Great Crested Newt Survey Report
Land at May's Lane, Barnet

11 June 2025
For: **ACJ Ecology**
Version 1

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By their very nature, ecological surveys can only assess a site or particular species at a set point in time, thus providing a snapshot of the environment and not a definitive evaluation. Every effort has been taken to provide an accurate assessment of the habitats or species surveyed. However, presence and population sizes of species can change over time and the accuracy of this report will be affected by time and seasonality.

This document has been prepared by Ecology Link Ltd for the sole use of the client.

1. Introduction

Background

1.1 Ecology Link Ltd. was commissioned by ACJ Ecology, on behalf of their client, to undertake a great crested newt (GCN) survey of a number of ponds within the zone of influence of a proposed development site. The site was a permanent grassland to the north of May's Lane, Barnet, London. Previous surveys by RSK Consulting had identified seven ponds, four of which had GCN eDNA analysis in 2024 (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024). Further surveys of these ponds was recommended by the LPA, using traditional population surveys, to provide extra species data. This report details the rationale, methodology and results of these surveys.

1.2 **Development Proposal**: the creation of a hard surface base and associated driveway access for a permanent caravan.

Site Location and Description

1.3 **National Grid Reference Location** (approx. centre of site): TQ23119516

1.4 **Site Address**: Field north of May's Lane, Barnet, London.

1.5 **Site boundaries**:

- North – linear woodland and wider grass and woodland.
- South – May's Lane.
- East – community centre.
- West – residential house and associated garden.

1.6 **Wider Landscape Context**: on the edge of Barnet Town, the site sits within a large rural environment with Whitings Hill open space to the north and the wider Whitings Wood to the west. Isolated residential properties, fields and hedgerow system were located to the south. This provided good ecological connectivity between all ponds and the site.

2. Great Crested Newts

Overview

2.1 Great crested newts, like most British amphibians require both aquatic and terrestrial habitat. Breeding ponds are ideally medium sized, well-vegetated with floating emergent and submerged vegetation, have open water and are not too shaded. Temporary ponds that occasionally dry-out in summer may still be suitable, as they often lack predators (e.g. fish), but they may also limit juvenile development, particularly in very dry years.

2.2 Adult newts leave their overwintering sites and migrate to breeding ponds when the air temperature is above 5°C, often when it has been raining. The majority of individuals reach ponds by mid-March. The peak courtship and egg-laying period is normally from mid-March to mid-May. Females lay several hundred eggs, mostly on the leaves of submerged plants. The larvae hatch after approximately three or four weeks and remain in the pond for about three months.

2.3 The presence of predatory fish and /or high densities of waterfowl reduce the value of a pond as a breeding site, due to juvenile predation. Ponds not used for breeding may still be important to the population as they may support prey.

2.4 Terrestrial habitat is important for feeding, dispersal and hibernation. Habitat mosaics of grassland, scrub, woodland, hedgerows and waste ground are usually favoured. Adult newts generally leave breeding ponds from late May. In autumn they migrate to their overwintering sites which are places that afford protection from frost and flooding, such as piles of logs, amongst tree roots or under deadwood. Hibernation may last from October to February. Great crested newts often exist in meta-populations, so connections between ponds are vital for the maintenance of long-term viable populations.

Legislation

2.1 Great crested newts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. At the European level they are protected under Annex IV of the EC Habitats Directive. All life stages of the great crested newt (*Triturus cristatus*) and their habitats are protected under the Wildlife and Countryside Act 1981, as amended. They are also protected by the Conservation of Habitats and Species Regulations 2017 (as amended) as a European Protected Species.

2.5 All life stages of great crested newts are protected, including eggs, larvae, juveniles and adults. The combined legislation makes it illegal to:

- Intentionally or deliberately capture, kill or injure a great crested newt.
- Intentionally or recklessly damage, destroy or obstruct access to any place used for shelter and protection including resting and breeding places, whether occupied or not.
- Deliberately, intentionally or recklessly disturb a great crested newt when in a place of shelter.
- Possess a great crested newt, or any part of it, unless acquired lawfully.
- Sell, barter, exchange, transport, offer for sale great crested newts or parts of them.

