Great Crested Newt eDNA Survey

Land at Mercer Road, Horsham

The Ecology Partnership, Thorncroft Manor, Thorncroft Drive, Leatherhead, Surrey KT22 8JB

T +44 (0) 1372 364133 E info@ecologypartnership.com W ecologypartnership.com

Contents

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants 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 and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species maybe recorded.

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

Background

1.1 The Ecology Partnership was commissioned by Riverdale Developments Ltd to undertake a great crested newt (GCN) eDNA survey of ponds close to the site at Mercer Road, Warnham, Horsham, West Sussex, RH12 3RL.

1.2 This report presents the results of the eDNA survey, which aims to specifically determine the presence or likely absence of great crested newts within the ponds surveyed and inform a suitable mitigation strategy if presence is established.

1.3 Previous surveys conducted on site and records in the surrounding area are summarised in section 1. Section 2 of this report sets out the methodology of The Ecology Partnership's great crested newt surveys and the results of these surveys are found in section 3. These results are discussed in section 4 and conclusions are drawn in section 5 of this report.

Site Context and Status

1.4 The site is characterised by a number of fields, used as horse paddocks, with associated margins, the site is split into two separate parcels by Mercer Road. It totals c. 14.6ha. It is situated within a rural setting close to Warnham Railway Station, north of Horsham in West Sussex (central grid reference: TQ 17340 33825).

1.5 The aerial photograph below (Figure 1) shows the site and its immediate surroundings. The redline depicts the site boundary and the blue line the survey area.

Description of Proposed Development

1.6 The current proposals are for a new housing estate, associated access and landscaping.

Figure 1: Redline boundary of site.

Previous On-site Survey Work

1.7 A Preliminary Ecological Appraisal (PEA) was undertaken on 18th August 2020 by The Ecology Partnership. This included an assessment of both the habitats and protected species potential of the site.

1.8 The site was largely unchanged since the previous PEA in 2017, with the site mainly comprised of six fields of species-poor semi-improved grassland. The other habitats noted on-site included: hedgerows; hedgerows with trees; a running stream; areas of tall ruderals; dense scrub; deciduous woodland; three buildings / structures, and ponds.

1.9 A total of 8 ponds were found within a 250m radius of the site, with four of them located within the site itself (Figure 2).

