters affecting the result**. The Surescreen Report is provided at Appendix 1.

The sample returned a **negative result for Great Crested Newt eDNA** indicting that GCN are likely absent from Pond 1.

Pond 2 has been consistently dry and considered unsuitable for GCN during the assessments.

5. Conclusion

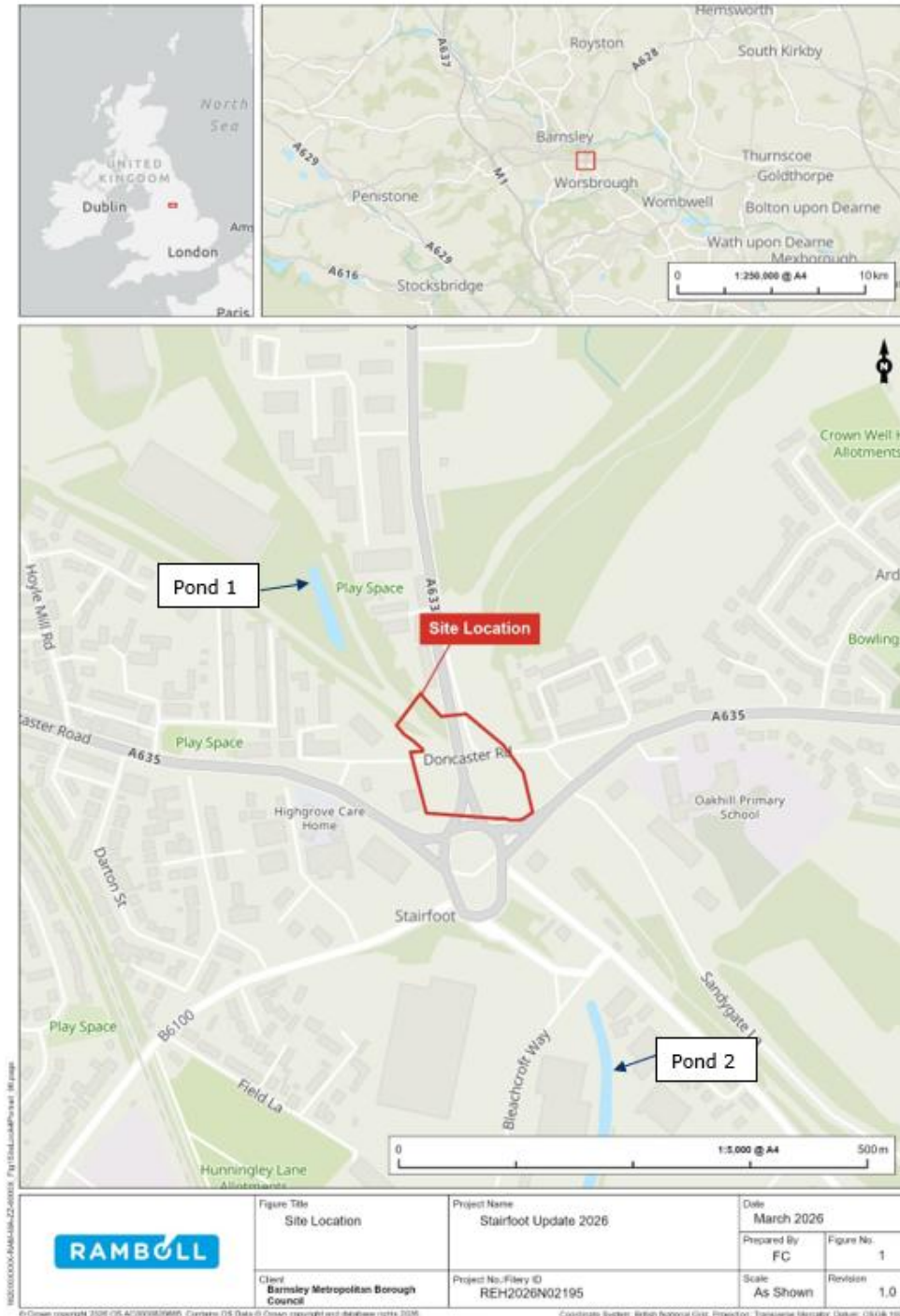
GCN are considered likely absent from the stairfoot Roundabout site and ponds within 250m. This species does not therefore present a likely constraint to the proposed highways improvement works.

Only a very small area of the site provides suitable habitat for amphibians in its northern-most section, where there is habitat connectivity with Pond 1. The potential for adverse effects on wider amphibians such as toads and frogs during the works is considered to be low and reasonable avoidance measures in adjacent areas, (such as a search and rescue for amphibians before starting works, covering excavations and open pipes/equipment, etc) is recommended as general good practice.

In the unlikely event that a GCN is found during the works, works should stop and an ecologist be consulted for advice.

The results herein are considered to remain valid for a period of 18 months from the date of the survey, after which time an ecologist should be consulted for review.

Figure 1: Site and Pond location



Appendix 1 SureScreen Scientifics eDNA report for Pond 1

Folio No: 2213-2026
Purchase Order: 1620019000
Contact: Ramboll UK Ltd
Issue Date: 05.06.2026
Received Date: 03.06.2026

GCN Report

Technical Report



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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
R26 00924	Stairfoot - Pond 1	53.5471225, -1.4409608	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Ruby Fielding

Approved by: Alice Cunnington



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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.

