the ecology partnership

Great Crested Newt eDNA Survey

Munden Parva, Hertfordshire

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date. This report provides a snap shot of the species that were present at the time of the survey only.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 INTRODUCTION

1.1 The Ecology Partnership was commissioned by Cousins and Cousins to undertake an environmental DNA (eDNA) survey for Great Crested Newts (GCN) at Munden Parva, Hertfordshire, SG12 0PD.

1.2 There is one small raised ornamental pond within the site, and 4 ponds within 250m of the site (Figure 1). All ponds within 250m were subject to an eDNA survey, excluding the ornamental pond, which is small with very little aquatic vegetation and considered unsuitable for GCN.

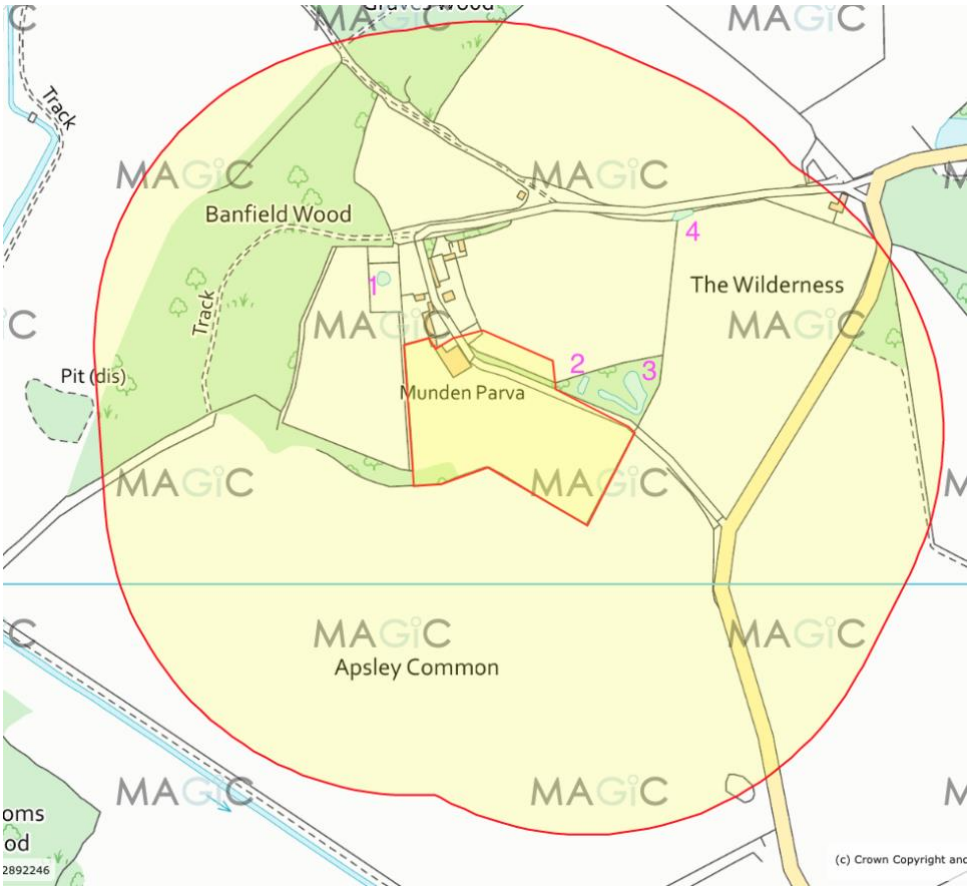

Figure 1: Ponds located within 250m of the red line boundary

1.3 The proposed development will impact small areas of grassland, scrub and amenity hedgerows.

Legislation

1.4 GCN are protected by the following relevant legislation: the Wildlife and Countryside Act (WCA) 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017.

1.5 Under the WCA 1981, it is an offence to:

- deliberately capture, injure or kill a great crested newt;
- deliberately disturb a great crested newt;
- damage or destroy a breeding site or resting place of any great crested newt;
- possess a great crested newt (alive or dead) or any part of a great crested newt.

2.0 METHODOLOGY

2.1 Ponds 1, 2, 3, and 4 were subject to an eDNA survey in April 2022. The survey involves collecting water samples from each pond, which are then sent for lab analysis to detect GCN eDNA. The water samples were analysed by SureScreen Scientifics in accordance with the protocol set out in Appendix 5 of Biggs et al. (2014).

3.0 RESULTS

3.1 Pond 1 returned positive for GCN eDNA with 11 of 12 replicates and ponds 2, 3 and 4 all returned negative (Appendix 1). As such, pond 1 is considered to support GCN and ponds 2, 3 and 4 do not support GCN.

