Great Crested Newt Survey

Site Location: The Old Builders Yard, Winterfield Lane, Weston Coyney, Staffordshire

Author: Matthew James Haydock

Date: June 2019

Notice to Readers

This report has been prepared by Absolute Ecology LLP with all reasonable skill, care and diligence, within the terms of the contract with the client. The actions of the surveyor on site and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the chartered Institute of Ecology and Environmental Management (www.cieem.org.uk).

No part of this document may be reproduced without the prior written approval of Absolute Ecology LLP.

Contents

Notice to Readers 2

Contents 3

1 Introduction 5

1.1 Site Description

1.2 Proposed Works

1.3 Aims of the Survey

2 Methods

2.1 Summary of Survey Methods

2.2 Pre-Survey Data Search

2.3 Surveyor Information

2.4 Field Surveys

2.4.1 Habitat Survey

3 Results

3.1 Pre-Survey Data Search

3.1.1 Designated Sites

3.1.2 Protected Species

3.2 Field Surveys

3.2.1 Habitat Description

3.2.2 Habitat Suitability Index

3.2.3 Presence or Absence Surveys

4 Assessment

4.1 Constraints on Survey Information

4.2 Constraints on Equipment Used

4.3 Potential Impacts of Development

4.3.1 Designated Sites

4.3.2 Great Crested Newt Habitat

4.4 Legislation and Policy Guidance

5 Recommendations and Mitigation

5.1 Further Surveys

5.2 Mitigation Measures

5.2.1 Proposed Mitigation Enhancement

5.2.2 Care and Vigilance during Works

5.3 Mitigation Licences

6 Summary

7 References

Appendix 1 Great Crested Newt Result Table

Appendix 2 Pond Location

1. Introduction

1.1. Site Description

Absolute Ecology was commissioned to carry out a Great Crested Newt survey of an existing ponds within 500 meters for a site known as the Old Builders Yard, Winterfield Lane, Weston Coyney, Staffordshire, Grid Reference: SJ 93803 44880

During the site survey no access constraints were identified, and all surveys were done at the appropriate time of year according to the Natural England Mitigation Guidelines 2001.

1.2. Proposed Works

It is proposed that the land will be used for residential development

1.3. Best Practice Guidance

The scope of this appraisal has been determined in line with the proportional approach to ecological survey, assessment and subsequent recommendations for avoidance and mitigation of impacts, which is encouraged in the emerging 'BS 42020: Biodiversity – Code of practice for planning and development'. This report has been prepared with du consideration for various best-practice guidance and methodologies including those of the Chartered Institute of Ecology and Environmental Management (CIEEM (2012)1 and the emerging BS 42020.

1.4. Aims of the Survey

The aims of the Habitat Suitability Index and presence/absence surveys is to provide an ecological evaluation of the following species within the proposed application area.

Table 1. Aims of survey in relation to great crested newts

Great Crested Newts Habitat Suitability Index
• To establish which water bodies provide suitable conditions for great crested newts.
• Whether further surveys are required.
• Impacts of the proposed development.
Great Crested Newts Presence or Absence
• To establish presence/absence of great crested newts.
• If great crested newt presence is confirmed, to determine population size and distribution.
• Provide sufficient information for the evaluation of the perceived impacts of potential development and for the development of a detailed mitigation strategy to ensure legal compliance.

Assessment also considers the potential effects on valued ecological receptors (VERs) and zones of influence (ZoI) during pre and post development, both on site and off site. The term Zone of Influence is used to describe the geographic extent of the potential impacts of a proposed development. Should a likely significance of negative impacts be identified, further surveys and mitigation and enhancement measures will then be determined accordingly to prevent, offset or reduce the degree of impact that may occur should development commence.

Should great crested newts be present on site or within 500 m, then a European Protected Species (EPS) development licence issued by Natural England (NE) may be required prior to any works taking place. If required, further presence/absence surveys should be undertaken and a mitigation strategy be implemented with Natural England and the Local Planning Authority. Should no further surveying effort be considered, then the PEA report will include full justification and evaluation.

2. Methods

2.1. Summary of Survey Methods

Habitat Suitability Index Assessment

One pond was subject to the Habitat Suitability Index (HSI) Assessment. The assessments were undertaken on 26th March 2018 by a Licensed Ecologist from Absolute Ecology LLP, trained in the assessment of water bodies for their potential to support populations of great crested newts.

The HSI is a measure of habitat quality using a numerical index between 0 and 1 derived from an assessment of variables known to influence the presence of great crested newts (Oldham et al., 2000). It is used to assess whether a water body warrants detailed surveys to establish presence or absence of newts and aids in the assessment of impacts and the design of mitigation measures. Since January 2008 it has been a requirement to include the results of HSI assessments in European Protected Species (EPS) Licence applications.

To calculate the HSI of the water body, ecologists first record the following variables before applying the HSI calculation to these: pond size; surface area; water depth; water quality; % shade, % macrophyte cover; presence of fish and waterfowl; number of water bodies within 1 km of survey water body; quality of terrestrial habitat surrounding ponds; and type of marginal/aquatic vegetation (Oldham et al., 2000).

