

Environmental DNA (eDNA) Survey Results for Great Crested Newt (GCN)

July 2025

Project Reference: N/A

Land at Mulsford Lane

Worthenbury

Wrexham

LL13 0FD

National Grid Reference: SJ 42172 46052



Land at Mulsford Lane, Worthenbury, Wrexham, LL13 0FD
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Document Title	Environmental DNA (eDNA) Survey Results for Great Crested Newt (GCN)
Issue no.	1.0
Prepared for	Blueprint Architectural Services
Prepared by	Tyrer Ecological Consultants Ltd

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Review Date	10/07/2025
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Date of Issue	10/07/2025

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1.0 Background & Introduction

- 1.1 As part of an ongoing planning application at Land at Mulsford Lane, Tyrer Ecological Consultants carried out a Preliminary Ecological Appraisal (PEA) in June 2017 (see **Appendices I – II**).
- 1.2 The PEA was commissioned by Blueprint Architectural Services; proposals are understood to involve the creation of a single residential dwelling.
- 1.3 As part of the PEA, two ponds were identified within a 250m buffer of the site, however the closest pond (approximately 145m east) was found to not exist during ground truthing and was therefore discounted from the assessment. The remaining pond (P1 – approximately 190m south-east) was not subject to a GCN Habitat Suitability Assessment (HSI) at the time of the PEA due to access constraints. However, due to the proximity of this pond to the site, it was recommended that an Environmental DNA (eDNA) survey should be undertaken at **P1** (subject to its presence) to reasonably ascertain presence / absence of GCN within the pond.
- 1.4 Following the recommendations within the PEA, Tyrer Ecological Consultants Ltd were commissioned by Blueprint Architectural Services to undertake the eDNA survey at **P1** on 5th May 2025, thus during an optimum time of year (eDNA surveys can be undertaken without temporal limitations at any point between April 15th – June 30th).
- 1.5 This report details the methodology used in accordance with best practice, will outline the survey results, and present conclusions derived from the survey efforts. This report will present any further recommendations, including any avoidance, mitigation or intervention measures required to protect the favourable conservation status of great crested newts, where applicable, and will include suitable information to inform a licence application to Natural England, if necessary.
- 1.6 The eDNA survey aims to determine presence or reasonably conclude absence of great crested newts at the ponds.
- 1.7 If GCN were detected during the survey and / or may be affected by the development proposals, then a Mitigation Licence may be required to proceed with the development.
- 1.8 This report should be read, understood and presented to the local authority in conjunction with **Appendices I – II** (see contents page).
- 1.9 **Figure 1.1** overleaf shows ponds within 250m of the site boundary including the surveyed ponds.

