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Ecological Surveys • Habitat Management • Arboricultural Surveys • Vegetation Clearance

Ecological Impact Assessment: Great Crested Newts

**America Farm, Warmington
[NGR: TL10960 90680]**

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On behalf of: Bletsoes

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Contents

1.0 Executive Summary	4
2.0 Introduction and Terms of Reference	5
3.0 Site Location	6
4.0 Legislation and Policy	7
5.0 Methodology	10
6.0 Results	11
7.0 Conclusions	13
8.0 References	14
9.0 Photographs	16
10.0 Appendices	17

Tables

Table One: Conclusions
Table Two: Habitat Suitability Index (HSI) scores
Table Three: Key to HSI Scores
Table Four: Phase 2 GCN Surveys – Survey Conditions
Table Five: Phase 2 GCN Survey Results

Appendices

Appendix One: Location Plan – Ponds
Appendix Two: Habitat Plan
Appendix Three: Enhancements/Mitigation

1.0 Executive Summary

Greenwillows Associates Ltd. was commissioned to conduct an ecological appraisal of two buildings and associated land at America Farm near Warmington. The area surveyed is referred to as ‘the site’ for the purposes of this report.

The site was assessed as being suitable to support great crested newts due to the aquatic habitats present within the zone of influence and some of the suitable terrestrial habitat present onsite. For full details of the appraisal, see Preliminary Ecological Appraisal Report - America Farm, Warmington (Wright and Bushnell 2021).

Phase 2 eDNA surveys carried out in June 2021 showed evidence of great crested newts being present within the potential zone of influence of the working areas.

1.2 Essential Evidence, Conclusions and Recommendations

1.2.1 General Site Description

The site comprises a large, unused, agricultural barn and a smaller barn currently used as storage/workspaces. The surrounding habitat predominantly consists of hardstanding and improved grassland with some patches of tall ruderal vegetation and spoil/rubble piles (TN1 – TN4).

Table One: Conclusions

Potential Receptor	Conclusions/Recommendations
<p>Great Crested Newts</p>	<p>There are two ponds within the zone of influence; Pond 1 was assessed with the HSI index as having ‘good’ potential to support great crested newts and was subject to further eDNA testing.</p> <p>The eDNA test was positive for the presence of great crested newts in Pond 1.</p> <p>Pond 2 was identified during the Phase 1 survey, and was assessed, from the condition and levels during the survey and from anecdotal evidence from the landowner, that the pond is seasonally wet. At the time of the survey the water level was significantly low and heavily utilised by cattle. These sub-optimal conditions, together with a low HSI score meant it was not viable for further surveying.</p> <p>The general terrestrial habitats within the site offer little in the way of suitable habitat for newts, with the rubble/spoil mounds (TN1 – TN4) within the working areas offering low potential in supporting resting/sheltering newts.</p> <p>Works pose a minor risk of injuring/killing individuals and destroying a resting/sheltering place. Therefore, works will be carried out using reasonable precautionary methods.</p>

2.0 Introduction and Terms of Reference

Greenwillows Associates Ltd was commissioned to undertake a Preliminary Ecological Appraisal Report of two buildings and the associated area of land at America Farm, Warmington. This was to support a planning application for the construction proposals relating to the conversion of two agricultural barns into three residential dwellings, although the exact proposals have not yet been finalised.

2.1 The contents of this Ecological Impact Assessment Report should be read in conjunction with the findings of the Preliminary Ecological Appraisal Report (Wright and Bushnell, 2021).

2.2 The Preliminary Ecological Appraisal noted that:

“One pond (P1) was identified within 250m of the site during the desk study, during the survey an additional waterbody (P2) was also noted adjacent to the site. P1, 110m north-west of the site, was assessed as having ‘Good’ suitability for supporting great crested newts.”

“The water level of P2, 27m west, was significantly low during the survey, with a distinct lack of aquatic vegetation and used frequently by cattle present in the field, therefore, conditions were considered sub-optimal to support great crested newts, thus, scoring ‘Low’ in suitability.”

“The HSI scores were considered along with the suitability of the terrestrial habitats within the working areas, which are considered substandard, due to the mainly arable nature of the surrounding habitats with a lack of suitable connecting habitat between P1 and the site. However, the above average HSI of Pond 1 would indicate further surveying is required.”

2.3 The following recommendations were made:

“It is recommended that a Phase 2 eDNA survey for great crested newts is carried out on the waterbody (P1) found within the zone of influence in order to confirm the presence/absence of great crested newts.”

