PAP/2025/0155



# GREAT CRESTED NEWT PRESENCE / ABSENCE (eDNA) SURVEY REPORT

LAND NORTH OF ORTON ROAD, WARTON, TAMWORTH, NR B79 0JG

ON BEHALF OF

MICHAEL ENSOR CATON & ANDREW NORMAN CATON C/O RICHBOROUGH

**JUNE 2025** 

**V1** 

BIODIVERSITY
LANDSCAPE
ARBORICULTURE
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ECOLOGY

| Report Data     |  |  |  |  |
|-----------------|--|--|--|--|
| Title           | Great Crested Newt Presence / Absence (eDNA) Survey Report |  |  |  |
| Site Address    | Land off Orton Road, Warton, Tamworth, Nr B79 0JG          |  |  |  |
| Client          | Michael Ensor Caton & Andrew Norman Caton c/o Richborough  |  |  |  |
| BLADE Reference | 108-E-RP-PL-1831GES  |  |  |  |

| Version | Author                      | Date Issued |
|---------|-----------------------------|-------------|
| V1      | E. Seaton BSc (Hons) MCIEEM | 6 June 2025 |

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# 1.0 INTRODUCTION

## Background to the Development

- 1.1 BLADE Ecology Ltd. was commissioned by Michael Ensor Caton & Andrew Norman Caton c/o Richborough to undertake an eDNA survey at the land north of Orton Road, Warton (centred on Ordnance Survey grid reference SK 279 033).
- 1.2 The site is 6.37ha in area and comprises arable land, a pond associated with willow scrub and developed land. Species-rich hedgerows form the boundaries of the site
- 1.3 The application site boundary is shown in Figure 1.



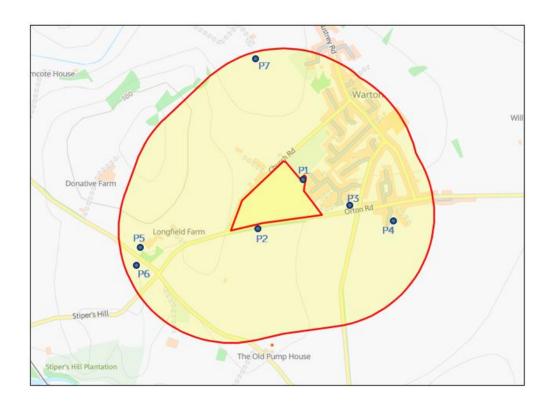
Figure 1: Application Site Boundary

- 1.4 Planning consent is being sought from North Warwickshire Borough Council for 'outline planning for the construction of up to 110 dwellings, with access, landscaping, sustainable drainage features, and associated infrastructure. All matters are reserved except for primary vehicular access from Church Road'
- 1.5 This report has been based on the Framework Plan (RG-M-Ai02, Revision M) produced by Stantec.

#### **Survey Objectives**

- 1.6 The objectives of the survey were to:
  - Establish the presence/absence of great crested newts within ponds within 250m of the application site.

- Identify appropriate avoidance, mitigation, compensation and enhancement measures as required to demonstrate compliance with the 'mitigation hierarchy' and requirements of local and National biodiversity policies (e.g. S.40 of the NERC Act 2006, NPPF etc).
- Identify opportunities for post-development biodiversity enhancement to ensure compliance with local and national Government policies (e.g. NPPF).



#### 2.0 PLANNING POLICY AND LEGISLATION

# **National Planning Policy**

## National Planning Policy Framework (NPPF)

2.1 The National Planning Policy Framework (NPPF) (Ministry of Housing Communities and Local Government) provides guidance for Local Planning Authorities (LPAs) in creating development plans and determining applications.

#### Paragraph 8

- 2.2 Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):
  - a) an economic objective to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
  - b) a social objective to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
  - c) an environmental objective to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

## Paragraph 33

2.3 Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This should demonstrate how the plan has addressed relevant economic, social and environmental objectives (including opportunities for net gains). Significant adverse impacts on these objectives should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).

# Paragraph 151

2.4 Once Green Belts have been defined, local planning authorities should plan positively to enhance their beneficial use, such as looking for opportunities to provide access; to provide opportunities for outdoor sport and recreation; to retain and enhance landscapes, visual amenity and biodiversity; or to improve damaged and derelict land.