3.2 The risk assessment tool has been utilised to help determine if a licence is required, although this is a general guide only. It is estimated that the proposed development will impact 0.025ha of amenity hedgerow and grassland within 100m of pond 1 (Figure 2). The risk assessment has determined that an offence is likely.

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.3
Land 100-250m from any breeding pond(s)	0.5 - 1 ha lost or damaged	0.3
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3
Rapid risk assessment result:	**AMBER: OFFENCE LIKELY**	

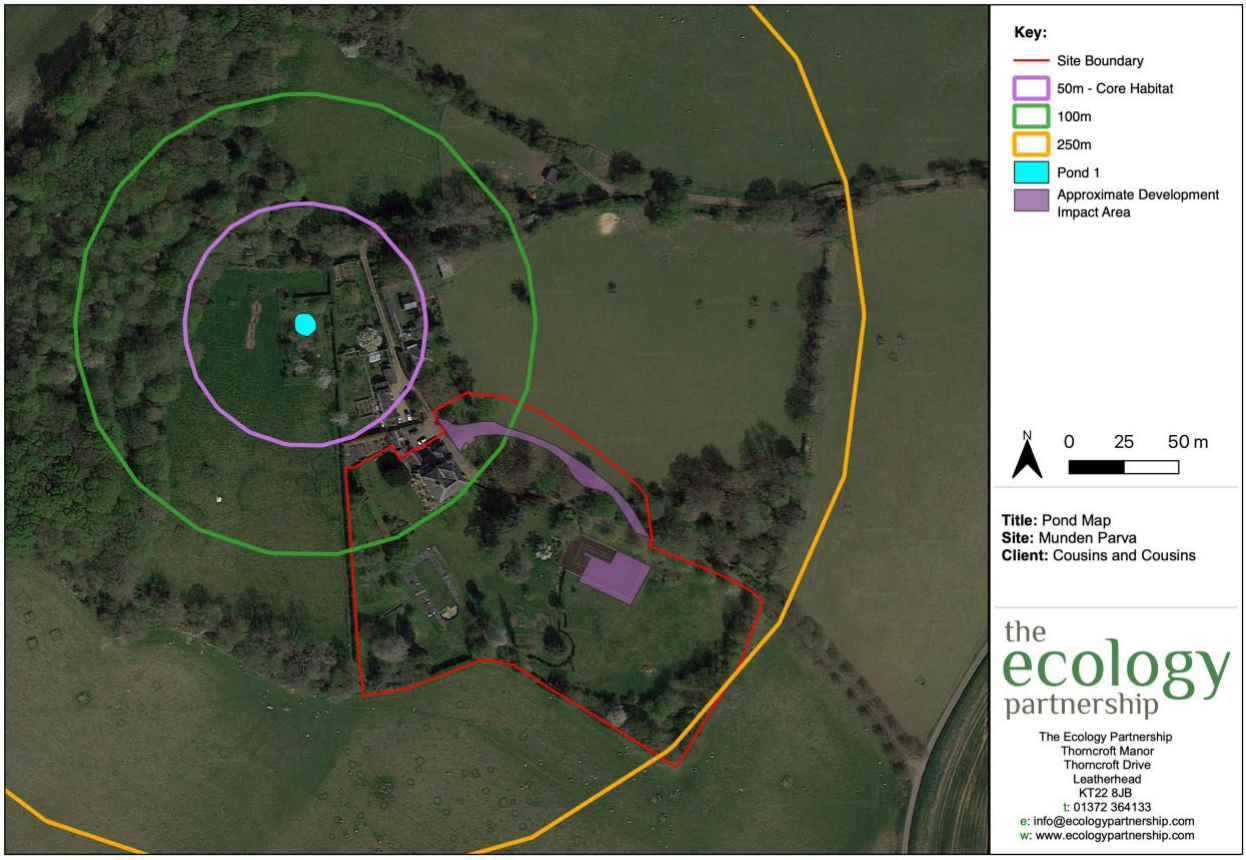

Figure 2: Pond 1 – Risk Assessment

3.3 The proposed development will result in the removal of small areas of grass, scrub and amenity hedgerows and the risk assessment has determined an offence is likely. However, the risk assessment is a general guide and given pond 1 is separated from the impacted habitat by the residential development and hardstanding, and the eDNA surveys identified that the ponds closer to the development do not support GCN, it is likely that the residential property and road between pond 1 is a dispersal barrier for GCN and the ponds. As such, with the limited habitat removal and GCN only being present in pond 1 located approximately 80m and separated by the dispersal barrier, it is recommended that Reasonable Avoidance Measures (RAMs) are undertaken to avoid killing and injuring individual GCN and other amphibians and animals. RAMs will minimise the risk of an offence being committed under Regulation 41 of the Conservation of Habitats and Species Regulations 2010.