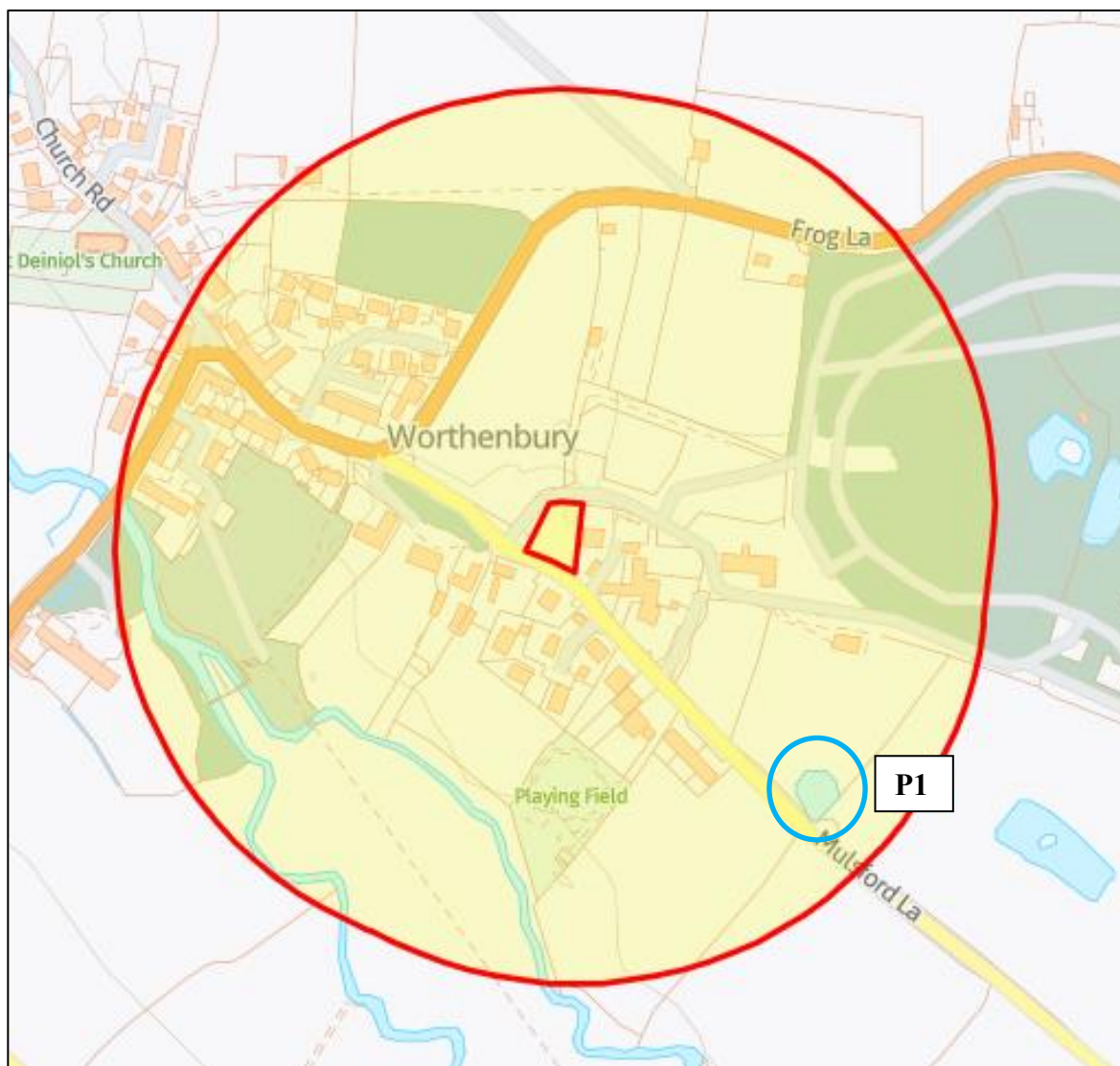


Figure 1.1 – Locations of waterbodies within 250m buffer of the site (© MAGIC Maps 2024)

2.0 Great Crested Newt (GCN) – Legislation & Policy

2.1 GCN are fully protected in all life stages by Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), the Wildlife and Countryside Act (1981) (as amended) and Section 7 of the Environment (Wales) Act 2016. They are listed as a priority species under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act) and are also listed on the UK Biodiversity Action Plan (UKBAP). The legislation makes it a punishable offence to:

- Deliberately, intentionally or recklessly kill, injure or take a GCN,
- Deliberately, intentionally or recklessly take or destroy GCN eggs,
- Possess or control any live or dead specimen, or anything derived from a GCN,
- Deliberately, intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a GCN,
- Deliberately, intentionally or recklessly disturb a GCN while it is occupying a structure or place which it uses for that purpose.

2.2 In summary, GCN are protected from disturbance, killing, injuring or possession at any life stage, whilst confirmed breeding ponds and resting places are afforded the same protection once identified. Habitat for this species is protected when within certain range of a breeding pond. This places an obligation on local authorities to fully assess the impacts of development on this species prior to determining a planning application.

2.3 GCN populations have declined within the UK over recent years due to destruction and fragmentation of breeding ponds and terrestrial habitat. They spend a high percentage of their adult life in terrestrial habitat such as woodland, and shelter in environments with piles of rubble, log piles, tree roots, miscellaneous other for safety, refuge and hibernation. In Wrexham, GCN are widespread and can be found where favourable habitat coincides with connectivity to breeding pools.

NB: *Research provides evidence that GCN are most likely to use terrestrial habitat within 100 metres of their breeding ponds, whilst the Great Crested Newt Method Statement for EPSML (Natural England) describes terrestrial habitat zones - the 50 metres range of any GCN pond is the 'Core' habitat zone and the area most likely to support newts in a lifetime; the area between 51-250m is the 'Intermediate' zone and 250m+ is the 'Distant' zone; impacts to these zones, from individual ponds, are considered by the ecologist; both permanent and temporary impacts are taken into account.*

2.4 More common British amphibians, such as common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Triturus vulgaris*) and palmate newt (*Triturus helveticus*) are protected only by Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). This section prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy.

2.5 The named species are also listed as UK Species of Conservation Concern. Due to general declines in most British amphibian species in recent years, many local authorities require amphibian surveys as a planning condition, or as part of environmental information submitted as part of a planning application, even where the presence of GCN is ruled out. Water bodies that support all five (more common) species of British amphibians in high numbers, may be afforded protection in local plans, as Sites of Importance for Nature Conservation (SINC), or a similar equivalent, for sites of local importance.