Once the HSI score is obtained it can be used to define water body suitability for great crested newts in the following way (National Amphibian Recording Scheme, 2008):

Table 1: HSI Scores

<0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Water bodies scoring less than 0.5, those over 500 m away from the intended works or with significant barriers to dispersal between these and the intended works are deemed as not requiring further surveys.

Great Crested Newt Presence or Absence

Great crested newt surveys took place on 30/04/2018, 14/05/2018, 28/04/2018, 11/06/2018

The surveys were undertaken by Matthew James Haydock, a Natural England Class 1 Licensed Consultant Ecologist, Registration Number 2015-19150-CLS-CLS.

Helen Staton - Natural England Class 1 Licence: 2015-18041-CLS-CLS

The weather conditions encountered during the surveys were considered to be optimal for great crested newts; this is shown in *Appendix 2* along with the full survey results.

The survey visits were carried out during the optimum breeding season for great crested newts (all the surveys were undertaken between April and May) in good weather and suitable temperatures.

The following methodologies were used:

Sweep Netting: surveyors used a dip net specifically designed for amphibians (soft mesh) to sweep through the water's edge, particularly through vegetation, to catch any newts that were sheltering during the day.

Bottle Trapping: tops were cut off empty 2 litre plastic bottles and the nozzle end inverted upon itself, this creates a funnel trap system. These were then pierced at a vertical angle of around 30 degrees and canes placed through the holes creating a standard bottle trap design as stipulated within the best practice guidelines for Great Crested Newts (English Nature, 2001). These were then placed within the pond at 2m centres, where possible, ensuring that an air pocket formed in the trapping compartment. The traps were set as close to dusk as possible and checked in the morning. The traps were not left in-situ for more than 17 hours

Egg Search: the pond was swept across from the perimeter to gather any great crested newt eggs within reach. Newt eggs were then searched for on submerged or floating aquatic vegetation growing within the pond on site. Any vegetation folded over was checked for newt eggs. If great crested newt eggs had been recorded the search would have ceased so as to not destroy or uncover further great crested newt eggs.

Torching: this entailed using high-powered (1,000,000 candle power) torches during the hours of nightfall to search the ponds. The pond was subject to 20 minutes of torching per 50 m of circumference, where access was possible.

2.2. Pre-Survey Data Search

Ecological data searches supplied by Derbyshire Record Centre (DBRC) were acquired to establish whether any great crested newts have been recorded within a 2 km radius of the proposed development area. Furthermore, a desktop study of the area using online resources was undertaken independently to corroborate the current overview of the site and its importance in the landscape. A number of electronic sources were consulted, including www.magic.gov.uk, www.naturalengland.org.uk and Google Earth.

2.3. Surveyor Information

Surveyor 1

Matthew Haydock – HND, ND, CMIEEM, Natural England Class 1 Licence: 2015-19150-CLS-CLS. Matthew is an ecologist with four years' experience of environmental consultancy work. He holds a HND in Environmental Management with distinction. Matthew is an experienced great crested newt surveyor with competency in great crested newt surveys, habitat suitability assessments and the production of reports providing advice on best practice, mitigation and compensation works relating to great crested newts as may be required. Matthew holds a Natural England and Countryside Council for Wales licence, since 2002.

Surveyor 1

Helen Staton - Natural England Class 1 Licence: 2015-18041-CLS-CLS

2.4 Field Surveys

2.4.1. Habitat Survey

A previous Ecological Appraisal was conducted on undertaken on the 24th April 2019 by Helen Staton BSc (Hons) an experienced ecologist who is an Associate member of the Chartered Institute of Ecology & Environmental Management (CIEEM). Helen holds a Natural England Class 1 Bat Licence and Class 1 Great Crested Newt Licence.

3. Results

3.1. Pre-Survey Data Search

3.1.1. Designated Sites

Desk Study – Map of sites and species shown within Appendix 1

Sites

There are four statutory designated sites within 2 km of the site;

SiteID	Grid Ref.	Site Name	Status
94/23/86	SJ928436	Birch Wood	**Local Nature Reserve**
	SJ928444	Hulme Quarry	**SSSI & NNR**
94/23/58	SJ925438	Ransom	**Local Nature Reserve**
94/23/82	**SJ928432**	**Weston**	**Local Nature Reserve**

There are seven non-statutory sites within 2 km of the site, as shown within Table 1.

