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# PICKERINGS FARM PENWORTHAM GREAT CRESTED NEWT SURVEY REPORT

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## **APPENDICES**

APPENDIX A: eDNA History and Method

## **DRAWING**

G5060.Eco.PickeringsFarm.001 - Pond Location Plan

## 1.0 Introduction

- 1.1 TEP was commissioned by Taylor Wimpey North West and Homes England, in June 2017, to determine the presence or likely absence of great crested newts *Triturus cristatus* (GCN) in ponds on and within 500m of a site, known as Pickerings Farm in Penwortham.
- 1.2 Taylor Wimpey and Homes England are proposing a joint venture for the construction of a large-scale housing development with associated infrastructure and community facilities at the site.

### Description of Survey Area

- 1.3 The central grid reference of the survey area is SD 53329 25884 and the location of the survey area is shown in Figure 1 below. Hatched areas within the red line in Figure 1 represent land owned by third parties and these were not subject to surveys.
- 1.4 The survey area comprises pasture and arable fields bounded by hedgerows with residential housing and farm buildings and fragments of other habitats including woodland, scrub, grassland and water bodies. Existing residential development within Penwortham bounds the survey area to the north with Penwortham Way to the west, railway to the east and residential development along Chain House Lane to the south.

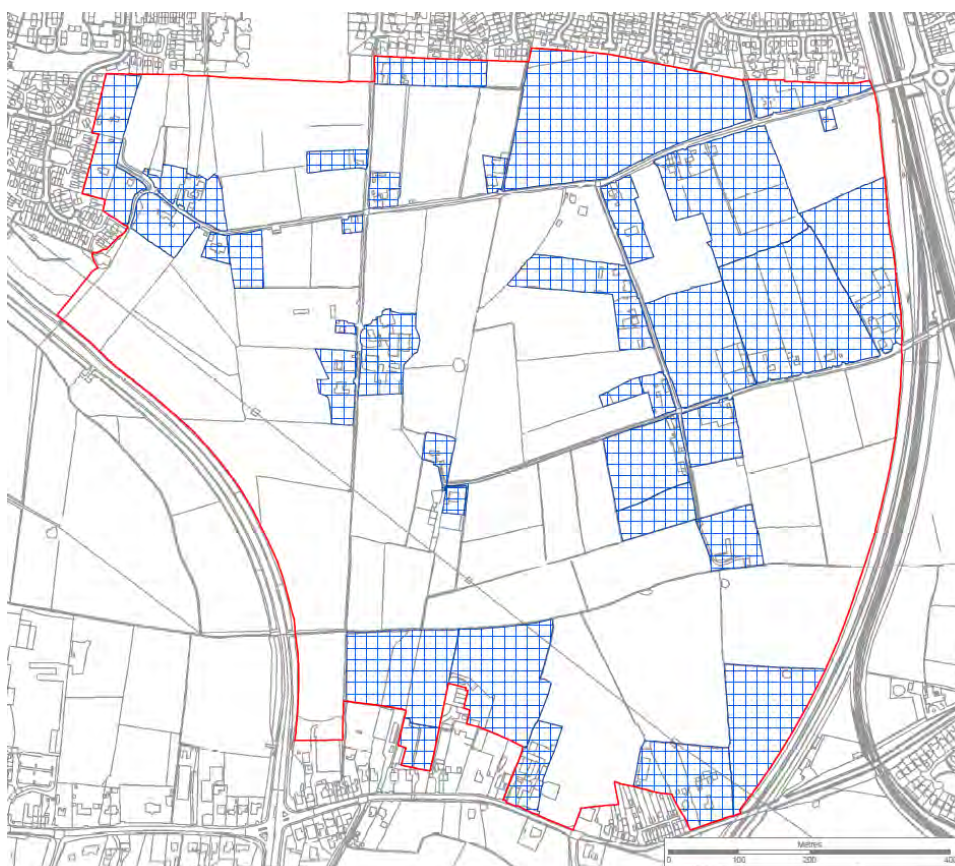


Figure 1: Survey Area Plan. Contains Ordnance Survey data © Crown copyright and database right 2018

### Suitability for Great Crested Newts

- 1.5 Ecology surveys were completed by TEP in 2014 and 2015 in connection with former site proposals. A review of the 2015 Pond Location Plan (TEP Ref: G5119.001) and aerial imagery of the site identified 21 ponds within 500m of the survey area. This includes eight ponds within the survey area itself. Six further ponds within the 500m radius were discounted as these are not connected to the survey area by potentially suitable terrestrial habitat (two ponds north east of the B5254 Leyland Road and four ponds south west of the A582 Penwortham Way).
- 1.6 The hedgerows and tree roots within the survey area provide some opportunities for sheltering amphibians, including GCN, with some connectivity to nearby aquatic habitat. The remaining land is arable or closely grazed grassland which is too exposed to be used by these species.