2.4 This report outlines the methodology employed to undertake the surveys, results obtained and a discussion of the implications arising there from.

3.0 Site Location

The site is situated off Morborne Road, Warmington, Cambridgeshire, PE8 6UP [NGR: TL10960 90680]

4.0 Legislation and Policy

4.1 Statutory Legislation

The Conservation of Habitats and Species Regulations 2017, or the ‘Habitat Regulations 2017’, transposes European Directives into English and Welsh legislation. This has recently been amended to the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) which continues the same provision for European Protected Species after Brexit. Under these regulations, wild animals of a European Protected Species and their breeding sites or resting places are protected. It is an offence to deliberately capture, injure or kill any such wild animal and, in the case of great crested newts, deliberately take or destroy their eggs. It is also an offence to deliberately damage or destroy a breeding site or resting place of any such wild animal.

Wild animals of a European Protected Species are protected from disturbance. Disturbance of such wild animals includes in particular any disturbance which is likely:

(a) To impair their ability:

- *to survive, to breed or reproduce, or to rear or nurture their young; or*
- *in the case of animals of a hibernating or migratory species, to hibernate or migrate, or*

(b) To affect significantly the local distribution or abundance of the species to which they belong.

Certain species of animal are protected under the Wildlife and Countryside Act 1981 (as amended) by being included in Schedule 5 in respect of certain offences under Section 9. Such offences include:

9(1) Intentional killing, injuring or taking of a Schedule 5 animal,

9(4a) Damage to, destruction of, obstruction of access to any structure or place used by a Schedule 5 animal for shelter or protection,

9(4b) Disturbance of a Schedule 5 animal occupying such a structure or place.

4.2 Planning Policy

The National Planning Policy Framework relating to biodiversity (NPPF) is both guidance for local governing authorities on the content of their Local Plans and material consideration in determining planning applications. The NPPF has replaced much existing planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. However, the government circular 06/05: ‘Biodiversity and Geological Conservation-Statutory Obligations and their impact within the Planning System’, which accompanied PPS9, remains valid.

The NPPF places much emphasis on sustainable development and the need for the planning system to perform a number of roles including ‘improving biodiversity’ by protection of designated sites, priority habitats and priority species, ancient woodland and veteran trees.

The NPPF places more emphasis on ecological networks and their creation and states that the planning system should:

- Avoid, mitigate and compensate for significant harm to biodiversity and protect Sites of Special Scientific Interest and irreplaceable habitats such as ancient woodland.
- Provide a net gain for biodiversity wherever possible and contribute to the Government’s commitment to halt the loss of biodiversity.

4.3 Notable Species and Habitats

4.3.1 The UK Biodiversity Action Plan (UK BAP) was drafted for ‘Priority’ species and habitats in which specific conservation targets were set and are regularly reviewed. UK BAP features do not receive any legal protection *per se* but have biodiversity value within a national context. The UK BAP also serves as a framework for local biodiversity conservation efforts. UK BAP priority species and habitats were those that were identified as being the most threatened and requiring conservation action under the UK BAP. The original lists of UK BAP priority species and habitats were created between 1995 and 1999, and were subsequently updated in 2007, following a 2-year review of UK BAP processes and priorities, which included a review of the UK priority species and habitats lists. As a result of new drivers and requirements, the ‘UK Post-2010 Biodiversity Framework’, published in July 2012, has now succeeded the UK BAP. The UK BAP lists of priority species and habitats remain, however, important and valuable reference sources. Notably, they have been used to help draw up statutory lists of priorities in England and BAP species and habitats are still referred to at a local level (JNCC, 2013).

4.3.2 The Natural Environment and Rural Communities (NERC) Act 2006: Section 41 of The NERC Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

4.3.3 The Section 41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of The NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

4.3.4 Section 17 of The Crime and Disorder Act (1998) places a duty on the local authority to *inter alia* “exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent, crime in its area”; this includes prevention of wildlife crime.

