

Nick Beddoe MSc MRTPI
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Savills,
Kingston House,
Blackbrook Park Avenue,
Taunton TA1 2PX

28 April 2021

Dear Nick,

Re: DNS/3261558 Brynwell Farm Renewable Energy Hub

GE Consulting have been appointed by Brynwell Solar Farm Ltd. to assist them with remaining ecological matters on their planning application (DNS/3261558) at Brynwell Farm Renewable Energy Hub. This letter provides results of further ecological surveys in relation to the potential for off-site ponds to support great crested newt and is an addendum to the submitted Ecological Impact Assessment Report (1097-EcIA-REV1-RP, GE Consulting 2021).

Surveys have been undertaken further to a pre-application consultation response from Natural Resources Wales (NRW) (ref. CAS-132835-V2Y2 dated 29/01/21) which requested further information as follows;

Requirement: European Protected Species – further information is required to demonstrate that the proposal will not be detrimental to the maintenance of the favourable conservation status of Great Crested Newts (European Protected Species)

Methods

Habitat Suitability Index

A review of OS maps and aerial imagery identified six off-site water bodies within 500m of the Site boundary as shown in **Appendix 1**.

An assessment of each water body's suitability to support a breeding population of great crested newts (GCN) was made according to the criteria of the Habitat Suitability Index (HSI) (Oldham et al., 2000) following the methodology described in the ARG UK Guidance Note 5 (ARG UK 2010). The scores translate into a breeding suitability as shown in **Table 1**.

Table 1: Scoring system for GCN breeding suitability using HSI

HSI Score	Suitability for breeding GCN
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

Environmental DNA (eDNA) Survey

Ponds identified as suitable for water collection during the HSI assessment were sampled for eDNA. This method involved taking water samples from each water body within Natural England's accepted sampling period of 15 April to 30 June following the methodology described in the Defra Report WC1067 (Biggs et al. 2014a) and the subsequent Technical Advice Note (Biggs et al. 2014b).

Twenty 30ml water samples were taken from Pond 1 at Beggan Farm (see **Appendix 1** below) on 16/04/21 by Craig Stenson (Natural Resources Wales Great Crested Newt Licence holder), using sterile field equipment supplied by SureScreen Scientifics. Sample locations were selected based on accessibility and suitable GCN egg laying and displaying areas, with as much of the margin being sampled as possible. The surveyor wore sterile gloves whilst taking the sample and did not enter the water. The water column was mixed gently before taking the sample, with care taken not to disturb the sediment at the bottom of the pond. The samples were mixed and 15ml added to six sterile tubes containing 35ml ethanol.

Samples were stored overnight in a refrigerator and then sent to SureScreen Scientifics for analysis. The methodology for laboratory analysis can be provided by SureScreen Scientifics on request.

Results

No records of great crested newts within 2km of the Site were returned by the data search.

Pond 1 is the closest to the proposed development boundary and is 70m to the east of the Site adjacent to the farm buildings at Beggan's Farm. The pond was accessible and subject to HSI and eDNA survey.

Ponds 2, 3 and 4 were not ponds but small open areas along a small, shallow, watercourse (Nant Garw) enclosed by scrub, particularly bramble and blackthorn. These were not suitable to support GCN and therefore not subject to HSI or eDNA survey.

Ponds 5 and 6 (see **Appendix 1**) were not accessible for eDNA surveys in 2021. Landowner permissions were sought but not forthcoming. These ponds were previously accessed during 2020 (Ge Consulting 2020) and subject to HSI assessments. Pond 6 is located 220m to the west of the Site whilst Pond 5 is located approximately 350m west of the Site.

Results of the HSI assessments are provided below. Photographs of the ponds are provided in **Appendix 2**.

Habitat Suitability Index

Ponds 1 and 6 were assessed as having 'Average' suitability to support GCN and Pond 5 scored 'Below average'.