## 2.0 Methods

- 2.1 The GCN eDNA surveys of the selected 21 ponds were carried out by licensed surveyors Lee Moat (licence ref: WML-CL08 2015-16327-CLS-CLS) and Andrew Crone (licence ref: WML-CL08 2015-18548-CLS-CLS) on the 28th June 2017.
- 2.2 On 28th March 2014, DEFRA published a report (Biggs et al. 2014<sup>1</sup>) into the effectiveness of environmental DNA testing to detect GCN presence from samples of pond water. Shortly after publication of this report, Natural England European protected species (EPS) licensing department confirmed that they would accept quantitative Polymerase Chain Reaction (qPCR) analysis of eDNA from water samples as proof of presence or absence of GCN in a pond. Natural England also stated that sampling must take place between the 15th April and the 30th June and be undertaken by a licensed GCN surveyor.
- 2.3 The eDNA analysis technique does not provide a GCN population estimate and if GCN are present in a waterbody, and site proposals necessitate that a population estimate is required for Natural England licensing purposes, then six visits using traditional survey methods are required.
- 2.4 Further information on the reliability of this technique and the methods used can be found in Appendix 1.

### Limitations

- 2.5 Access was not granted to P3 within the survey area which is under third party ownership. It is understood that amphibian surveys have been completed of the pond in connection with other planning applications but these are not publicly available at the time of writing this report.
- 2.6 In addition access was not granted to six offsite ponds (P14-19). This is not considered to pose any significant constraint to the survey findings overall. Given the distance of P14-19 from the survey area, absence of any suitable water bodies for GCN across the intervening land, and absence of GCN in any waterbody in the survey area, it is unlikely that any GCN possibly present in P14-19 would use the terrestrial habitats in the survey area.

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<sup>1</sup> Biggs et al (2014). Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.






## 3.0 Results

- 3.1 No records of great crested newts were found within 1km of the survey area during the desk based assessment completed by TEP in June 2018 (Report Ref: 6900.007).
- 3.2 The results of the eDNA surveys are shown in Table 1 below and in Drawing G5060.Eco.PickeringsFarm.001.
- 3.3 Of the 21 ponds surveyed nine were found to be dry or no longer present (P1, P4, P5, P7, P10, P12, P13, P20 and P21). Access was not granted to seven ponds (P3 and P14-19).
- 3.4 All five ponds subject to eDNA surveys (P2, P6, P8, P9 and P11) were found to be negative which confirmed the likely absence of great crested newts.

*Table 1: eDNA survey results*

Pond Ref	Photograph/Description	eDNA result
1	Pond no longer present	
2		Negative
3	No access permission from landowner	
4	Dry	
5	Pond no longer present	

Pond Ref	Photograph/Description	eDNA result
6		Negative
7	Pond no longer present	
8		Negative
9		Negative
10	Pond no longer present	



Pond Ref	Photograph/Description	eDNA result
11	Pond within field margins at the end of a boundary ditch. No photo available.	Negative
12	Pond no longer present	
13	Pond no longer present	
14	No access permission from landowner	
15	No access permission from landowner	
16	No access permission from landowner	
17	No access permission from landowner	
18	No access permission from landowner	
19	No access permission from landowner	
20	Pond no longer present	
21	Dry	

## 4.0 Conclusions

- 4.1 No records of great crested newt were returned within 1km of the survey area during the desk based assessment.
- 4.2 Likely absence of great crested newts was confirmed in five ponds within the survey area and surrounding 500m through eDNA testing, with a further nine ponds being confirmed as dried out or not present.
- 4.3 Seven ponds were not accessible to survey and therefore likely absence of great crested newts cannot be confirmed in these waterbodies. Six of these are off site and one (Pond 3) falls within the survey area in third party land. Given the likely absence of great crested newts from other ponds within the survey area, and the lack of records locally, it is considered highly unlikely that this species would be present in Pond 3.
- 4.4 Therefore no impacts to great crested newts are anticipated as a result of the proposals.

## **APPENDIX A: eDNA History and Method**

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Add appendix content here.



## **Drawing**

G5060.Eco.PickeringsFarm.001 - Pond Location Plan



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