Policy

- 2.6 The Environment (Wales) Act 2016 (“the Act”) – requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species.
- 2.7 Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:
- “A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.”*
- 2.8 Section 7 of the Act places a duty on Welsh Ministers to publish, review and revise lists of types of habitats and species in Wales which they consider are of key significance to sustain and improve biodiversity. The Welsh Ministers must also take all reasonable steps to maintain and enhance the habitats published in these lists and encourage others to take such steps. Section 7 of ‘The Act’ alongside the UK Biodiversity Action Plan (UKBAP) provided a statutory basis for lists of habitats and species of national conservation importance - now transposed under section 41 (s.41) of the NERC Act.
- 2.9 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.
- 2.10 PPW (2021) states:
- “The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre.”*
- 2.11 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).
- 2.12 A ‘Dear Heads of Planning Letter’ was issued 18 October 2023 by the Minister for Climate Change – updating parts of Chapter 6 of PPW. The main changes included strengthened wording and new measures to address policy on green infrastructure, net benefit for biodiversity using the stepwise approach / Decca framework, strengthened approach to the

protection of Welsh SSSIs and improved measures to improve the planting of trees and woodlands.

- 2.13 Planning authorities must therefore follow a stepwise approach (see **Figure 2.1** overleaf) to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.

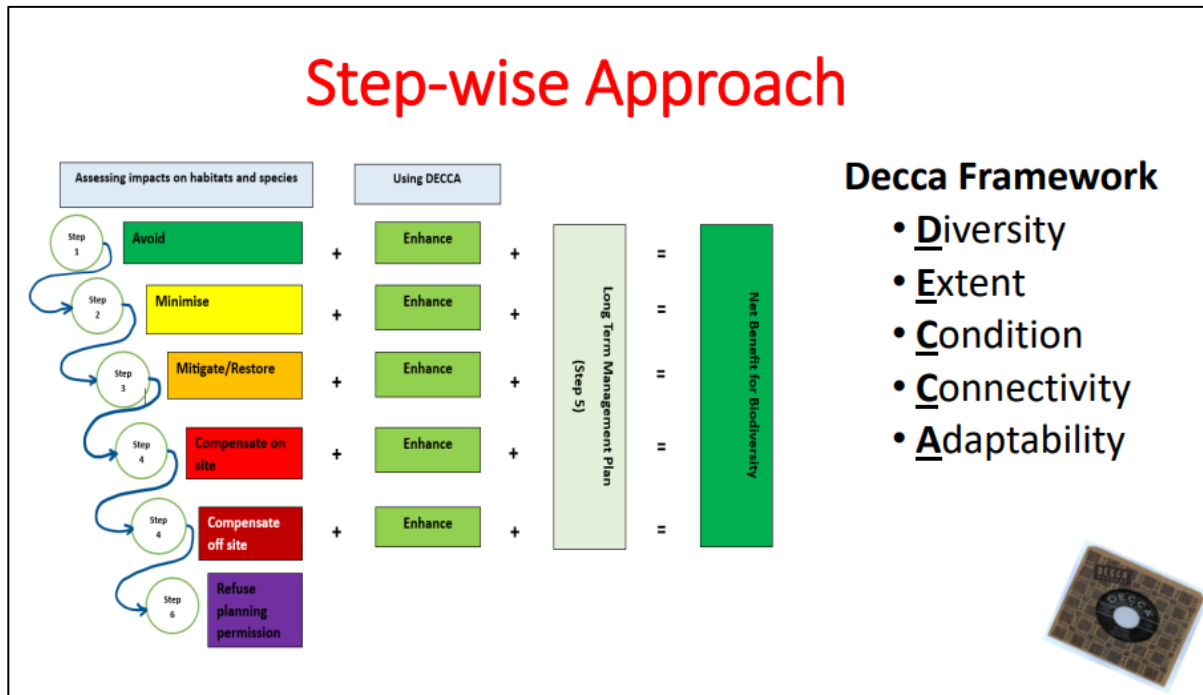


Figure 2.1 – The step-wise approach / DECCA framework to be adopted by authorities in Wales

- 2.14 PPW also requires developments to achieve a Net Benefit for Biodiversity (NBB):

*“Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a **net benefit for biodiversity**. In doing so planning authorities must also take account of and promote the resilience of ecosystems, in particular the follow aspects:*

- *diversity between and within ecosystems;*
- *the connections between and within ecosystems;*
- *the scale of ecosystems;*
- *the condition of ecosystems including their structure and functioning; and*
- *the adaptability of ecosystems.”*

- 2.15 There are several plans, strategies and national, sub-regional and local policy statements which provide a framework for development in the Plan area. The Planning and Compulsory Purchase Act (2004) makes it a requirement for local planning authorities in Wales to prepare a Local Development Plan (LDP) for their areas.