2.2 A Natural England survey licence is required when undertaking surveys using techniques which involve disturbance or capture of great crested newts, such as netting, bottle trapping, pitfall trapping and refuge searching. A development licence must be obtained from Natural England, if any proposed development of a site is likely to cause disturbance to great crested newts (e.g. digging, loss of habitat, fencing).

3. Methodology

3.1 Natural England recommends the following, in order to determine the presence or likely absence of great crested newts in ponds:

- Three methods (preferably torch surveys, bottle-trapping and egg searching) undertaken during each visit (Table 3.1).
- Visits undertaken only in suitable weather conditions.
- Visits preferably carried out from mid-March to mid-June, with at least two of these visits between mid-April and mid-May.

3.2 The presence or absence survey consisted of three visits on the 9th and 21st April and 8th May 2025, with eDNA samples taken on the 8th May 2025. These were undertaken at the appropriate time of the year for detecting adult newts in their aquatic habitat, in accordance with Natural England guidelines. All surveys were completed during suitable weather conditions.

3.3 The survey methods used only torching and egg searching. The condition of ponds varied with only Ponds 5 and 7 holding water, which they did throughout the visits. Unfortunately, the water

levels in Ponds 5 and 7 were very low, making it impossible to sufficiently and safely submerge bottle traps. The lack of marginal or aquatic vegetation made egg searching very difficult, although leaf debris was assessed during each of the visits. These ponds were torched in the evenings of each of the survey dates.

3.4 The ponds were surveyed with the aim of confirming the presence or likely absence of great crested newts, recording the numbers and sex of individuals. This would aid the estimation of population size and subsequent mitigation measures (if required). The survey methodology employed followed The Great Crested Newt Mitigation Guidelines (English Nature 2001).

Table 3.1: Great crested newt survey techniques which may be employed to assess presence and estimate population size.

Technique	Description
Torching	The water body is thoroughly searched using a torch after dark. The surveyor walks slowly around the perimeter of the water body (where access is possible), starting and stopping at the same point, to avoid double counting of newts seen within the torch beam. Care should be taken with the torch to minimise disturbance to newts and other wildlife which may be present (e.g. nesting birds). To allow comparison between ponds, the same power of torch is used on every survey occasion.
Egg Searching	Submerged and floating aquatic vegetation is checked by the surveyor in order to confirm presence of GCN eggs. In line with Natural England survey guidelines, egg searches are terminated when the presence of GCN eggs is recorded. This avoids excessive damage to the exposed eggs and minimises the impact of predation and UV light, but still provides clear evidence of breeding. This method is unreliable for population estimates.
Netting	A long-handled net is used to sample the area around the edge of the water body, with the aim of capturing newts (if present). Netting can also be used as a method to egg search otherwise inaccessible aquatic vegetation, to sample pond edges for newt larvae and to capture newts for species identification. In line with Natural England guidelines, net sampling is undertaken for a minimum of 15 minutes per 50m of shoreline. Netting and subsequent identification of aquatic macro-invertebrates can also assist with the completion of HSI forms.
Bottle Trapping	Bottle traps are set around the margin of the water body in the evening and left overnight to catch adults during the breeding season. Traps are set at an approximate density of one trap per two metres of shoreline, dependent on individual site variations. To ensure the welfare of trapped newts and other aquatic organisms, guidelines issued by Natural England, herpetological charities and the Herpetofauna Workers' Manual are all followed.

Survey Constraints

3.5 Dry or reduced pond water levels were a significant constraint to assess GCN population size class data. Access was only permitted to four of the seven ponds, but this included those the LPA highlighted as requiring further survey. The very dry spring had left a number of ponds dry or with very low water levels. This may have been due to unseasonably dry late spring, although all were in late stages of successional development, (apart from pond 1), suggesting the ephemeral nature may be fairly typical for these ponds.

3.6 All surveys were conducted within the optimal survey period for great crested newts (March-June) and were undertaken by Jon Panter (valid great crested newt class survey licence holder - 2016-20226-CLS-CLS).