Table 1: Five Non Statutory sites within 2km (Please see Appendix 1 location map)

SiteID	Grid Ref.	Site Name	Status
94/55/37	SJ953457	Creswell's Piece	Local Wildlife Site
94/35/00	SJ930450	Parkhall Country Park	Local Wildlife Site
94/23/58	SJ925438	Ransome Wood	Local Wildlife Site
94/23/86	SJ928436	Birch Wood	Local Wildlife Site
94/23/63	SJ926433	Weston Sprink	Local Wildlife Site

Species

Common Name	Informal Group	Location
Great Crested Newt	amphibian	The Moat (1km sq)
Great Crested Newt	amphibian	Berryhill Fields
Great Crested Newt	amphibian	Hulme Quarry, Parkhall (1km sq)
Great Crested Newt	amphibian	Hulme Quarry, Parkhall (1km sq)
Great Crested Newt	amphibian	Golf Course, Parkhall Country Park
Great Crested Newt	amphibian	Boltongate (1km sq)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	Parkhall Country Park (overview)
Great Crested Newt	amphibian	River Blythe (1km sq)

3.2. Field Surveys

3.2.1. Habitat Description

The survey area is situated in a predominantly rural location, the site is situated on the outskirts of Weston coyney, Staffordshire. The site is immediately bounded by agricultural land with the wider landscape consisting of woodlands, water courses, hedgerows, residential and commercial properties.

The site itself is dominated by poor semi improved grassland, a flowing drain, tall ruderal, scrub, hedgerows and trees. Occasional refuge piles are present onsite.

3.2.2. Habitat Suitability Index

There are no ponds onsite. There are two ponds located within 500m both within the golf course to the west, Pond 1 (P1) 172m away and Pond 2 (P2) 423m away. Both ponds were subject to a Habitat Suitability Index (HSI) assessment as shown in Table 3.

Pond 1 (plate 11) is located to the west of the site within the golf course. The pond is natural and has formed in a scrub/woody area, immediately bounded by amenity grassland. It is densely overgrown and shallow, it is thought to dry annually. *Iris* sp were present. Fish thought to be absent and no fowl observed. Shade density approx 80%. Immediate terrestrial habitat is considered to be moderate, while in an area of amenity grassland it is well connected to areas of woodland and hedgerows.

Pond 2 (plate 12) is located to the west of the site, within the golf course. The pond is manmade and concrete lined. A drain flows into the pond from the north and outflows south into Oakerthorpe Brook. The pond is immediately bounded by amenity grassland although located less than 10m from Oakerthorpe Nature Reserve woodland. Shade approx. 5% and water quality good. A number of aquatic plants were observed; *Iris* sp, pondweed (*Potamogeton natans*), water-milfoil (*Myriophyllum* sp.), Apmphibious bistort (*Persicara amphibia*) and water crow foot (*Rananculus* sp.). Common frogs (*Rana temporaria*) and smooth newts (*Lissotriton vulgaris*) were seen within the pond. No fish were observed although are possible and no water fowl was seen.

Table 3: Habitat Suitability Index assessment results

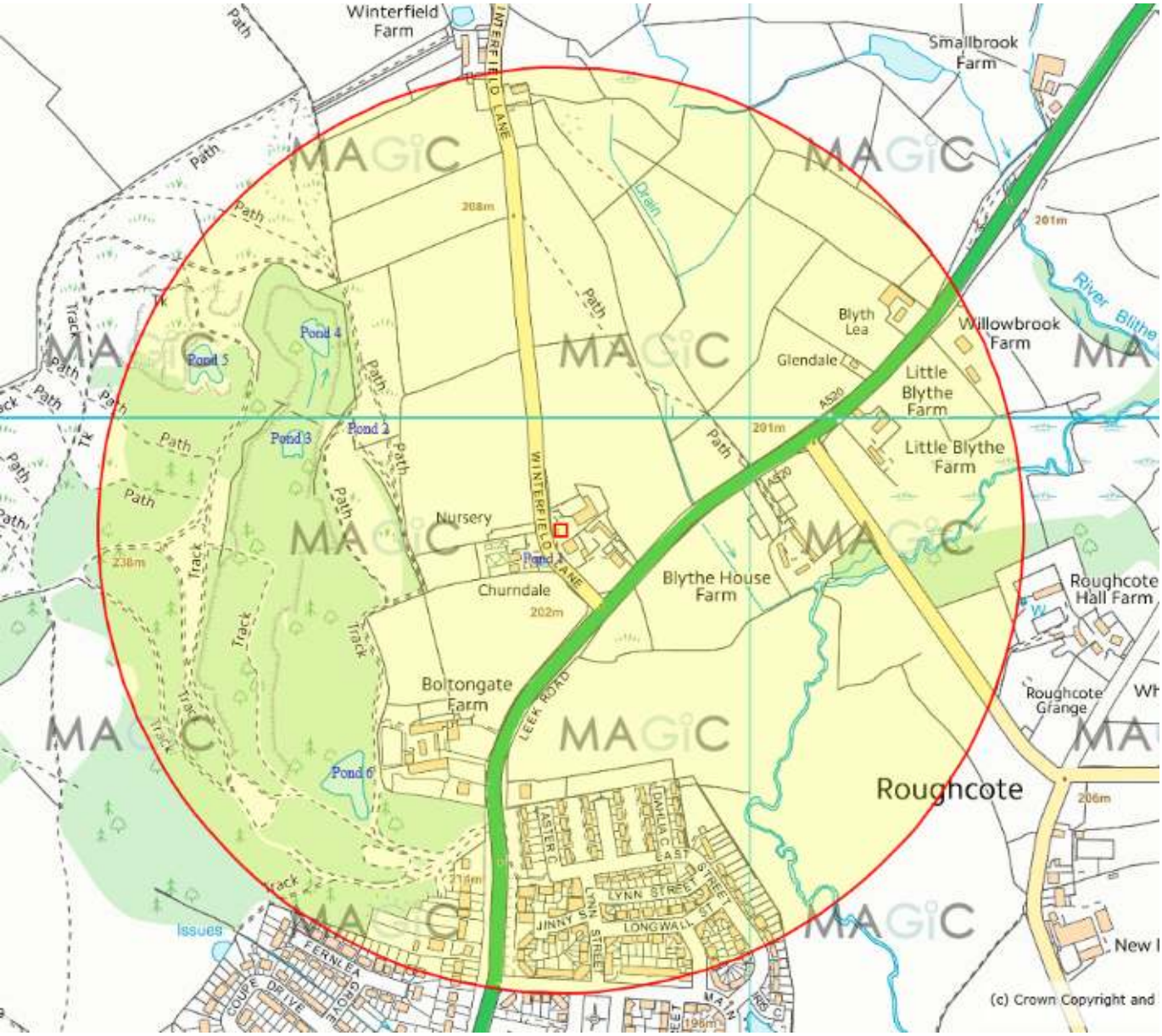
Pond ref	Pond 1	Pond 2	Pond 3	Pond 4	Pond 5
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.8	0.2	0.2	0.8	0.8
SI3 - Pond drying	0.9	0.5	0.1	0.5	0.9
SI4 - Water quality	1	1	0.33	0.7	0.33
SI4 - Shade	0.8	0.6	1	0.9	0.8
SI6 - Fowl	0.67	1	0.67	0.67	0.67
SI7 - Fish	0.67	1	1	0.67	0.33
SI8 - Ponds	0.7	0.7	0.7	0.7	0.7
SI9 - Terr'l habitat	1	1	1	1	1
SI10 - Macrophytes	0.8	0.6	0.3	0.5	0.4
HSI	0.82	0.69	0.50	0.72	0.64