- 2.16 Wrexham County Borough Council prepared a Local Development Plan which was formally adopted in December 2023 and covers between 2013 and 2028 and supersedes any previous development plans for the area.

- 2.17 Policy SP14 of the Wrexham County Borough Council Adopted Local Development Plan 2013 – 2028, titled 'Natural Environment, states:

“Developers should consider the natural environment at the pre application stage and must seek to avoid impacting on wildlife features in line with the relevant statutory and non-statutory provisions, including maintaining or helping to achieve a protected species’ favourable conservation status. Developments should also seek to provide biodiversity enhancement, whatever the current level.”

3.0 Survey Results

Survey Methodology

- 3.1 An eDNA survey was undertaken on 5th May 2025 as per the recommendations of the Preliminary Ecological Appraisal (PEA) – see **Appendices I – II** for details.
- 3.2 To carry out the eDNA survey, a total of 20 water samples were taken from the pond to form the basis of a DNA sample. The samples were taken using a sterile ladle and emptied into a sterile self-supporting Whirl-Pak bag. All samples were taken from locations around the margins of each pond in areas which could be utilised by GCN for egg laying or displaying. Once all 20 samples were collected, the sterile self-supporting bag was shaken to mix any DNA across the whole pond sample. A sterile plastic pipette was used to transfer approximately 15.0 ml of the mixed pond sample water into a sterile conical tube. This was undertaken for each of the six sterile conical tubes in the kits. Each sterile conical tube(s) contained 35.0 ml of ethanol to preserve any DNA within the samples. The boxes of six sterile conical tubes were returned within 48 hours at ambient air temperature to the ADAS eDNA testing service for laboratory analysis. eDNA analysis by ADAS was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

Survey Results

- 3.3 See **Table 3.1** below for surveyor credentials, **Table 3.2** for climatic conditions on the date of survey, and **Table 3.3** for survey results and any constraints encountered during the survey effort. **Figure 3.1** shows the eDNA results following assessment of **Pond 1**. The raw data returned by ADAS is also provided as **Appendix II**.

Table 3.1 – Surveyor names

Name	Description of most relevant credentials
Mr. J. Hark Qualifying CIEEM	- Consultant Ecologist with a range of training and experiences, including within habitat management and invasive species control. - BSc (Hons) Wildlife Conservation & Ecology, MSc Wildlife Conservation. - Accredited agent on the Natural Resources Wales Bat Licence of Mrs. K. Wilding (S093795-1). - Accredited agent on the Natural England Great Crested Newt: CL08 Class 1 licence (2022-106040-CL08-GCN) of Mr. D. Burrows. - Meets the requirements of CIEEM's Competency Framework Section S (surveying) to Capable level.

Table 3.2 – Survey dates, times and weather conditions

Survey Number	Date	Weather Conditions
Survey 1 Pond 1	05/05/2025	Survey time: 10:00: Dry, Calm, 30% cloud cover, bright Start temp: 14.0 °C End temp: 14.0 °C

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Table 3.3 – Summary data from the survey with constraints

Pond 1							
Results							
Great Crested Newt (GCN)	Smooth Newt (SN)	Palmate Newt (PN)	SN / PN Female / Juvenile	GCN Egg(s)	Common Toad (CT)	Common Frog (CF)	GCN Present / Absent
0	0	0	0	0	0	0	Present
Constraints / Incidental Observations							
The surveyors were able to access 80% of the margin of the pond, and access was therefore not considered a limitation.							

Sample ID: ADAS-5177			
Client Identifier: P1 Stack Barn		Grid references/coordinates: 342333E, 345876N	
Description: pond water samples in preservative		Condition on Receipt: Medium Sediment	
Date of Receipt : 07/05/2025		Volume: Passed	
Determinant	Result	Method	Date of Analysis
Inhibition Control [†]	2 of 2	Real Time PCR	19/05/2025
Degradation Control [§]	Within limits	Real Time PCR	19/05/2025
Great Crested Newt*	9 of 12 (positive)	Real Time PCR	19/05/2025
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10 ⁻⁴ ng/μL) [‡]	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	20/05/2025	Date of issue:	20/05/2025

Figure 3.1 – Pond 2 eDNA results – ‘positive’

4.0 Impact Assessment

Summary

- 4.1 The DNA analysis of **Pond 1** within the radial boundary of Land at Mulsford Lane found evidence of GCN, with a '**Positive**' result returned from the laboratory for the pond, thus indicating the presence of this species within this pond. See **Figure 4.1** below for the location of the 'GCN Present' pond in relation to the red line boundary.