Note on Amphibian Disease Precautions

3.7 Many diseases can cause incapacity and mortality in amphibians. Recently the most serious of these, Chytridiomycosis (*Batrachochytrium dendrobatidis*) has been detected in the UK. In order to help minimise the spread of diseases, all survey activities are carried out in accordance with guidance released by Natural England, and leading herpetological and amphibian organisations. Precautions include the thorough disinfection (with Virkon solution) of all relevant survey equipment and footwear when moving from one waterbody to another.

4. Results

4.1 Environmental conditions were monitored during each of the survey visits and recorded along with results on Survey Recording Forms (Appendix 3). Surveys were only conducted during periods of appropriate weather conditions.

4.2 Of the seven ponds identified in the original ecological surveys, four ponds all north of Mays Lane. Four ponds were visited on 9th April 2025, to assess their condition and potential for traditional GCN surveys and eDNA sampling (Table 1). The condition of ponds varied with only Ponds 5 and 7 holding water, which they did during the three visits, although levels were too low for bottle trapping.

4.3 The two ponds (1 and 6), which provided a positive eDNA record in 2024, were both dry throughout the 2025 surveys. Pond 6 had a small damp area, in the first two visits, which had disappeared by the third.

4.4 Pond 1, was created as an attenuation pond for the adjacent development, attenuation ponds are designed to be dry, filling in storm events and slowly draining away once the event(s) have passed. The design of the attenuation 'pond' is such that when maintained correctly it is unlikely to hold water outside periods of heavy rainfall or prolonged rainfall. The GCN report (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024) clearly shows the pond full of water (photos - Appendix D; eDNA report). The site visit (and photo record) were taken on 2nd May 2024. This was an unusually wet spring and all ponds showed increased levels of water. In comparison the 2025 spring has been dry and this is reflected in the water levels encountered. The small area of marginal vegetation adjacent to the outflow would suggest some water holding in pond 1, but very temporary in nature.

4.5 Ponds 5 and 7 were torched as they were the only ponds holding water.

Pond Descriptions

Pond 1

4.6 Attenuation pond being completely dry throughout the surveys (Photo 1). Only a small area (adjacent to outflow), showing any signs of long term water holding, with only sparse reed mace (*Typha latifolia*) and hard rush (*Juncus inflexus*). This pond looked like it has not held a significant amount of water over a long period of time.

Photo 1: Pond 1: 9th April 2025, showing no water, which remained like this throughout the survey period.

4.7 This pond provided a positive eDNA record for GCN in the 2024 assessment (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024). However, it appeared that subsequent ditch management along May's Lane during 2024 (it was unclear which authority undertook the works) had unblocked the outflow pipe. This has removed the holding capacity of Pond 1 (outside flood events). As this was a known potential GCN breeding pond, it is unclear if any Natural England licensed mitigation was implemented, or if this was covered by an Ecological Risk Assessment.

Pond 5

4.8 Late successional stage, surrounded by trees, being within the woodland. No aquatic or marginal vegetation was recorded. The pond was full of dead wood (Photo 2), reflected in tannin levels on the water surface. Small, shallow pond, with some potential to hold GCN.

Photo 2: Pond 5: showing water levels and woody debris.

4.9 This pond provided a negative eDNA record for GCN in the 2024 assessment (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024). This was supported by the negative repeat 2025 eDNA assessment (Appendix 2).

4.10 There seems to be some confusion in the LPA Ecologist's response, identifying this as pond 6, which is not the case (Appendix 1). Although holding shallow water levels throughout the survey period, no GCN were recorded via torching. The negative 2025 GCN eDNA result confirmed that this pond was not currently occupied by GCN, or used for breeding.

Pond 6

4.11 Within the corner of an adjacent field system, this was dry throughout the survey visits (Photo 3). A small damp area which suggested a level of water presence possibly throughout the winter was identified in the first visit (Photo 3). However, this was a late successional pond (filled with debris), and with no marginal vegetation. The pond was unlikely to hold water throughout a typical breeding season.

4.12 This pond provided a positive eDNA record for GCN in the 2024 assessment (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024). However, being completely dry throughout all of the 2025 visits, no survey or eDNA assessment was undertaken, with it not being viable for breeding GCN.

