

GREAT CRESTED NEWT SURVEY



Saddleworth, Diggle



**Report No 1
Draft
June 2014**



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Client	Revision	Status	Date	Author	Proof Read	Checked
EC Harris LLP	R01	Draft	23.06.14	EB	BC	MEM
Job No. 3485						

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CONTENTS

SUMMARY	4
A INTRODUCTION	5
A.1 Background to Development	5
A.2 Personnel	6
A.3 Objectives of Study	6
B RELEVANT LEGISLATION AND PLANNING CONTEXT	7
B.1 National Planning Policy Framework	7
B.2 Protected Species Legislation	7
C SURVEY AREA AND METHODOLOGY	9
C.1 Survey Area	9
C.2 Methodology	10
C.2.1 Desktop Study	10
C.2.2 Field Survey	10
C.2.2.1 <i>Survey Equipment</i>	10
C.2.2.2 <i>Phase 1 Habitats</i>	10
C.2.2.3 <i>Habitat Suitability Index (HSI)</i>	11
C.2.2.4 <i>Aquatic Survey</i>	11
D RESULTS	14
D.1 Desktop Study	14
D.1.1 Pre-existing Information	14
D.1.2 Consultation	14
D.2 Field Survey	14
D.2.1 Terrestrial Habitats	14
D.2.2 Aquatic Habitats	14
D.2.3 Habitat Suitability Index	15
D.2.4 Aquatic Survey Results	16
D.2.5 Limitations	18
E CONCLUSION	19
E.1 Impacts	20
E.2 Mitigation	20
F APPENDICES	21
F.1 Appendix 1: Habitat Suitability Index (HSI) Methodology	21
F.2 Appendix 2: Amphibian Method Statement	23

SUMMARY

E3 Ecology Ltd was commissioned by EC Harris LLP to undertake great crested newt surveys of land proposed for the new Saddleworth School, Diggle.

Development proposals are not currently finalised.

Consultation with the local records centre provided records of common toad from within 2km of the proposed development. No records of great crested newts were provided.

The terrestrial habitats in the development site are of predominantly low value to great crested newts, being dominated by improved grassland.

There is a single pond present to the south of the site, which is approximately 10m by 4m in size and surrounded by scattered scrub and grassland habitats. Himalayan balsam, a species listed as invasive on Schedule 9 of the Wildlife and Countryside Act (1981) was also recorded around the pond. A Habitats Suitability Index Assessment of the pond indicated that it is of average suitability for great crested newts.

Four surveys using torchlight survey, bottle trapping and egg searching recorded no evidence of great crested newt. Common toad and common frog were recorded within the pond and nesting mallard were present.

Given the results of the survey, the nature and suitability of the pond on site, the low value of the habitats on site and the lack of historical records within 2km of the site, it is considered that the risk of harm to great crested newts as a result of the development is negligible.

In order to address the residual risk of the species being present, the following mitigation and compensation strategy will be employed:

- Works will be undertaken to a careful amphibian method statement (Appendix 2).
- Good quality terrestrial habitats should be created around the pond to provide both dispersal routes to and from the pond, and foraging habitats.

The local planning authority and Natural England are likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the master-planning documents.

Before this report can be used to support a planning application it is recommended that any additional planting is incorporated into the architect's plans for the site.

If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

A INTRODUCTION

E3 Ecology Ltd was commissioned by EC Harris LLP to undertake great crested newt surveys of a pond adjacent to land proposed for the new Saddleworth School, Diggle to meet the requirements of the local planning authority.

A.1 Background to Development

The site is located to the south of Diggle, Greater Manchester at an approximate central grid reference of SE 001 072. Site location is illustrated below in Figure 1.