Figure 4.1 – Location of positive GCN eDNA ponds in relation to the proposed works area

- 4.2 **Pond 1** is located approximately 190m from the red line boundary; as such, the site is considered to be located within the 'Intermediate' habitat zone of the positive eDNA at P1. This indicates that the site lies within an area which could feasibly be used by GCN, but which is outside of the 'Core' habitat zone.

NB: *Research provides evidence that GCN are most likely to use terrestrial habitat within 100 metres of their breeding ponds, whilst the Great Crested Newt Method Statement for EPSML (Natural England) describes terrestrial habitat zones - the 50 metres range of any GCN pond is the 'Core' habitat zone and the area most likely to support newts in a lifetime; the area between 51-250m is the 'Intermediate' zone and 250m+ is the 'Distant' zone; impacts to these zones, from individual ponds, are considered by the ecologist; both permanent and temporary impacts are taken into account.*

Impact Assessment

- 4.3 The proposed planning application involves the construction of a single residential dwelling within the redline boundary. From analysis of the proposals, the entirety of the site (approximately 0.11ha) falls within the 'Intermediate' GCN zone. See **Figure 4.2** below for a

visual aid indicating the red line boundary in relation to buffer zones from the pond confirmed to host GCN.

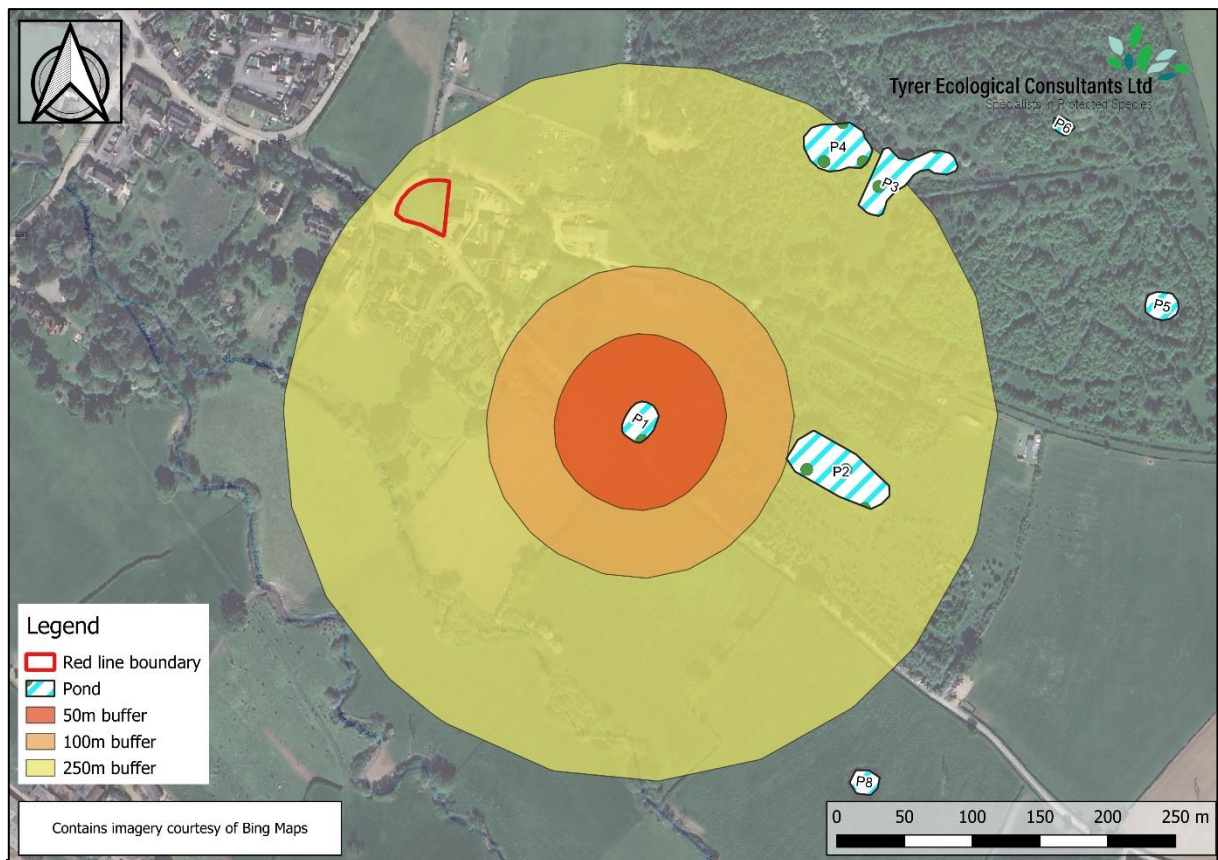


Figure 4.2 – Visual aid indicating the red line boundary in relation to positive eDNA pond buffer zones