	pond 6
SI1 - Location	1
SI2 - Pond area	0.8
SI3 - Pond drying	0.9
SI4 - Water quality	0.67
SI4 - Shade	0.8
SI6 - Fowl	0.67
SI7 - Fish	0.33
SI8 - Ponds	0.7
SI9 - Terr'l habitat	1
SI10 - Macrophytes	0.8
HSI	0.74

The results from the HSI assessment concluded that P3 is of 'poor' value for supporting great crested and the reminder of the ponds were between good & excellent.

The terrestrial habitats present onsite semi improved grassland, scrub, hedgerows & refuge piles) are considered optimal for great crested newt utilization, offering foraging/commuting opportunities, in addition to hibernation opportunities. There are no barriers of dispersal between the site and the golf course ponds. The drain along the western boundary is slow flowing and occasionally obstructed, therefore not considered to be a hinderance to migratory GCN. The site is well connected to wider countryside and other suitable terrestrial habitats within the area via hedgerows/tree lines and woodland.

Figure 1: Pond Location Plan



3.2.3. Presence or Absence Surveys

Pond 1

METHOD	DATE						HIGHEST COUNT
	13/05/2019	15/05/2019	16/05/2019	20/05/2019	27/05/2019	03/06/2019	
Torching	0	0	0	0	0	0	**0**
Egg Searching	0	0	0	0	0	0	**0**
Net Search	0	0	0	0	0	0	0
Bottle Trap	0	0	0	0	0	0	0

Pond 2

METHOD	DATE						HIGHEST COUNT
	13/05/2019	15/05/2019	16/05/2019	20/05/2019	27/05/2019	03/06/2019	
Torching	0	0	0	0	0	0	**0**
Egg Searching	0	0	0	0	0	0	**0**
Net Search	0	1	0	1	2	1	2
Bottle Trap	4	2	3	1	3	1	4

Pond 4

METHOD	DATE						HIGHEST COUNT
	13/05/2019	15/05/2019	16/05/2019	20/05/2019	27/05/2019	03/06/2019	
Torching	0	0	0	0	0	0	**0**
Egg Searching	0	0	0	0	0	0	**0**
Net Search	0	0	0	0	0	0	0
Bottle Trap	0	0	0	0	0	0	0

Pond 5

METHOD	DATE						HIGHEST COUNT
	13/05/2019	15/05/2019	16/05/2019	20/05/2019	27/05/2019	03/06/2019	
Torching	0	0	0	0	0	0	**0**
Egg Searching	0	0	0	0	0	0	**0**
Net Search	0	0	0	0	0	0	0
Bottle Trap	0	0	0	0	0	0	0

Pond 6

METHOD	DATE						HIGHEST COUNT
	13/05/2019	15/05/2019	16/05/2019	20/05/2019	27/05/2019	03/06/2019	
Torching	0	0	0	0	0	0	**0**
Egg Searching	0	0	0	0	0	0	**0**
Net Search	0	0	0	0	0	0	0
Bottle Trap	0	0	0	0	0	0	0

Another species of amphibian found was the smooth newt (*Lissotriton vulgaris*), which is a common and widespread species and only protected against sale under the Wildlife and Countryside Act 1981. The pond supports a low population of smooth newts and is likely to be beneficial for invertebrates, increasing biodiversity in the locality. Common frog (*Rana rana*) was also observed.