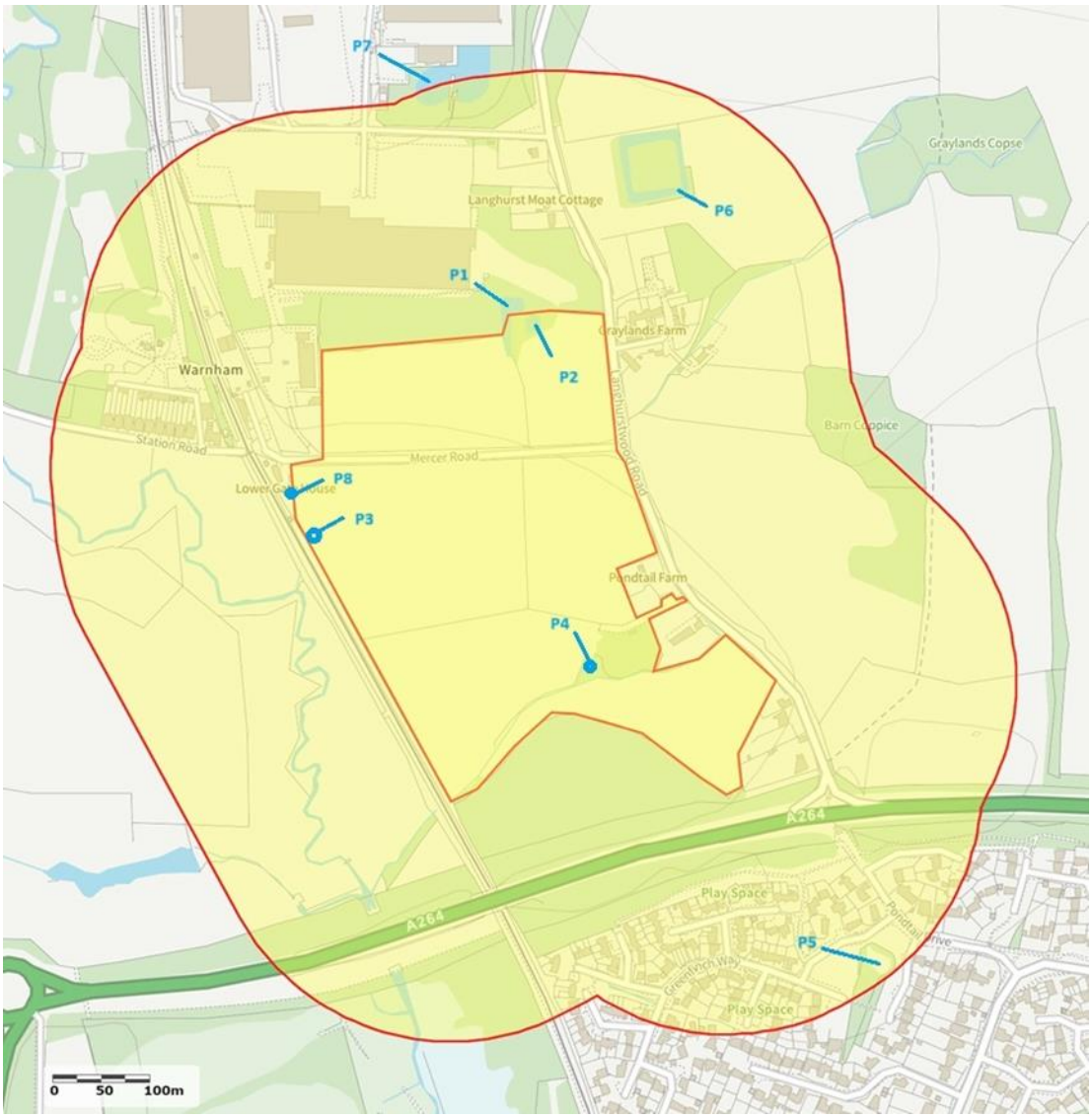

Figure 2: Ponds present around site.

1.10 The Ecology Partnership undertook eDNA surveys of ponds 1, 2, 3, 4, 5 and 8 in June 2017, all ponds tested negative for GCN presence indicating the likely absence of the species from the waterbodies. Ponds 6 and 7 were not surveyed at the time.

1.11 Further pond surveys were carried out between 04/04/2019 and 25/04/2019 on ponds 1, 2, 3, 4, 5 in order to determine presence/likely absence and, where applicable, approximate population sizes. Ponds 6 and 7 and another potential pond were situated outside the site boundary on private land. Access to survey the ponds was not granted. Pond 8 was not

surveyed in 2019; the pond was considered highly unsuitable for GCN owing to its small size and presence of fish.

1.12 Pond 5 was situated within a residential area and was openly accessible, bottle traps were not used to avoid the risk of vandalism. Netting, torching and egg searching were used instead. Pond 4 was bottle trapped only on survey visits 1 and 2, the water level was too shallow on surveys 3 and 4, netting was used instead on these surveys.

Table 1: Summary of great crested newt survey results (2017 and 2019)

Pond ref	2017 Survey	GCN detected?	2019 Survey	GCN detected?	HSI	Pond suitability	Eggs
1	eDNA	No	Pond survey	No	0.63	Average	No
2	eDNA	No	Pond survey	No	0.61	Average	No
3	eDNA	No	Pond survey	No	0.72	Good	No
4	eDNA	No	Pond survey	No	0.61	Average	No
5	eDNA	No	Pond survey	No	0.60	Average	No
8	eDNA	No	Not surveyed		0.33	Poor	

1.13 None of the surveyed waterbodies were found to contain GCN in either 2017 or 2019 surveys.

2.0 GCN eDNA Survey Methodology

2.1 Ponds 6 and 7 could not be accessed at the time of the survey, with access attempts denied. Pond 5, was considered to be a significant distance from site and was scoped out. It is noted that this has a significant barrier to dispersal for any amphibian in the form of the A264, along with ponds 6 and 7 which are also separated from site by roads and development. Ponds 3 and 4 were dried up so they could not be surveyed. However, Ponds 1, 2 and 8 were sampled on 25th June 2024, with access to pond 8 granted by the landowner. Water samples were taken by Alistair McNaughton BSc (Hons) and Finn Young BSc (Hons) acting as accredited agents. All samples were analysed by SureScreen Scientifics and were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (latest amendments).

2.2 All the surveys were undertaken in line with the GCN mitigation guidelines (Natural England 2001).

3.0 GCN eDNA Survey Results

3.1 The water sample analysis confirmed great crested newt **absence** within **ponds 1, 2 and 8**.

3.2 Full results and methods can be found in Appendix 1.

4.0 Discussion

4.1 Pond 5 was scoped out of the survey and access to ponds 6 and 7 was not possible. Access to survey pond 8 was granted. Ponds 3 and 4 were dried up at the time of the survey and could not be surveyed and were considered unsuitable to support breeding amphibians due to their temporary nature. eDNA surveys were undertaken on ponds 1, 2 and 8 in 2024. The results of which confirmed absence of GCN eDNA and as such likely absence of GCN within the ponds is confirmed.