3.4 The following RAMs should be employed throughout development:

- Habitat clearance should be overseen by an ecologist. Initially, the ground should be hand-searched by the ecologist for GCN. If the vegetation is tall and dense, then sensitive cutting with hand tools should be undertaken and overseen by the ecologist. Reducing the height of the vegetation will allow an additional more thorough hand search to be undertaken for GCN.
- If deemed suitable by the ecologist, the ground can be slowly stripped with a toothless bucket on an excavator. The removed sections of vegetation should be gently placed on the ground adjacent and checked by the ecologist before they are removed.
- The removal of rooted vegetation (hedgerows, trees and dense scrub) should **not** be undertaken during the GCN hibernation (November-March).
- Rooted vegetation should be removed after a thorough hand search by an ecologist. Once checked, the roots should be slowly removed with an excavator overseen by an ecologist. The root balls should be lifted slowly, intact and placed on the ground for further inspection by the ecologist for GCN.
- Prior to the commencement of works on site and after habitat clearance, the location of the proposed development and potential compound should be kept in a state that is unattractive to GCN and without potential refuge opportunities.
- Skips and pallets should be stored on hardstanding where possible and should be elevated off the ground. This is to ensure no features are created that GCN could potentially use as refugia.
- Where trenches and holes are dug, these should not be left open overnight. GCN (and other amphibians and small mammals) may get trapped in vertical-sided trenches. Therefore, where there is a risk of this occurring, the holes should be refilled or planks of wood should be placed so that any trapped animals may use these to escape. An ecologist should be contacted to remove any GCN that become trapped.

3.5 If a GCN is identified on site during works, then the following procedure must be followed;

- If a GCN is discovered at the site all works must cease immediately and Natural England and/or a GCN licenced ecologist must be contacted immediately to provide further advice.
- A licence might be required before works can recommence. If so, procedures will be followed to obtain a Natural England European Protected Species Mitigation Licence or the district level licence for the works (district level licences are not currently available within Herefordshire).

3.6 It is considered that if these methods are used on site then it is considered that no individual GCN would be harmed as a result of the proposals.

4.0 CONCLUSIONS

4.1 GCN utilise pond 1 located approximately 80m northwest of the proposed works and GCN are not present within the remaining ponds within 250m of the site. With the limited habitat removal, GCN not being present within the ponds closer to the proposed works and the distance of the pond that supports GCN with a dispersal barrier, it is recommended that Reasonable Avoidance Measures are undertaken to avoid killing and injuring individual GCN and other animals.

4.2 As an enhancement, it is recommended that the ponds within the client's ownership are enhanced to encourage GCN to these ponds and provide additional aquatic habitat. Trees or branches should be removed to allow sunlight to reach the ponds and encourage aquatic vegetation. Leaf litter within the ponds should also be removed. It is also recommended that the habitat around the ponds and within the proposed development is managed to provide suitable habitat for GCN. This includes providing tussocky grassland margins and native scrub planting.

4.3 It is also recommended that log piles are created for use as refugia by reptiles, amphibians, small mammals and invertebrates (Figure 3). These should be in a variety of locations, such as damp places with some situated in sunnier locations.

Figure 3: Log piles and hibernacula

5.0 REFERENCES

ARG., (2010) *UK Advice Note 5: Great crested newt habitat suitability index*. Amphibian and Reptile Groups of the United Kingdom.

English Nature (August 2001) Great crested newt mitigation guidelines.

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.

Internet resources: Google Maps: www.google.co.uk/maps

6.0 APPENDIX 1 – EDNA RESULTS

SureScreen Scientifics

Folio No: E13269
Report No: 1
Purchase Order: MP
Client: THE ECOLOGY PARTNERSHIP
Contact: Digby Hayden

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

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 analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 04/05/2022
Date Reported: 11/05/2022
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
0401	MP POND 2	TL 32606 22161	Pass	Pass	Pass	Negative	0
0402	MP POND 1	TL 32423 22253	Pass	Pass	Pass	Positive	11
0403	MP POND 4	TL 32670 22299	Pass	Pass	Pass	Negative	0
0404	MP POND 3	TL 32638 22166	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Esther Strafford **Approved by:** Chris Troth

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Date: 17/05/22