4. Assessment

4.1. Constraints on Survey Information

The survey visits were carried out during the optimum breeding season for great crested newts (all the surveys were undertaken between May & June in good weather and suitable temperatures; therefore, no constraints were identified.

4.2. Constraints on Equipment Used

No constraints on survey equipment was identified.

4.3. Potential Impacts of Development

Great Crested Newts are a UK Biodiversity Action Plan Priority Species and are listed on the Staffordshire Biodiversity Action Plan. Construction and landscaping will have a potential impact on terrestrial great crested newts and have the potential to breach legislation and the law in respect to great crested newts by.

1. Removing and destroying areas of refuge, for foraging and the commuting of great crested newts within the site.

2. Disturbing great crested newts during their migration between ponds and land refuges which would or could result in death and injury.

3. Impacting on great crested newts migratory routes

4. Disturbing great crested newts using as resting places any of the areas affected by the development which will result in injury and death to great crested newts.

Pre and mid-term impacts towards Great Crested Newt terrestrial habitat is to be directly impacted upon by the re landscaping of the development site. No breeding pond will be lost. The terrestrial habitat will be lost causing a negative impact on the great crested newts and the potential to kill or injury great crested newts would cause high negative impact.

Long-term impacts are that the terrestrial habitat for the great crested newts is to be permanently lost as a result of re landscaping and by potential killing or injuring great crested newts would have a long term effect on the small population found within the adjacent pond this will represent as a high negative.

4.4. Legislation and Policy GuidancePolicy guidelines

PAS 2010	The published 'PAS 2010' 'Planning to halt the loss of biodiversity' is the government's new policy aimed at all authorities and developers involved in the planning process in the UK to halt biodiversity decline by 2010 and deliver net biodiversity gains as part of the green infrastructure provisions.
National Planning Policy Framework, Section 11:	The recently published framework in 2012 replaces the previous Planning Policy Statement 9. Section 11: Conserving and enhancing the natural environment, reaffirms the government's commitment to maintaining green belt protection and preventing urban sprawl, retains the protection of designated sites and preserves wildlife, aims to improve the quality of the natural environment and halt declines in species and habitats, protects and enhances biodiversity and promotes wildlife corridors.
Article 10 of the EC Habitats Directive:	The published Article requires government to develop features such as 'stepping stones' in the landscape, such as clusters of ponds, tracts of rough grassland or scrubland and vegetated railway line embankments.
Wildlife and Countryside Act 1981:	Great crested newts are fully protected under the Wildlife and Countryside Act 1981, the European Conservation (Natural Habitats etc.) Regulations 1994, and the Countryside and Rights of Way Act 2000. This legislation makes it illegal to possess or control any live or dead specimens, to damage, destroy or obstruct access to any structure or place used for shelter, protection or breeding, and to intentionally disturb a great crested newt while it is occupying a structure or place which it uses for that purpose.
Conservation of Habitats and Species Regulations (2010)	The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is an offence to possess, sell or offer, or transport for sale any great crested newt or any part derived from such a species. These Regulations also remove the 'incidental result defence'. In other words, it is no longer a defence to show that the killing, capture or disturbance of a species covered by the Regulations or the destruction or damage of their breeding sites or resting places was the incidental and unavoidable result of a lawful activity. Natural England can grant European Protected Species (EPS) licences in respect of development to permit activities that would otherwise be unlawful.
Natural Environment and Rural Communities Act (2006)	Under Section 40 of the Natural Environment and Rural Communities Act (2006), public bodies, including Local and Regional Planning Authorities, have a duty to 'have regard' to the conservation of biodiversity in England when carrying out their normal functions, which includes consideration of planning applications. In compliance with Section 41 of the Act, the Secretary of State has published a list of species considered to be of principal importance for conserving biodiversity in England. This is known as The England Biodiversity List, all of which make up the UK BAP Priority Species. Regional Planning Bodies and Local Planning Authorities will use it to identify the species that should be afforded priority to maintain, restore and enhance species and habitats.

Please note: If great crested newts are present at the site, the purpose of this report will only summarize the potential requirements for a great crested newt mitigation package or project. A separate mitigation report or project will include the necessary compensation measures to maintain the conservation status of a European Protected Species.