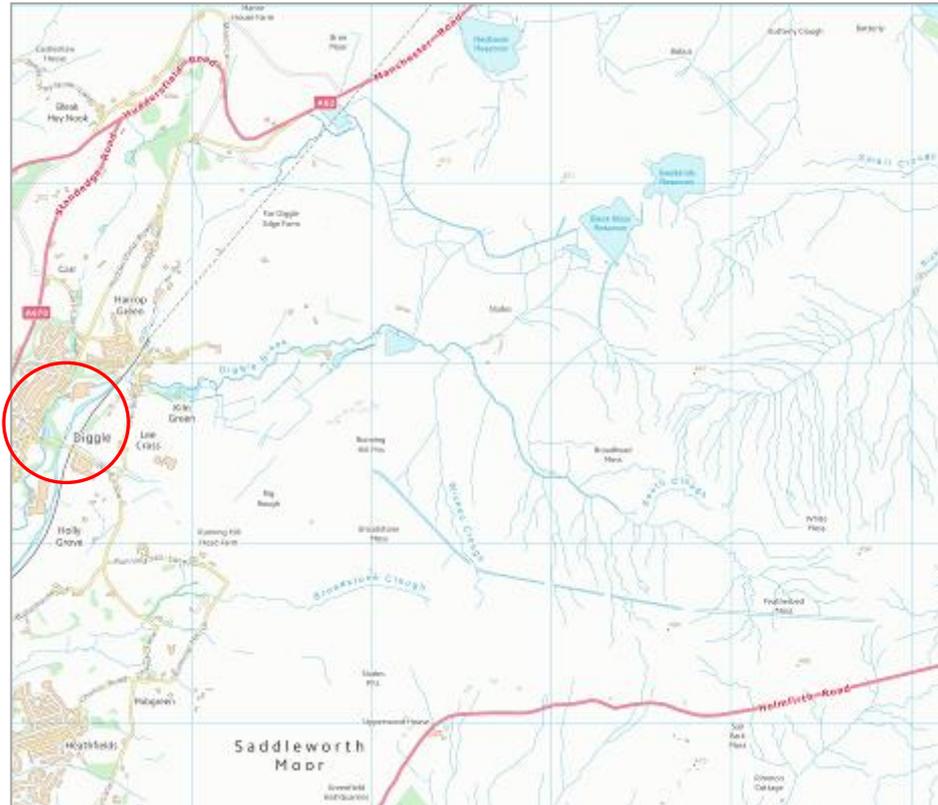


Figure 1 – Site Location.

(Contains Ordnance Survey data © Crown copyright and data right 2014)

Development proposals are not currently finalised.

A.2 Personnel

Survey work and reporting was undertaken by:

- Emma Barnes BSc MSc GradCIEEM (Natural England Licence No. CLS 002077)
- Mark Osborne Btec (Hons) MCIEEM
- Rebecca Melville BSc (Natural England Licence No. CLS 0096)

The project was supervised by:

- James Streets BSc MSc MCIEEM (Natural England Licence No. CLS00866)

Details of experience and qualifications are available at www.e3ecology.co.uk.

A.3 Objectives of Study

To determine the presence or otherwise of great crested newts, the value of the habitats on site to the species, the extent that they may be affected by the proposed development and, where necessary, to develop mitigation proposals that will allow development to proceed without significant adverse ecological effect.

B RELEVANT LEGISLATION AND PLANNING CONTEXT

B.1 National Planning Policy Framework

The Government's National Planning Policy Framework (NPPF) states the following:

- Plan policies and planning decisions should be based upon up-to-date information about the natural environment (Paragraph 158 and 165).
- Plan policies should promote the preservation, restoration and recreation of priority habitats, ecological networks and the recovery of priority species (Paragraph 117).
- Local planning authorities should set out a strategic approach in their Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. (Paragraph 114).
- When determining planning applications in accordance with the Local Plan and the presumption in favour of sustainable development local planning authorities should aim to conserve and enhance biodiversity by applying a number of principles, including if significant harm resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused. (Paragraph 118).

B.2 Protected Species Legislation

Within England, great crested newts are specially protected under the Conservation of Habitats and Species Regulations (2010) and under Schedule 5 of the Wildlife and Countryside Act of 1981 (as amended).

As a result there is a requirement to consult with Natural England before undertaking any works that may disturb great crested newts, or damage their breeding ponds, hibernacula or refugia, and under the Conservation of Habitats and Species Regulations it is illegal to.

- Deliberately kill, injure or capture great crested newts.
- Deliberately disturb great crested newts, particularly disturbance which is likely-
 - (a) to impair their ability-
 - (i) to survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) to hibernate; or
 - (b) to affect significantly the local distribution or abundance of the species.
- Deliberately take or destroy great crested newt eggs.
- Deliberately obstruct access to a great crested newt breeding pond, hibernacula or refugia.
- Damage or destroy a great crested newt breeding pond, hibernacula or refugia.