- 4.4 Proposals will result in the loss of a modest area of modified grassland within the central area of the site.
- 4.5 Given the potentially suitable habitat located within the intermediate zone of the GCN positive pond, it is evident that in the absence of suitable mitigation, habitat loss and construction works within the intermediate zone could pose a risk of injury or death to GCN.
- 4.6 Notwithstanding the above, it is considered that the risk of GCN being present on site is decreased for several reasons. Firstly, the pond is located approximately 190m distant from the application site, and whilst commuting links through suitable habitat such as hedgerows and grassland are available for some of the area between the pond and application site, barriers to dispersal are also present, in the form of a large complex of farm buildings, hardstanding driveways and Mulsford Lane. It is considered unlikely that GCN would feasibly commute the 190m between the pond and the application site, which is considerably further than the 50m core zone within which commuting is generally considered likely and is, at least partially, considered wholly unsuitable conditions for GCN. Secondly, whilst the area to the west of P1, between the pond and the site, forms moderate value commuting and foraging habitat, the areas to the north and east of P1 constitute very high value GCN habitat, being formed of secondary deciduous woodland and scrub and hosting a further pond network, whilst not including the same dispersal barriers as previously mentioned. It is considered that GCN utilising P1 are significantly more likely to be present within the well connected eastern, high value habitats, than the moderate value, poorly connected habitats included within the site, 190m to the west.

- 4.7 Given all of the above, it is considered that impacts to GCN could feasibly be negated by the implementation of a robust Non-Licensed Method Statement (NLMS) to include a programme of Reasonable Avoidance Measures (RAMs), in accordance with guidance in relation to GCN, which states:

“Natural England is concerned about the trend for increasingly risk-averse mitigation for several reasons. Primarily, there is no legal need, and little benefit to great crested newt conservation, in undertaking mitigation where there are no offences through development. Even where there technically is an offence, such as the destruction of a small, distant area of resting place habitat, it is arguable that impacts beyond the core area often have little or no tangible impact on the viability of populations.”

- 4.8 In the absence of distinct guidance from Natural Resources Wales, this report has utilised guidance from Natural England to aid in the impact assessment and decision making in regards to the risk posed to GCN by the development.
- 4.9 To help inform this decision, the Natural England Rapid Risk Assessment tool, as extracted from the Natural England Mitigation Licence Method Statement, has been applied against the proposals to help form a quantitative impact assessment. The risk assessment should be considered as indicative only and not solely relied upon, as it considers worst case scenario outcomes.
- 4.10 See **Table 4.1** below, which has been filled in under the assumption that the pond supports breeding populations, and no NLMS including ECoW supervision and RAMs taking place during the proposals or habitat management. Where this the case, individual GCN could feasibly be at risk of death during habitat clearance within the ‘intermediate’ zone, without appropriate supervision or RAMs.

Table 4.1 – NE Rapid Risk Assessment tool (no ecological measures)

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Killing or injuring newts	0.8
Maximum:		0.8
Rapid risk assessment result:	RED: OFFENCE HIGHLY LIKELY	

- 4.11 The above indicates that, although proposals are limited to terrestrial habitat clearance within the ‘intermediate’ zone, in the absence of any ecological supervision they are of such a type, scale and location that an offence is highly likely. In this case, the GCN Method Statement tool provides the following advice:

"Red: offence highly likely" indicates that the development activities are of such a type, scale and location that an offence is highly likely. In this case, you should attempt to re-design the development location, layout, timing, methods or duration in order to avoid impacts (see Non-licensed avoidance measures tool), and re-run the risk assessment. You may also wish to run a site-specific risk assessment to check that this is a valid conclusion. If you cannot avoid the offences, then a licence should be applied for.

- 4.12 Therefore, under the proposed scenario of the enactment of a robust NLMS inclusive of site-specific RAMs, the risk to individual GCN would be lowered significantly; the Natural England Rapid Risk Assessment has been re-run with the changes applied and projects a different outcome (see **Table 4.2** below).