5. Recommendations and Mitigation

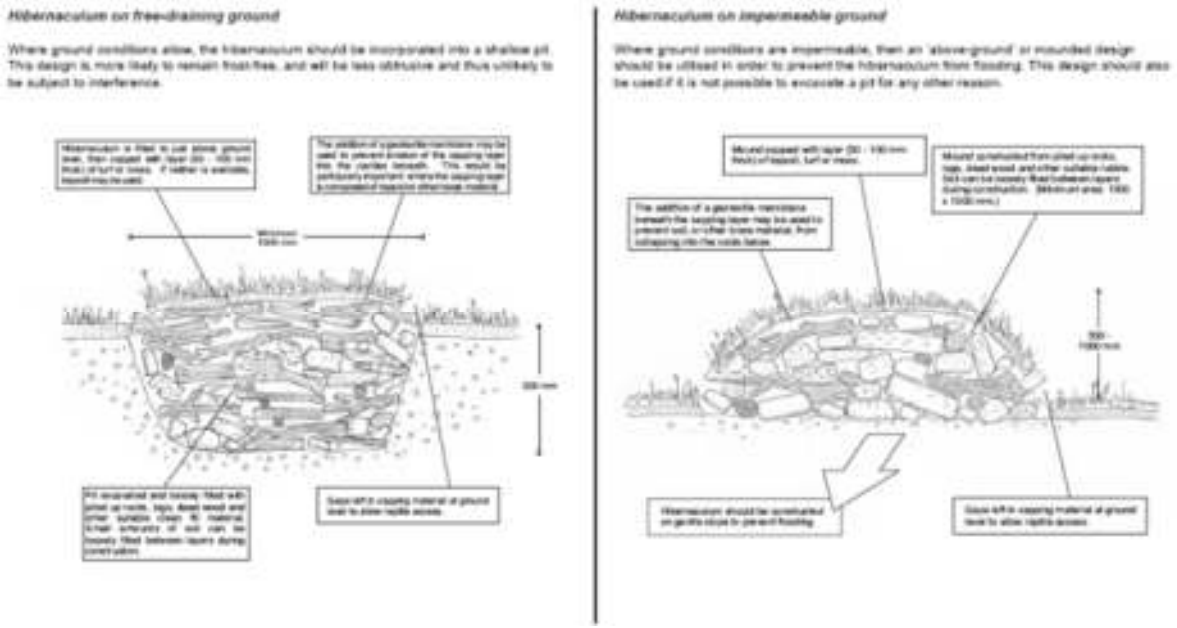
5.1. Further Surveys

No further surveys are necessary in this instance. In line with Natural England guidelines, further surveys would only be required if the proposed works were to be delayed for two years or more. If this is the case, a repeat presence/absence survey is recommended before works commence, to check whether survey evidence and the status of the ponds remains the same as that described within this report.

5.2. Mitigation Measures

5.2.1. **Proposed Mitigation Enhancement**

great crested newts were identified during the surveys, suitable habitat opportunities could be created within the site, in particular the area which has the potential to support Great Crested Newts, as enhancement may attract Great Crested Newts to the site. Great crested newt enhancement could include hibernacula log piles: this would provide more cover and a place of rest for great crested newts and other species of wildlife. If material is piled loosely along with rubble and dead wood, the turves arising from the turf strip could be used to provide refugia/hibernacula habitat for reptiles (see diagrams below).



5.2.2. Method Statement

As a small population of Great Crested Newts were found within pond 2 following Natural England current guidance 30 days + 5 clear days of tapping will take place during suitable weather conditions; trapping will cease once the site is clear of newts. To compensate the loss of habitat long piles will be created to compensate the loss of habitat all the safeguards and enhancements will put in application method statement for the EPSL application to Natural England

- A one-way amphibian exclusion fence to allow any amphibians to exit the site but not return will be installed along the south and south-western site boundaries of the development site

- A pre-clearance search (fingertip and/or drift fence/pitfall as deemed appropriate when population data for the pond(s) are to hand) of all relevant areas to be disturbed on the site will be carried out immediately prior to any site stripping in order to eliminate any risk to GCN (and incidentally allow removal to safety of any other vulnerable taxa that may be present);

- Records will be kept and submitted with the licence return (and to SER).

- The works will be completed before herpetofauna enter hibernation and will be supervised by suitably qualified ecological scientists.

- This method statement is written subject to licence and in order to facilitate the proposed works at the site, todemonstrate due diligence and to ensure compliance with wildlife legislation, statutory planning policies and best practice, specifically in reference to GCN but also including any other vulnerable species such as reptiles and small mammals so that they can escape/be moved to safety. It is considered that the following methods are appropriate for the context of the site *i.e.* its size and location, and the issue of a GCN Development Licence from Natural England if GCN are recorded during the required specialist surveys. Provided below is the context and the potential outcomes which depend upon findings during GCN surveys.