4.3.5 The North Northamptonshire Joint Core Strategy 2011 – 2031:

Policy 4 – Biodiversity and Geodiversity

“A net gain in biodiversity will be sought and features of geological interest will be protected and enhanced through:

- a) Protecting existing biodiversity and geodiversity assets by:
 - i. Refusing development proposals where significant harm to an asset cannot be avoided, mitigated or, as a last resort, compensated. The weight accorded to an asset will reflect its status in the hierarchy of biodiversity and geodiversity designations;
 - ii. Protecting key assets for wildlife and geology, in particular the Upper Nene Valley Gravel Pits Special Protection Area and Ramsar Site, from unacceptable levels of access and managing pressures for access to and disturbance of sensitive habitats;
 - iii. Protecting the natural environment from adverse effects from noise, air and light pollution;
 - iv. Where appropriate requiring developments to provide or contribute to alternative green infrastructure (Policy 19); and
 - v. Ensuring that habitats are managed in an ecologically appropriate manner.
- b) Enhancing ecological networks by managing development and investment to:
 - i. Reverse the decline in biodiversity and restore the ecological network at a landscape scale in the Nene Valley Nature Improvement Area (NIA);
 - ii. Reverse habitat fragmentation and increase connectivity of habitats where possible by structuring and locating biodiversity gain in such a way as to enlarge and/or connect to existing biodiversity assets such as wildlife corridors;
 - iii. Preserve, restore and create priority and other natural and semi-natural habitats within and adjacent to development schemes.
- c) Supporting, through developer contributions or development design, the protection and recovery of priority habitats and species linked to national and local targets. Such measures could include the retention of, and provision of areas of open green space, and hard and soft landscaping to address habitat and visitor management.

5.0 Methodology

5.1 Field Surveys

5.1.1 Extended Phase 1 Habitat Survey

The initial walkover of the site was undertaken on 26th April 2021 by Hannah Bushnell and Dominic Wright, based on the JNCC (2010) Phase 1 Habitat Survey Guidelines.

The Phase 1 Survey was extended to include a search for signs of protected, principal importance and biodiversity priority action plan species and an assessment of the habitats present for their likelihood to support such species.

5.1.2 Phase 2 – Great Crested Newt eDNA Surveys

Phase 2 great crested newt eDNA surveys were undertaken on one of the ponds within the zone of influence of the proposed works, (Pond 1), identified on the initial walkover. Robert Steel (2016-26005-CLS-CLS) and Judy Stroud undertook eDNA sampling of Pond 1 on the 3rd June 2021. The samples were taken from the waterbody and were submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Biggs et al., 2014).

When great crested newts inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. Analysis of pond water samples for these small environmental DNA (eDNA) traces can be undertaken to confirm great crested newt habitation or establish great crested newt absence.

5.1.3 Constraints and Survey Limitations

There were no constraints specific to the survey site but generally, surveys only provide a 'snap-shot' of information temporally and spatially from which behaviour can be extrapolated to make an ecological evaluation. Ecological conditions can vary on a yearly and seasonal basis.

6.0 Results

6.1 Preliminary Walkover

The site is largely improved grassland, hardstanding and buildings which are generally considered as sub-optimal habitats for great crested newts. However, there is some suitable terrestrial habitat present, particularly within the rubble piles (TN1 – TN4) to the south of the larger barn (S1). Two ponds were identified within 250m of the site and of these, Pond 1 was found to be of suitable aquatic habitat to support great crested newts. This pond was recommended for further eDNA surveys due to its suitability and proximity to the proposed working areas, being approximately 110m north-west of the site. Pond 2 was scoped out of further eDNA surveying due to its use as a dew pond for cattle and very regular drying, together with its poor HSI score.

There is limited suitable connective habitat between Pond 1 and the site, as the landscape is predominantly arable and improved grassland which do not provide much cover or potential for foraging/commuting newts.

The ponds were assessed using the habitat suitability index and the HSI scores are presented in Table Two below, along with the HSI score interpretation in Table Three.

Of the ponds proximal to the site, Pond 1 was assessed as ‘good’, and Pond 2 was assessed as ‘poor’.

Table Two: Habitat Suitability Index (HSI) scores

SI Description	P1	P2
Location	1	1
Pond area	0.55	0.05
Pond drying	0.5	0.1
Water quality	0.67	0.67
Shade	1	1
Fowl	0.67	0.67
Fish	1	1
Ponds	1	1
Terrestrial habitat	0.33	0.33
Macrophytes	0.9	0.35
HSI Score	0.72	0.41

Table Three: Key to HSI Scores

HSI Score	Pond Suitability
< 0.50	Poor
0.50 – 0.59	Below average
0.60 – 0.69	Average
0.70 – 0.79	Good
> 0.80	Excellent

6.2 Phase 2 - Great Crested Newt eDNA Surveys

Environmental DNA surveys were conducted on Pond 1 (P1) which showed evidence for great crested newts being present. The following table provides a summary of the results.