#### Paragraph 187

- 2.5 Planning policies and decisions should contribute to and enhance the natural and local environment by:
  - a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with the statutory status or identified quality in the development plan);
  - b) recognising intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
  - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
  - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;
  - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
  - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

# Paragraph 188

2.6 Plans should distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental value or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

#### Paragraph 189

2.7 Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and National Landscapes which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

#### Paragraph 190

- 2.8 When considering applications for development within National Parks, the Broads and National Landscapes, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:
  - a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
  - b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
  - c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

#### Paragraph 191

2.9 Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 189), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

## Paragraph 192

- 2.10 To protect and enhance biodiversity and geodiversity, plans should:
  - a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
  - b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

#### Paragraph 193

- 2.11 When determining planning authorities should apply the following principles:
  - a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
  - b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in

combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

# Paragraph 194

- 2.12 The following should be given the same protection as habitats sites:
  - a) potential Special Protection Areas and possible Special Areas of Conservation;
  - b) listed or proposed Ramsar sites; and
  - c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

#### Paragraph 195

2.13 The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects) unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

#### Legislation

#### **Great Crested Newt**

- 2.14 The great crested newt is a 'European Protected Species' and is listed on both Annex II and IV of the EC Habitats Directive. The Directive is transposed into UK law through the Conservation of Habitats and Species Regulations 2017. They are also protected by the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. These pieces of legislation combine to give substantial protection to great crested newts and their breeding ponds and terrestrial habitat, making it an offence to:
  - Deliberately capture, injure or kill a great crested newt;

- Intentionally or recklessly disturb a great crested newt in a structure or place that they use for shelter or protection or deliberately disturb a group of a great crested newts;
- Damage or destroy a great crested newt resting place/shelter (even if they are not occupying it at the time);
- Possess or advertise/sell/exchange a great crested newt (dead or alive) or any part of a great crested newt (including eggs and all life-stages);
- Intentionally or recklessly obstruct access to a great crested newt resting place/shelter.

# 3.0 METHODOLOGY

# **Desk Study**

- 3.1 Existing ecological and nature conservation data relevant to the site was collated from various sources including the Multi Agency Geographic Information for the Countryside (MAGIC) online database (<a href="http://magic.defra.gov.uk">http://magic.defra.gov.uk</a>).
- 3.2 A 2km third-party data search was instructed by the client as part of this commission. This was a cross-boundary search undertaken by Warwickshire Biological Record Centre and Leicestershire and Rutland Environmental Records Centre in February 2025. It should be noted that the absence of biological records for an area does not imply that taxa are not present.

#### **Pond Access**

- 3.3 BLADE Ecology requested access to all off-site ponds within 250m of the application boundary (P1-P3). Where landowners were unknown, details were attained from the land registry and permission sought to survey.
- In line with current guidance (Grundy, 2025), as <u>all</u> the following four conditions have <u>not</u> been met, it is not proportionate to survey up to 500m:
  - 1) Maps, aerial photos, walk-over surveys or other data indicate that the target waterbodies are deemed to have the potential to support a large GCN population (peak count/s >100 adult GCN). There is no information to support that the surrounding waterbodies comprise large populations of newts.
  - 2) A Site footprint contains particularly favourable GCN terrestrial habitat, especially if it constitutes the majority of such habitats available locally. The site is arable; a low value newt terrestrial habitat.
  - 3) The development would have a substantial negative effect on that GCN terrestrial habitat. *Minimal high value newt habitat would be impacted.*
  - 4) There are no physical barriers to GCN dispersal

# eDNA Survey

#### Field Protocol

3.5 A site visit was undertaken to sample the pond(s) on 16 April 2025. The sampling was undertaken by E. Seaton BSc (Hons) MCIEEM (Natural England great crested newt licence ref: 2015-16623-CLS-CLS. The field sampling collection protocol was followed as per the 'Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA' endorsed by Natural England (2014).