- The habitats and structural heterogeneity present at the site may create terrestrial conditions suitable for GCN (strictly protected).
- The greatest risk to GCN would be from the ground restoration work and therefore the timing of works would need to be scheduled carefully to avoid the winter when newts would be hibernating and preferably keeping to the breeding season (March—May) when at least second year and older cohorts would most likely be in their breeding pond(s).
- Following licence issue if GCN are confirmed, one-way newt fencing will be put in place under supervision of the ecologist along the boundaries of the development site to allow any newts present to leave the application site but not re-enter. If it is required, this fence should be installed without delay upon issue of licence.
- Following installation of the fence and prior to any site operations, a fingertip/drift fence/pitfall search for vulnerable fauna will be undertaken as above.
- Stock piles of rubble and other waste along the within the boundary highlighted in the report report must be left untouched prior to a hand search by a licensed ecologist. As they are likely to be required by a licence, it is noted that this is a suitable area for the creation of a replacement refuge or multiple refugia/hibernacula.
- Site clearance will be undertaken under the direct supervision of a suitably qualified and experienced ecologist. All artificial and natural refugia will be checked by the ecologist prior to removal. The areas of site to be cleared will be slowly, methodically and carefully examined and inspected for all GCN and other vulnerable fauna immediately prior to stripping. Drift fencing and pitfalls will be used if necessary to achieve acceptable capture results (only likely in case of a large GCN population — efforts will be assessed by the ecologist so as to be appropriate and proportionate.
- Contractors will be instructed to clear the site without leaving any isolated vegetation or rocks/concrete/rubble or foundation trenches which may hold water and become secondary ponds or traps which fauna may inhabit or within which become trapped. The Absolute Ecology, ecologist will keep records of all animals captured and moved to safety to the pre-determined receptor site (area around the existing pond). Stored items on site will need to be raised on pallets so as not to create further refuge areas. Pallets could include removed turf for later use in refugia/hibernacula creation
- On completion of ground works, refugia/hibernacula as specified in the licence will be created on site, comprising clean rubble and timber piles which can be topped with soil and turf removed as part of the earlier site clearance work and according to Betts' specification (indicative drawings are available) but generally will be small mounds piled approximately 1—1.5m high and 2—3m wide, or one long bund of similar height.
- Any holes on site which are left overnight must be fitted with ramps so vulnerable animals can escape unaided or, if captured, released quickly in suitable habitat under the care of the ecologist.

- The one-way fence must be maintained in a functioning state until development is complete, after which it should be removed.
- Provide information to new residents about the importance of gardens as habitats and the provision of features such as ponds to encourage amphibians and other wildlife. Betts can provide suitable advice and leaflets/wildlife gardening book if required.
- As mentioned above, some top soil should be retained with turf visible and facing upwards during site clearance and this can be a replacement for re- surfacing bare top soil placed upon the rubble and timber piles when creating refugia/hibernacula to create habitat diversity (and reduce costs).
- Ensure that other biodiversity enhancements and recommendations of the ecological reports such as native planting, bat/bird/invertebrate boxes and habitat creation are carefully and fully implemented.

5.3. Mitigation Licences

As a small population of Great Crested Newts was identified during the 4 survey visits, it is considered that all necessary effort has been made to ascertain if Great Crested Newts are present or absent. A further two surveys were conducted to obtain information on the population size of the Great Crested Newts within Ponds 2. As the pond 2 is only 160 meters from site and connects to the application site with also local resident confirming GCN on their site which is immediately opposite therefore it is likely the could support a population of Great Crested Newts, works could potentially kill, injure or disturb them in their terrestrial phase; therefore a licence would be required by Natural England to permit mitigation and avoidance and to allow development to proceed.

6. Summary

None of the ponds within the surrounding landscape will be affected by the development works.

Great Crested Newts have been recorded within 2 km (within 500 meters) of the proposed development. A small population of Great Crested Newts were found during the survey of Ponds 2, two more common and widespread amphibian species (Common Frog and Smooth Newt) were recorded during the pond surveys. It is considered that the development would requiring a Natural England Development Licence.

7. References

The Conservation (Natural Habitats, &c.) Regulations 1994, 2007 & 2010. HMSO.

Countryside and Rights of Way Act (2000).

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

Wildlife and Countryside Act (1981).

Appendix 1 Great Crested Newt Result Table

Great Crested Newt Survey Results

Survey visit: 1	**Date: 13/05/2019**	**Min air temp: 15.6 °C**	**Weather conditions: Dry**
Pond ref: 1		**Turbidity: 50%**	**No. of Traps:**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	1	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species											

Survey visit: 2	**Date: 15/05/2019**	**Min air temp: 17.4 °C**	**Weather conditions: Dry**
Pond ref: 1		**Turbidity: 50%**	**No. of Traps:**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	1	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 3	Date: 16/05/2019	Min air temp: 16.1 °C	Weather conditions: Dry
Pond ref: 1		Turbidity: 50%	No. of Traps: 10

	Method										
	Torch			Bottle trap			Net			Egg search	Larvae
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	2	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species	-										

Survey visit: 4	Date: 20/05/2019	Min air temp: 135.1 °C	Weather conditions: Dry
Pond ref: 1		Turbidity: 50%	No. of Traps: 0