Table 4.2 – NE Rapid Risk Assessment tool (with NLMS / RAMs considered)

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	Minor disturbance of newts	0.5
Maximum:		0.5
Rapid risk assessment result:	AMBER: OFFENCE LIKELY	

- 4.13 Based on the application of a robust NLMS and RAMs approach, it is considered that the maximum impact upon GCN will be minor disturbance, and thus the RRA result is decreased to Amber. In this case, the GCN Method Statement tool provides the following advice:

"Amber: offence likely" indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see Non-licensed avoidance measures tool) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.

5.0 Conclusions & Recommendations

- 5.1 It is therefore determined that works can commence in the absence of a licence, but subject to a detailed NLMS, which includes suitably robust protocol to minimise and mitigate any risk to GCN within the area by defining specific working procedure, including equipment use, measures for facilitating the creation of the development, whilst safeguarding GCN (and other

amphibians); furthermore, as part of this strategy and in-line with the overarching principles of GCN conservation, enhancement options should be recommended to create better habitat than what is being lost to bolster the population within the area.

- 5.2 Likely avoidance measures have been addressed below in **Table 5.1**, with respect to varying impacts to GCN through the development stages (as extracted from the GCN Method Statement):

Table 5.1 – Site-specific avoidance and mitigation measures in relation to specific project elements

Location & Layout
(a) Locate site as far as possible from potential breeding ponds and high-quality terrestrial habitat. The site is positioned 190m from the confirmed GCN pond, thus within the “Intermediate Zone” for GCN. Repositioning the site would not be possible in the context of the proposed works; the site generally consists of low-moderate quality terrestrial habitat modified grassland and species-poor hedgerows. The hedgerows are indicated to be retained by the proposals and likely form the highest value habitat on site for GCN. Very high terrestrial habitat is positioned directly east of pond, none of which is due to be impacted by the small scale proposals. The scheme therefore is considered to have satisfied this recommendation as far as is possible in the context of the red line boundary.
(b) Locate in areas subject to high pre-existing fragmentation. The site is enclosed to the north by Mulsford Lane and to the north and west by the access track to the adjacent property, which itself encloses the site to the east, all of which are considered to pose minor barriers to GCN and which fragment the small areas of suitable habitat within the vicinity of the application site. The area which includes the application site and immediate surroundings is considerably more fragmented than the open, high quality habitat which is present immediately to the east of the site. It is therefore considered that GCN would be unlikely to commute towards the site, and if they were to commute in that direction, that the fragmentation coupled with the distance from the pond would likely prevent them reaching the application site. The site-surrounding habitat is therefore considered to be relatively fragmented, and the scheme will have minimal impact upon the ability of GCN to traverse the surrounding landscape.
(c) Locate on hard, compacted ground with few fissures. As discussed previously, the site is formed of modified grassland with a boundary hedgerow. It is therefore not possible to relocate the works into areas of hardstanding or compacted ground. As previously discussed, it is considered that the risk of GCN being present on site is low due to distance from the pond, barriers to dispersal and low quality habitat on site. It is considered that the low-level risk to individual GCN on site will be adequately mitigated through the NLMS.

d) Design layout so that any hard landscaping is as far as possible from ponds, with retained habitat and soft landscaping toward ponds.
No detailed landscaping has been submitted, however, the site plans indicate that the residence will be placed in the centre of the site, with retained/replaced modified grassland surrounding along with the inclusion of a limited level of tree/shrub planting, which will add additional vegetation structure to the site and potentially increase the suitability for GCN.
Timing & Duration
(a) Restricting works to the winter period (when newts are rarely active above ground) is sensible if the project would not harm hibernation habitat. Projects with temporary habitat disruption and reinstatement, such as some pipelines, could potentially be carried out without any licensable activity in this way.
Works to be restricted to the winter period as no habitat suitable for hibernation was found, and therefore potential risk to individual GCN can be greatly reduced.
(b) Keep duration of groundworks as short as possible.
The scheme will ensure that the duration of groundworks is minimised; see NLMS proposals below for indicative timings.
(c) Undertake during the day works that might only affect newts above ground.
All works likely to impact GCN will be undertaken during daylight hours and following an extensive pre-commencement check.
Construction Methods & Special Precautions
(a) Backfill trenches and other excavations before nightfall, or leave a ramp to allow newts to easily exit.
This approach will be followed with all trenches to be backfilled or a small ramp placed within to prevent newts from accessing and / or allowing them a means of escape; this will be outlined within the NLMS.
(b) Raise stored materials (that might act as temporary resting places) off the ground, e.g. on pallets.
All materials will be stored responsibly, raised on pallets or a suitable alternative, on areas of previously searched and cleared bare ground that provide no terrestrial suitability for GCN to prevent GCN seeking refuge within.
(c) For pipelines, use directional drilling to cross areas of core habitat and dispersal routes.
N/A
(d) Avoid installing structures that act as barriers close to ponds, or include gaps at ground level where walls or fences are unavoidable.
The scheme will not result in reduced connectivity between the confirmed GCN pond and further ponds within the network of waterbodies, as all are located further east, away from the development and within the areas of high-quality terrestrial habitat.