Table Four: eDNA Survey Results

Waterbody Reference	Result	Positive Replicates
P1	Positive	3/12

7.0 Conclusions

7.1 The eDNA surveys results found evidence for great crested newts within Pond 1 which is located approximately 110m north-west of the site.

There is some suitable habitat present within the site, particularly the hibernaculum potential within the piles of rubble/spoil mounds (TN1 & TN2) and piles of loose bricks/tiles (TN3 – TN4) that were present during the initial ecological appraisal. These are located approximately 145m from Pond 1.

There is a distinct lack of connectivity between the pond and site, with sub-optimal foraging/commuting space as the habitat is open arable and improved grassland primarily in between them, the site is also located on top of a hill, likely offering more exposed and drier conditions, with more suitable habitat located to the north of the pond where trees/woodland and a connecting hedgerow can be found. The onsite habitats in comparison to the abundantly more suitable woodland habitat poses a significant disincentive for migrating newts to venture into, particularly as newts tend to favour migration routes characterised by high soil moisture (Kupfer 1996). Malmgren, (2002) has documented a migratory preference towards adjacent woodland - a likely aestivation and hibernation site as Jehle, Thiesmaster and Foster (2011) note. Additionally, "research sponsored by Natural England has shown that most newts within terrestrial capture programmes are found within 50 metres of the pond with few animals captured at distances greater than 100 metres (Cresswell and Whitworth 2004). "

It has, therefore, been assessed that the works pose a minor risk of killing/injuring great crested newts, including any resting/sheltering individuals that may be utilising the onsite habitats and to foraging/commuting individuals that may fall into any open trenches/pits that are created during the works, if left open overnight.

The great crested newt is a European Protected species and is therefore considered to be of international importance.

7.2 Recommendations

Works will be undertaken using reasonable precautionary methods. If works involve the removal of features identified as having some potential to support resting/sheltering newts (TN1 – TN4), they will be removed sensitively, by hand and under supervision of a licensed ecologist. If any great crested newts are encountered during any part of the works, works must cease immediately, and an ecologist consulted.

As enhancement for the site, it is also recommended, a hibernacula/log pile is created either within the site or wider site to provide sheltering habitat for great crested newts and other wildlife (see Appendix Three).

Following mitigation and enhancement measures, the residual impact is assessed as neutral.

8.0 References

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UK Biodiversity Action Plan. www.ukbap.org.uk

Bushnell and Wright (2021) Preliminary Ecological Appraisal Report – America Farm, Warmington. Greenwillows Associates.

9.0 Photographs



Pond 1.



Pond 2.



Rubble/spoil mound – TN1



Spoil mound – TN2.



Loose bricks – TN3.



Piled roof tiles - TN4.