4.13 This pond had potential for restoration under any future mitigation programme, with relatively good access for machinery. The previous eDNA record suggests this was a former GCN breeding pond, prior to debris infill.

Photo 3: Pond 6: showing no water, being in a late successional phase.

Pond 7

4.14 OS mapping would suggest this was historically a large pond formed by damming of the stream. However, this has become silted up and does not function as a lentic body. Small pockets of water were recorded, but these were very shallow and were likely to dry during the summer (Photo 4).

4.15 This pond provided a negative eDNA record for GCN in the 2024 assessment (Land at May's Lane, Barnet - Great Crested Newt eDNA Report; June 2024). This was supported by the negative GCN eDNA assessment in 2025 (Appendix 2), with the pool(s), holding just about minimum levels for eDNA sampling.

4.16 The formal nature of the original pond has long since declined, with only a number of small pools within the woodland. Although a number held water throughout the survey period, no GCN were recorded by torching, which was supported by the negative GCN eDNA analysis. This pond did was not currently occupied by GCN and did not constitute a viable breeding pond.

Photo 4: Pond 7: Remnant, isolated small pools within the woodland.

GCN Survey Results

4.17 No GCN or amphibians of any species were recorded during the torch searches. Both sampled ponds (the only two holding any water) returned negative GCN eDNA analysis results. At this stage torching of Ponds 5 and 7 was stopped.

4.18 The poor condition of all the ponds limited traditional survey methods. The eDNA samples for Ponds 5 and 7, supported the previous 2024 negative analysis for these ponds. The drainage management adjacent to Pond 1, has potentially cleared the drainage pipe from the attenuation pond outflow, resulting in lowering the water level of this pond to enable it to function as designed. The dry weather and management has removed this from being a viable GCN breeding pond.

5. Conclusions and Recommendations

5.1 The four ponds which were accessed and assessed, with only two held water, with both returning a negative GCN eDNA analysis result (Appendix 2). Ponds 1 and 6 which were both dry throughout the survey period had provided a positive eDNA record in the 2024 assessment. It is clear that Pond 6, was in a late succession phase and any prolonged period of dry weather would significantly reduce water levels, reducing any likely value as a breeding pond.

5.2 It is unclear whether the resulting permanent drop in water retention arising from the maintenance works was a known likely outcome of the work. Nevertheless, it does appear to have resulted in the loss of holding capacity, which has directly impacted the permanence of Pond 1, removing the availability of continued suitable breeding habitat for GCN.

5.3 Although this assessment has been limited by dry weather, we now have more detailed information on the condition of all ponds where access was permitted. The poor, late successional condition of the ponds has reduced their likelihood of supporting a viable breeding population of GCN, even in wetter years, supported by the negative eDNA results.