5.3 Other potential likely impacts have been discussed below following implementation of suitably robust and proportionate mitigation, with respect to varying impacts to GCN:

- **Kill risk, injury and disturbance risks through habitat clearance and land regrading** – Use of large machinery will be kept to a minimum within the site and will be restricted to areas of existing hard standing where possible. The vegetation to be lost will be kept to the minimum required level and will be subject to a graded cut using hand tools, with a fingertip search by a suitably qualified Ecological Clerk of Works (ECoW) conducted prior to and between each stage of the cut. The habitat to be lost is well outside of the “Core” habitat zone, and is generally of poor to moderate quality, thus does not represent a significant portion of the available foraging habitat within the context of the surrounding landscape. No potential refuge areas were identified within the area, however, should they be present, these will all be subject to careful dismantling by hand and moving of all material to areas where GCN will not be able to access (i.e. onto pallets or removed from site entirely), under the supervision of the attending ecologist. It is recommended that the vegetation removal and ground works are undertaken between February and October, when temperatures are >5°C, avoiding prolonged drought periods where activity levels reduce.
- **Long-term habitat loss** – the total footprint of the development is circa 0.11ha, located entirely within the intermediate zone, and is generally formed of poor-quality-moderate commuting and foraging habitat in the modified grassland and hedgerows. In the context of the terrestrial habitat available within the intermediate zone of the pond, the site itself is of negligible value, considering the extensive high value terrestrial habitat which is presented by the secondary woodland, pond network and carefully managed grassland which covers the majority of the northern and eastern portions of the intermediate zone, none of which will be impacted by the development. Notwithstanding this, the hedgerow surrounding the application site is to be retained, with minor loss to facilitate site access, and this feature is considered to be the greatest asset present within the site. It is considered that the development will not result in a significant loss of valuable GCN habitat and that opportunities for GCN in the landscape will not be lost.
- **Creation of excavations that can trap newts and other small animals** – These can be back filled at the end of each day, or a ramp can be installed at the end of each working day to allow newts or small animals a means of escape. Details for other impact avoidance measures can be included in the NLMS.
- **Construction work can kill newts; it can also create temporary habitats that might lure newts only to then cause death, injury** – The proposed site lies within the ‘intermediate’ zone of the positive GCN pond; the on-site habitats are considered reasonably unlikely to be utilised by GCN based on the degree of spatial separation, barriers to dispersal and extensive areas of more suitable GCN habitat to the north and east of the positive pond. To avoid the creation of temporary habitats through the storage of construction materials, it is recommended that materials are stored on areas bare earth or hardstanding and are placed upon pallets to lessen the number of crevice opportunities created and reduce the potential suitability for usage as a refuge location by GCN. Mounds of soil created by excavations should be compacted at the base to prevent the formation of crevice refuge opportunities. The creation of temporary waterbodies should be avoided by filling in trenches at the end of each day where possible, and where not possible these trenches should be fitted with ramps and given a search by the ECoW at the re-commencement of works.
- **Death of animals can lead to reduced breeding / recruitment; e.g. fewer young, maturing adults** – The measures stated above are deemed to be sufficient to safeguard individual newts, where it has been deemed possible that they are present

on-site. The loss of the small on-site modified grassland will have a negligible effect on the availability of suitable terrestrial habitat in the area.

- **Isolation / fragmentation** – will not occur given the degree of spatial separation, barriers to dispersal and availability of high-quality terrestrial habitat within the northern and eastern areas of the core and intermediate zones.

- 5.4 Any NLMS drafted should be subject to the approval of the local planning authority and could be secured by planning condition – following approval, adherence to the terms of the RAMs would be a requirement of the named authority and the applicant would be the liable party, with the Ecologist / ECoW acting for and on behalf of the applicant.
- 5.5 The applicant and all contractors would be aware that if at any stage GCN are encountered during works, or at any other stage of the work programme, works would be required to immediately cease and the Ecologist/ECoW be made aware as to provide further guidance if an Ecologist is not already present.

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Appendix I: *Land at Mulsford Lane, Worthenbury – Preliminary Ecological Appraisal* (Tyrer Ecological Consultants Ltd, July 2017)

Appendix II: *Environmental DNA (eDNA) raw data* (ADAS, Sample ID: ADAS-5177) (May 2025)