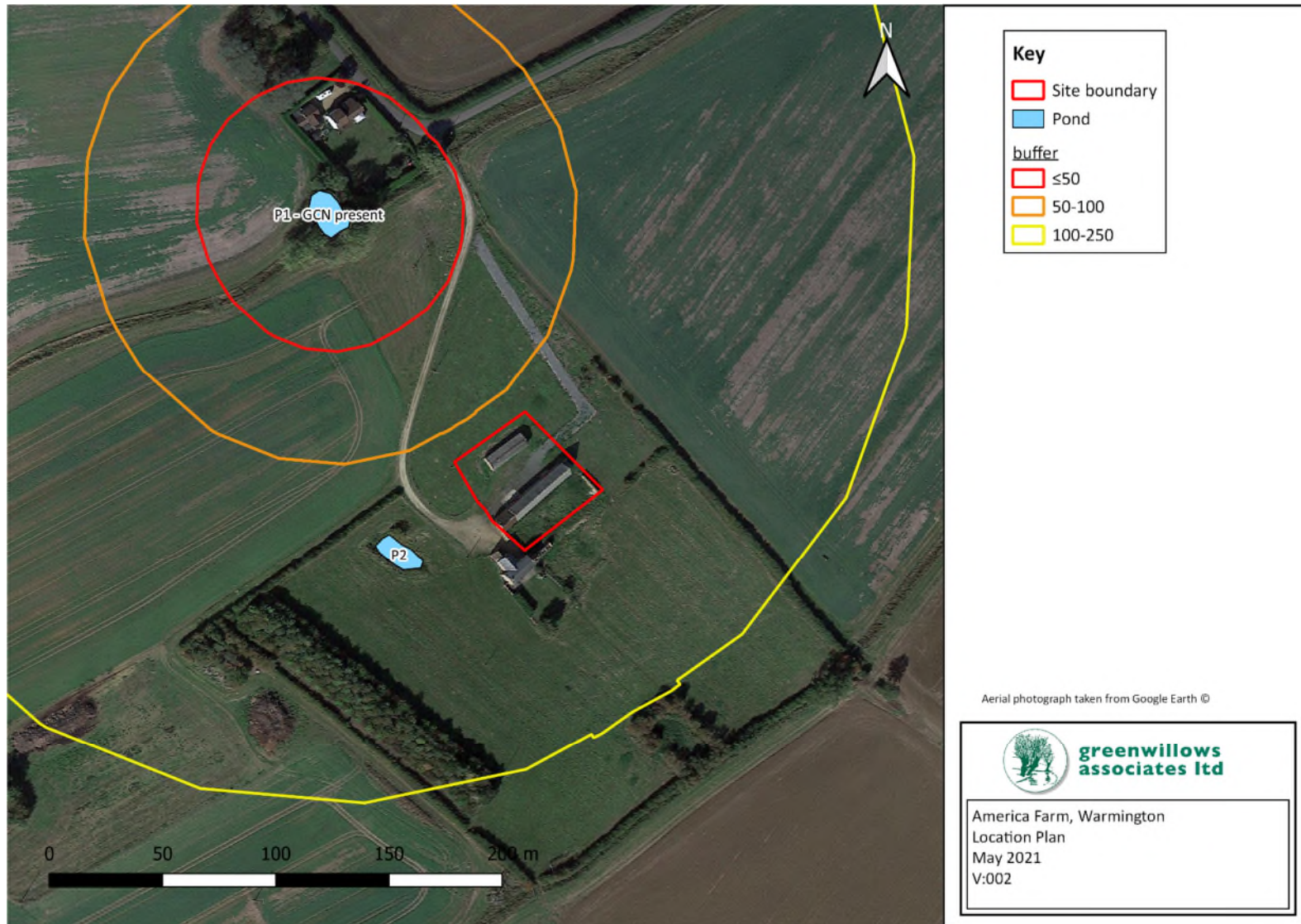
10.0 Appendices

Appendix One: Location Plan – Ponds

Appendix Two: Habitat Plan

Appendix Three: Enhancements/Mitigation

Appendix One: Location Plan - Ponds

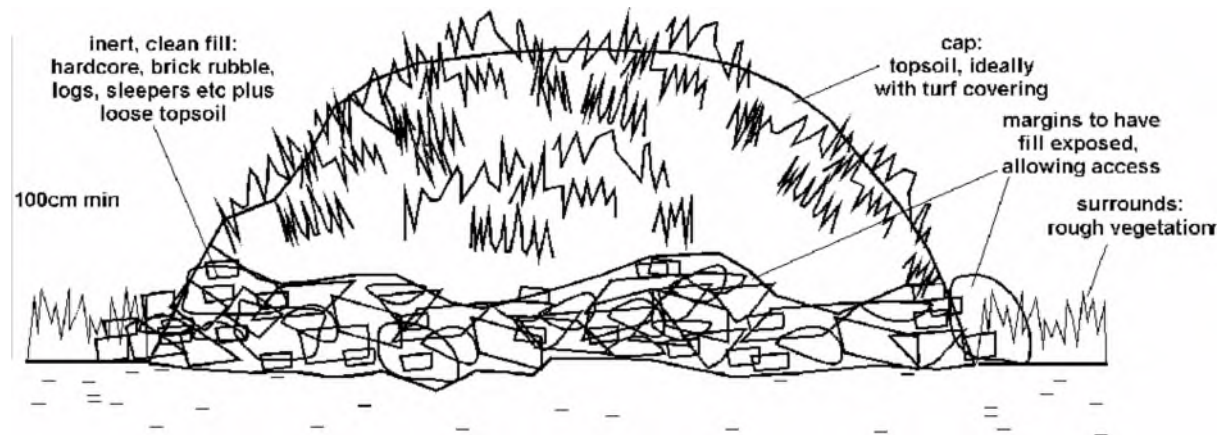


Appendix Two: Habitat Plan



Appendix Three: Enhancement/Mitigation

Amphibians



Example hibernaculum. A hibernacula or log pile will be created within the site or wider site. A hibernaculum should be 1m high x 3m long x 2m wide and be made of the materials shown in the diagram above. See log pile below.