- 3.6 Locations of where twenty 30mL samples could be sampled and taken from the ponds were identified. These were spaced as evenly as possible with areas targeted that may be used as egg-laying substrate and open water areas which newts may be utilising for displaying.
- 3.7 The samples were thoroughly mixed and six 15mL samples pipetted into six sterile tubes containing 35mL of ethanol to preserve the eDNA. The preserved samples were then immediately returned at ambient temperature for analysis or stored and refrigerated at 2-4°C until ready for analysis.

#### **Laboratory Protocol**

The kits were returned to ADAS (approved by Natural England in 2014) for analysis. Great crested newt (Triturus cristatus) DNA was amplified using the primers and probes listed in Appendix 2 of Technical Advice Note (DEFRA, 2014). DNA was then extracted using the DNA Blood and Tissue kit (Qiagen®) following the manufacturer's instructions. Polymerase chain reaction (PCR) was undertaken to amplify the DNA (if present).

#### Limitations

- 3.9 No significant limitations were encountered to negatively influence results.
- 3.10 Whilst there is a positive correlation between HSI scores and numbers of great crested newts observed, the relationship is not sufficiently strong to allow the score to be used to estimate the number of newts within any particular pond.
- 3.11 The risk of aquatic animals (e.g. herons, water voles) transferring great crested eDNA between sites cannot be ruled out. Further research is currently ongoing to determine whether this is a significant risk; however, it is currently anticipated to be small.

# 4.0 RESULTS

# **Desk Study**

4.1 No records of great crested newts have been returned on-site. The nearest record is located 1.5km south-west, in Polesworth Churchyard.

# eDNA Survey

4.2 The results of great crested newt eDNA analysis has returned a result of 'eDNA absent' for Pond 1 and Pond 3. Pond 2 was dry. Therefore, there is no evidence to suggest that either pond supports great crested newts. A full copy of the results can be found in Appendix B.

Table 1: results of eDNA analysis

| Pond   | ADAS Reference | Result                         |
|--------|----------------|--------------------------------|
| Pond 1 | ADAS-8927      | Great crested newt eDNA absent |
| Pond 2 | N/A            | Dry – not surveyed             |
| Pond 3 | ADAS-8929      | Great crested newt eDNA absent |

# 5.0 CONCLUSION AND RECOMMENDATIONS

| 5.1 | Great crested  | newts have   | been  | confirmed   | absence  | within  | all  | surveyed | ponds. | No |
|-----|----------------|--------------|-------|-------------|----------|---------|------|----------|--------|----|
|     | further work f | or amphibian | speci | es is recom | mended f | or this | site |          |        |    |

| 5.2 | The Preliminary Ecological Appraisal (BLADE Ecology, 2025) should be referred to for |
|-----|--|
|     | other recommendations.   |

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#### 6.0 REFERENCES

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# **APPENDIX A**

eDNA Results



Client: Emma Seaton, Blade Ecology

Date of preparation:

ADAS Spring Lodge 172 Chester Road Helsby WA6 0AR

Tel: 01159 229249 Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-8927 Condition on Receipt: Good Volume: Passed

Client Identifier: P1, SK281033 Description: pond water samples in preservative

Date of Receipt: 23/04/2025 Material Tested: eDNA from pond water samples

| Determinant  | Result  | Method            | Date of Analysis  |
|--|---|-------------------|-------------------|
| Inhibition Control <sup>†</sup>                        | 2 of 2  | Real Time PCR     | 28/04/2025        |
| Degradation Control§                                   | dation Control <sup>§</sup> Within Limits Real Time PCR |                   | 28/04/2025        |
| Great Crested Newt*                                    | 0 of 12 (GCN negative)                                  | Real Time PCR     | 28/04/2025        |
| Negative PCR Control<br>(Nuclease Free Water)          | 0 of 4  | Real Time PCR     | As above for GCN  |
| Positive PCR Control (GCN DNA 10 <sup>-4</sup> ng/µL)# | 4 of 4  | Real Time PCR     | As above for GCN  |
| Report Prepared by:                                    | Dr Helen Rees   | Report Issued by: | Dr Ben Maddison   |
| Signed:  |   | Signed:           |                   |
| Position:  | Director: Biotechnology                                 | Position:         | MD: Biotechnology |

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

Date of issue:

28/04/2025

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28/04/2025

<sup>\*</sup> If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.