Environmental DNA (eDNA) Survey

Pond 1 returned a 'negative' test result following eDNA analysis. The eDNA analysis results are provided in **Appendix 3**.

Summary and Conclusions

The proposals will not directly impact upon any suitable GCN breeding habitat and the eDNA survey of Pond 1 has confirmed absence of the species from this pond which at 70m, is the closest to the proposed solar farm. Typically, the core GCN dispersal and foraging range around a breeding pond is recognised to be 250m. Pond 6 is approximately 220m to the west of Site and offered average suitability to support GCN and due to a lack of access was not subject to eDNA survey. Pond 5 (also not accessed for eDNA survey) is located some 350m from the Site boundary and therefore outside the core GCN dispersal and foraging range.

The dominant habitats across the Site (heavily grazed improved and marshy grassland) are of low suitability as amphibian habitat, with field boundary features such as hedgerows and higher quality habitats in the surrounding landscape including extensive swathes of broad-leaved woodland providing more suitable habitat for foraging, dispersal and overwintering. Therefore, it is considered highly unlikely that any GCN potentially supported by ponds 5 and 6 would disperse onto the Site during their terrestrial phase.

New grassland and hedgerow habitat, once established, will provide enhanced terrestrial habitats which will be suitable for amphibian species. The proposals will result in greater habitat structure through retained and enhanced buffers and gapping up of hedgerows increasing the value of the Site to amphibians. Habitats on Site will be managed throughout the operational life of the proposed development to maintain their habitat interest (i.e. to create botanically diverse grassland and hedgerows) in accordance with the LEMP.

If you would like to discuss any ecological matters relating to this project in any more detail I would be very happy to have a discussion to hopefully alleviate any remaining concerns.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'R. Pash', written in a cursive style.

Richard Pash BSc MCIEEM
Associate Director

Encl.

Appendix 1 – Pond Locations Plan

Appendix 2 – Photographs

Appendix 3 – eDNA Survey Results

Appendix 1 – Pond Locations Plan (Indicative Red Line Boundary)



Appendix 2 – Photographs

Pond number and description	Photograph
<p>Pond 1 – Beggan’s Farm pond. Approximately 70m east of Site boundary. Clay lined pond, 75% covered in emergent vegetation - particularly bulrush (reedmace), 20% of perimeter had open water (algal bloom present) suitable for sampling, landowner informed me it never dries out (1.5m + deep at centre), previously had fish but not seen for a few years/none observed during visit, abundant suitable GCN egg laying plants present (no folded leaves observed), abundant common frog tadpoles present, landowner said small newts use the pond, occasional use by ducks and moorhen reported by landowner, excellent surrounding terrestrial habitat, abundant aquatic invertebrates - water quality very good.</p>	
<p>Ponds 2, 3 and 4 – widenings of the Nant Garw minor watercourse – not suitable for GCN.</p>	

Pond number and description	Photograph
	 <p>The top photograph shows a narrow stream flowing through a grassy area with some bare branches. The bottom photograph shows a dense thicket of brown and green vegetation under a blue sky with white clouds.</p>
<p>Pond 5 – Below average suitability to support GCN. Approximately 350m west of the Site.</p>	 <p>The photograph shows a pond surrounded by dense green vegetation, including trees and bushes.</p>

Pond number and description	Photograph
<p>Pond 6 – Average suitability to support GCN. Approximately 220m west of the Site.</p>	 A photograph showing a pond or a cleared area surrounded by dense green trees and bushes. The ground in the center appears to be a mix of dirt and gravel. The vegetation is lush and green, suggesting a natural or semi-natural environment.

Appendix 3 – eDNA Results



Folio No: E9270
Report No: 1
Purchase Order: 1097
Client: GE CONSULTING
Contact: Richard Pash

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: 19/04/2021
Date Reported: 22/04/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
0736	POND 1 - BEGGANS FARM	ST 14810 74683	Pass	Pass	Pass	Negative	0

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

Reported by: Chris Troth

Approved by: Gabriela Danickova