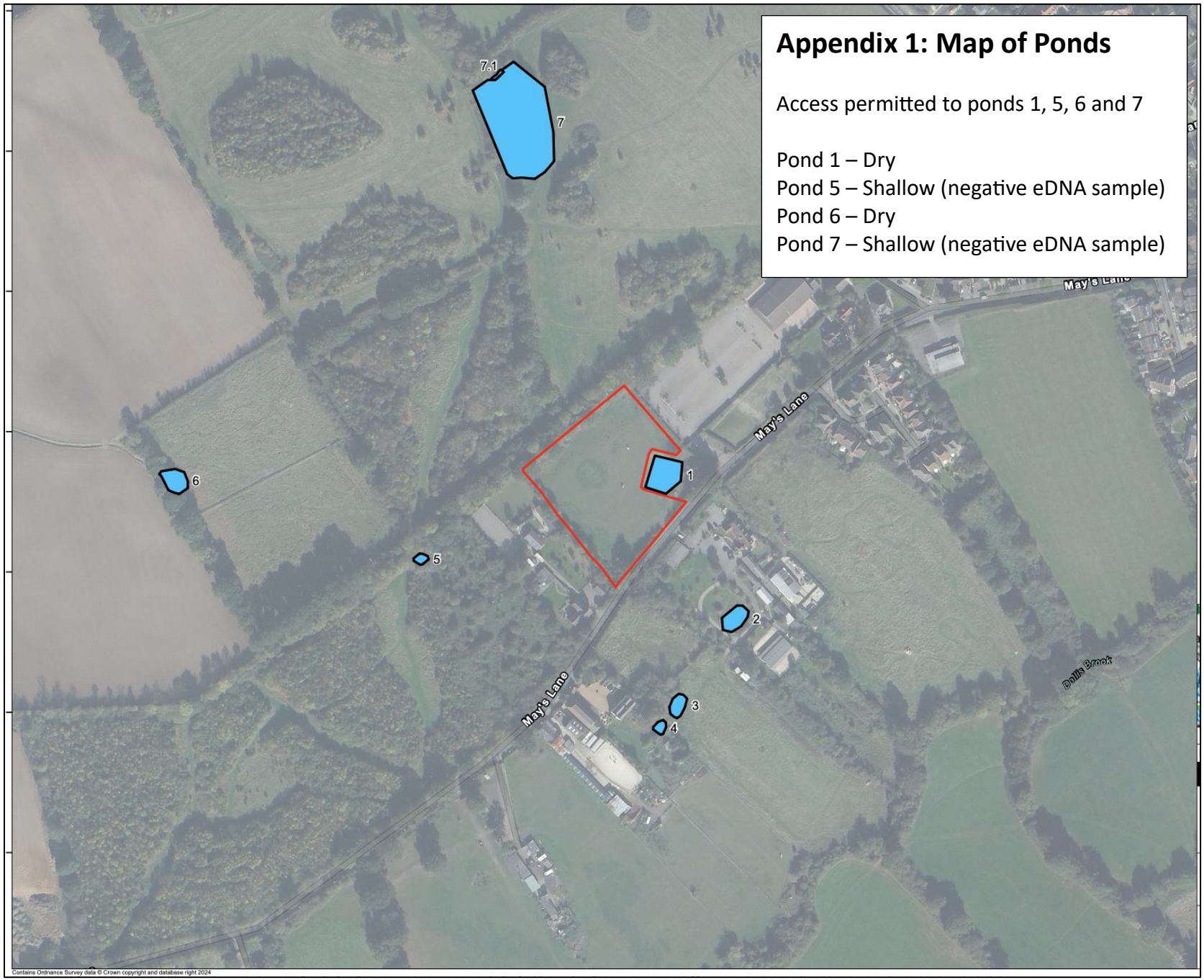
5.4 This does not mean that this species is not present and utilising the site and wider environment. The only habitat to be directly impacted will be within a grazed field, which is sub-optimal compared to the adjacent habitats, including hedgerow, scrub and woodland. The construction of the concrete pad and access route will not affect the movement of GCN during the proposed development, provided all works are confined to daytime activities within the grazed sward areas. There are no potential refugia or hibernation features within the zone of impact. The previously proposed GCN Method Statement for Minor Works, will ensure no great crested newts are harmed during the proposed works.

5.5 Working under such a method statement will not only align this project with legal requirements but also highlights best practices in ecological management. It ensures that the development will be undertaken responsibly, striking a balance between responsible development and the protection of this species and it's habitats. Ecological Method Statement, sites become safer for great crested newts, and developers protect themselves from legal and environmental risks

6. Appendices

Appendix 1 – Site and pond Map

Appendix 2 – eDNA Report


Appendix 1: Map of Ponds
Access permitted to ponds 1, 5, 6 and 7
Pond 1 – Dry
Pond 5 – Shallow (negative eDNA sample)
Pond 6 – Dry
Pond 7 – Shallow (negative eDNA sample)
7.1
7
6
1
5
2
3
4
May's Lane
May's Lane
May's Lane
Dolls Brook
Contains Ordnance Survey data © Crown copyright and database right 2024

Folio No:	1315-2025
Purchase Order:	ECO6380
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GCN Report

Technical Report

SureScreen Scientifics

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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
GCN25 4493	North Mays Lane - P7	TQ 2303 9542	Pass	Pass	Negative	0/12
GCN25 4494	North Mays Lane - P5	TQ 2298 9511	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Name redacted

Approved by: Name redacted

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SureScreen Scientifics

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.

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