<sup>&</sup>lt;sup>†</sup> Recorded as the number of positive replicate reactions at expected  $C_t$  value. If the expected  $C_t$  value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

<sup>§</sup> No degradation is expected within time frame of kit preparation, sample collection and analysis.

 $<sup>^{\#}</sup>$ Additional positive controls (10 $^{-1}$ , 10 $^{-2}$ , 10 $^{-3}$  ng/ $\mu$ L) are also routinely run, results not shown here.



Client: Emma Seaton, Blade Ecology

ADAS Spring Lodge 172 Chester Road Helsby WA6 0AR

Tel: 01159 229249 Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-8929 Condition on Receipt: Low Sediment Volume: Passed

Client Identifier: P2, SK283032 Description: pond water samples in preservative

Date of Receipt: 23/04/2025 Material Tested: eDNA from pond water samples

| Determinant   | Result                  | Method            | Date of Analysis  |
|---|-------------------------|-------------------|-------------------|
| Inhibition Control <sup>†</sup>                                       | 2 of 2                  | Real Time PCR     | 25/04/2025        |
| Degradation Control <sup>§</sup>                                      | Within Limits           | Real Time PCR     | 25/04/2025        |
| Great Crested Newt*   | 0 of 12 (GCN negative)  | Real Time PCR     | 25/04/2025        |
| Negative PCR Control<br>(Nuclease Free Water)                         | 0 of 4                  | Real Time PCR     | As above for GCN  |
| Positive PCR Control (GCN<br>DNA 10 <sup>-4</sup> ng/µL) <sup>#</sup> | 4 of 4                  | Real Time PCR     | As above for GCN  |
| Report Prepared by:   | Dr Helen Rees           | Report Issued by: | Dr Ben Maddison   |
| Signed:   | ,                       | Signed:           |                   |
| Position:   | Director: Biotechnology | Position:         | MD: Biotechnology |
| Date of preparation:  | 28/04/2025              | Date of issue:    | 28/04/2025        |

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

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<sup>\*</sup> If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.

<sup>&</sup>lt;sup>†</sup> Recorded as the number of positive replicate reactions at expected  $C_t$  value. If the expected  $C_t$  value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

<sup>§</sup> No degradation is expected within time frame of kit preparation, sample collection and analysis.

 $<sup>^{\#}</sup>$ Additional positive controls (10 $^{-1}$ , 10 $^{-2}$ , 10 $^{-3}$  ng/ $\mu$ L) are also routinely run, results not shown here.

# Appendix 1: Interpretation of results

#### Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

- 1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
- 2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
- 3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

## What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

- 1. evidence of decay meaning that the degradation control was outside of accepted limits
- 2. evidence of degradation or residual inhibition meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)

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#### **APPENDIX B**

## Qualifications and Experience

BLADE Ecology Ltd is Registered Practice of the Chartered Institute of Ecology and Environmental Management (CIEEM). A comprehensive range of ecological services are offered including Preliminary Ecological Appraisal (PEA), Ecological Impact Assessment (EcIA), Habitat Regulations Assessment (HRA), Biodiversity Impact Assessment (BIA) and European Protected Species (EPS) Surveys / Licensing.

The practice works closely work closely with clients to achieve their aspirations alongside securing the best outcomes for the environment. With wildlife legislation and policy as its basis; commercial awareness, pragmatism and defensible advice is combined to form BLADE Ecology's approach.

As well as offering a wide range of ecological services, BLADE Ecology offers an inhouse collaborative approach in conjunction with BLADE Landscape Architects and BLADE Trees.

#### Emma Seaton BSc (Hons) MCIEEM

Emma holds a BSc (Hons) degree in Biology from the University of Sheffield and has since gained a postgraduate certificate in Ecological Consultancy. Her ecological experience includes Preliminary Ecological Appraisals, Ecological Impact Assessments (EcIA), surveying for notable / European Protected Species, mitigation / licensing advice and providing Continued Professional Development (CPD) sessions for developers on Biodiversity Net Gain. She has held Natural England survey licences for bats (Class 2), great crested newts and white-clawed crayfish since 2015. She is also a Registered Consultant under the Bat Mitigation Class Licence (BMCL) licence and Earned Recognition consultant under the Natural England bat pilot project. Emma is a Full member of the Chartered Institute of Ecology and Environmental Management.

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