	Method										
	Torch			Bottle trap			Net			Egg search	Larvae
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	0	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 5	**Date: 27/05/2019**	**Min air temp: 11.6 °C**	**Weather conditions: Dry**
Pond ref: 1		**Turbidity: 50%**	**No. of Traps: 0**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	0	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species											

Survey visit: 6	**Date: 03/05/2018**	**Min air temp: 14.4 °C**	**Weather conditions: Dry**
Pond ref: 1		**Turbidity: 50%**	**No. of Traps: 0**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	-	-	-	0	0	0	0	0
Smooth Newt	0	0	0	-	-	-	0	0	0	0	0
Palmate Newt	0		0	-	-	-	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 1	**Date: 13/05/2019**	**Min air temp: 15.6 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 5**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	3	1	0	0	0	0	0	0
Smooth Newt	1	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 2	**Date: 15/05/2019**	**Min air temp: 17.4 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 5**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	2	1	0	1	0	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 3	**Date: 16/05/2019**	**Min air temp: 16.1 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 5**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	2	1	0	0	0	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	-										

Survey visit: 4	**Date: 20/05/2019**	**Min air temp: 135.1 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 0**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	1	1	0	1	0	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 5	**Date: 27/05/2019**	**Min air temp: 11.6 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 5**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	2	1	0	1	1	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 6	**Date: 03/05/2018**	**Min air temp: 14.4 °C**	**Weather conditions: Dry**
Pond ref: 2		**Turbidity: 50%**	**No. of Traps: 5**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	3	1	0	0	1	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 1	**Date: 13/05/2019**	**Min air temp: 15.6 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	2	0	0	1	0	0	2	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 2	**Date: 15/05/2019**	**Min air temp: 17.4 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	1	0	0	2	3	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 3	**Date: 16/05/2019**	**Min air temp: 16.1 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	2	0	0	0	2	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	-										

Survey visit: 4	**Date: 20/05/2019**	**Min air temp: 135.1 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	2	0	0	2	3	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 5	**Date: 27/05/2019**	**Min air temp: 11.6 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	1	2	0	3	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 6	**Date: 03/05/2018**	**Min air temp: 14.4 °C**	**Weather conditions: Dry**
Pond ref: 4		**Turbidity: 50%**	**No. of Traps: 6**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	3	1	0	1	2	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 1	**Date: 13/05/2019**	**Min air temp: 15.6 °C**	**Weather conditions: Dry**
Pond ref: 5		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	0	0	0	1	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 2	**Date: 15/05/2019**	**Min air temp: 17.4 °C**	**Weather conditions: Dry**
Pond ref: 5		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	1	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 3	Date: 16/05/2019	Min air temp: 16.1 °C	Weather conditions: Dry
Pond ref: 5		Turbidity: 50%	No. of Traps: 10

	Method										
	Torch			Bottle trap			Net			Egg search	Larvae
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	2	0	0	3	0	0	0	1	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	-										

Survey visit: 4	Date: 20/05/2019	Min air temp: 135.1 °C	Weather conditions: Dry
Pond ref: 5		Turbidity: 50%	No. of Traps: 10

	Method										
	Torch			Bottle trap			Net			Egg search	Larvae
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	0	2	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 5	**Date: 27/05/2019**	**Min air temp: 11.6 °C**	**Weather conditions: Dry**
Pond ref: 5		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	2	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 6	**Date: 03/05/2018**	**Min air temp: 14.4 °C**	**Weather conditions: Dry**
Pond ref: 5		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 1	**Date: 13/05/2019**	**Min air temp: 15.6 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	3	1	0	3	1	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 2	**Date: 15/05/2019**	**Min air temp: 17.4 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	1	0	0	2	5	0	1	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 3	**Date: 16/05/2019**	**Min air temp: 16.1 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	2	0	0	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	-										

Survey visit: 4	**Date: 20/05/2019**	**Min air temp: 135.1 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	0	0	0	0	0	0	0	0
Smooth Newt	0	0	0	3	1	0	4	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Great Crested Newt Survey

Survey visit: 5	**Date: 27/05/2019**	**Min air temp: 11.6 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	1	3	0	0	0	0	0	0
Smooth Newt	0	0	0	0	0	0	5	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species											

Survey visit: 6	**Date: 03/05/2018**	**Min air temp: 14.4 °C**	**Weather conditions: Dry**
Pond ref: 6		**Turbidity: 50%**	**No. of Traps: 10**

	Method										
	Torch			**Bottle trap**			**Net**			**Egg search**	**Larvae**
Species	Male	Female*	Imm.	Male	Female	Imm.	Male	Female	Imm.		
Great Crested Newt	0	0	0	2	3	0	0	0	0	0	0
Smooth Newt	0	0	2	0	0	0	0	0	0	0	0
Palmate Newt	0		0	0	0	0	0	0	0	0	0
Other amphibian species	Common Frog										

Appendix 2 Pictures

Pond 1



Pond 2



Pond 3



Pond 4



Pond 5



Pond 6