4.2 Considering the extensive historical survey effort on site and at pond 8, all with negative results for the species, as well as barriers to dispersal to further offsite ponds, the site is not considered to support GCN and as such no further mitigation for the species is considered to be necessary.

5.0 Conclusions

5.1 The majority of the application site itself offers poor quality for great crested newts, consisting of grazed and mown fields, which offers no refuge and limited opportunities for the species. Suitable habitat is restricted to the site boundary hedgerows and treelines on site. These habitats are being maintained and enhanced as part of the proposals.

5.2 Ponds 1, 2 and 8 tested **negative** for GCN presence in 2024. Additional surveys conducted in 2017 did not identify the presence of GCN eDNA within any of the ponds tested and are supported by further full survey in 2019 again with likely absence confirmed. Considering the lack of evidence in both 2017, 2019 and 2024 the species are considered absent from site and no further recommendations are required.

References

Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A., Foster, J., Wilkinson, J., Arnett, A., Williams, P. & Dunn, F. (2014) *Analytical and methodological development for improved surveillance of the Great Crested Newt.* Defra Project WC1067. Freshwater Habitats Trust, Oxford.

Cresswell, W and Whitworth, R (2004) *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. Peterborough, UK

Franklin, P.S (1993) *The migratory ecology and terrestrial habitat preferences of the great crested newt (Triturus cristatus) at Little Wittenham Nature Reserve*. De Montford University unpublished thesis.

Gent, T. & Gibson, S. eds. (1998) *Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough.

HGBI (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practices and Lawful Standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs).* Herpetofauna Groups of Britain and Ireland, c/o Froglife, Halesworth.

Jehle, R (2000) *The terrestrial summer habitat of radio-tracked great crested newts (Triturus cristatus) and marbled newts (T. marmoratus)*. Herpetological Journal, 10, pp. 137-142.

Jehle, R. & Arntzen, J.W (2000) *Post-breeding migrations of newts with contrasting ecological requirements*. J. Zool., Lond., 251, pp. 297-306.

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), *Great Crested Newt Conservation Handbook*, Froglife, Halesworth.

Natural England (2001) *Great Crested Newt Mitigation Guidelines.* Natural England, Peterborough.

Oldham, R.S., Keeble, J., Swan, M.J.S. & Jeffcote, M. (2000) *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus).* Herpetological Journal, **10(4)**: 143-155.

Oldham, R.S. & Nicholson, M (1986) *Status and ecology of the warty newt Triturus cristatus*. Report to the Nature Conservancy Council (Contract HF 3/05/123), Peterborough.

The Ecology Partnership., (2018)., *Great Crested Newt eDNA Survey 2017 Land west of Langhurst Wood Road, Horsham*. The Ecology Partnership, Leatherhead.

The Ecology Partnership., (2018)., *Preliminary Ecological Appraisal Land west of Langhurst Wood Road, Horsham*. The Ecology Partnership, Leatherhead.

The Ecology Partnership., (2020)., *Preliminary Ecological Appraisal Land at Langhurst Wood Road, Horsham*. The Ecology Partnership, Leatherhead.

The Ecology Partnership (2024) *Preliminary Ecological Appraisal Land at Mercer Road, Horsham*. Leatherhead.

Internet sources:

Google Earth: www.earth.google.com

Magic Maps: www.magic.gov.uk

Appendix 1: Site Photographs

Photograph 1: Pond 1 at the time of the survey.	
Photograph 2: Pond 2 at the time of the survey.	

Photograph 3: Pond 3 at the time of the survey.	
Photograph 4: Pond 4 at the time of the survey.	

Photograph 5: Pond 8 at the time of the survey.	

Appendix 2: eDNA Results for Ponds 1, 2 & 8

Folio No: 2534-2024
Purchase Order: MSUS3230
Contact: The Ecology Partnership
Issue Date: 09.07.2024
Received Date: 27.06.2024

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
6657	Mercer Road, Pond 8	TQ1714633886	Pass	Pass	Negative	0/12
6659	Mercer Road, Pond 2	TQ1739634057	Pass	Pass	Negative	0/12
6661	Mercer Road, Pond 1	TQ1736434049	Pass	Pass	Negative	0/12

Matters affecting result: none

Reported by: Daisy Chambers

Approved by: Jennifer Higginbottom

SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE, UK
+44 (0)1332 292003 | scientifics@surescreen.com | surescreenscientifics.com

The Ecology Partnership Ltd

Thorncroft Manor

Thorncroft Drive

Leatherhead

KT22 8JB

Tel: 01372 364 133

www.ecologypartnership.com

Approved by: Alexia Tamblyn MA (Oxon) MSc CEcol CEnv MCIEEM FRGS,

Issued: 13/12/2024