Under the Wildlife and Countryside Act (1981) the above offence of disturbing great crested newts includes low level disturbance and as such under this act it is also an offence to:

- Intentionally or recklessly disturb a great crested newt while it is occupying a breeding pond, hibernacula or refugia.

- Intentionally or recklessly obstruct access to a breeding pond, hibernacula or refugia.

Under the above legal protection, only the offences under the Conservation of Habitats and Species Regulations (2010) are strict liability offences; the remaining offences, under the Wildlife and Countryside Act (1981), are offences only where they are carried out "intentionally or recklessly".

Defences which were previously available under the Conservation (Natural Habitats, &c.) Regulations 1994, legislation which is superseded by the Conservation of Habitats and Species Regulations (2010), specifically the 'incidental result of a lawful operation' defence no longer apply, however the 'incidental result' defence persists within the Wildlife and Countryside Act disturbing great crested newts or obstructing access to a breeding pond, hibernacula or refugia and activities that cause low level disturbance may be able to rely on this defence.

Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the 1981 Act of disturbing great crested newts is extended to cover reckless damage or disturbance.

The Hedgerow Regulations 1997 provide for the conservation of important hedgerows and their constituent trees. The presence of a protected species such as great crested newts is a relevant consideration when assessing whether a hedgerow is important and may influence a local planning authority's decision on whether to approve removal of such hedges.

As of October 1 2006, public authorities have a duty to conserve biodiversity under the Natural Environment and Rural Communities (NERC) Act 2006.

Common Toad

The common toad, *Bufo bufo*, has been designated a UK Biodiversity Action Plan (UK BAP) species as of 2009. This designation highlights the rarity or population decline of this species at a national level and provides a conservation methodology to mitigate this.

C SURVEY AREA AND METHODOLOGY

C.1 Survey Area

Figure 2 illustrates the site boundary, survey area habitats present within 250m and 500m of the site. Figure 3 illustrates the location of the pond.



Figure 2 - Survey area and pond locations, with radii illustrating the habitats within 250m and 500m of the site. (Reproduced under licence from Google Earth Pro.)



Figure 3 – Pond location. (Reproduced under licence from Google Earth Pro.)

C.2 Methodology

C.2.1 Desktop Study

Initially, the site was assessed from aerial photographs and 1:25000 OS plans. Following this, consultation was undertaken with the Local Records Centre (NEYEDC).

C.2.2 Field Survey

C.2.2.1 *Survey Equipment*

The following items of equipment were utilised during survey work and analysis:

- Clulite CB2 (1 million candle power)
- Up to 11 bottle traps

C.2.2.2 *Phase 1 Habitats*

The field survey of the proposed site was conducted using the methodology of the Joint Nature Conservation Committee's Phase 1 Habitat Survey, as outlined in their habitat-mapping manual¹. Each parcel of land was assessed by a trained surveyor and classified as one of approximately ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate.

The initial habitat survey was undertaken on 10th September 2013.

¹ Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, English Field Unit, Nature Conservancy Council, 1990

C.2.2.3 Habitat Suitability Index (HSI)

A habitat suitability Index assessment of all of the ponds on site and within the surrounding area was undertaken using the methodology produced by Oldham *et al* (2000). The detailed methodology of this assessment technique is provided in Appendix 1.

C.2.2.4 Aquatic Survey

The extent of the survey area was determined by the Natural England Mitigation Guidelines which states that all ponds within 500m of a development require assessment. There is a single pond to the south of the site. No other ponds are apparent within 500m on the Ordnance Survey maps and aerial photographs.

The survey was conducted using the standard methodology as published in the Herpetofauna Workers Manual (1998) and following national guidelines including those issued by Natural England in their Great Crested Newt Mitigation Guidelines (English Nature, August 2001) and Froglife's Advice Sheet 11: Surveying for (Great Crested) Newt Conservation (Froglife, 2001). All work was undertaken by surveyors with Natural England licences.

Survey comprised a combination of three survey techniques which are described below. The extent of survey work was determined by the Natural England guidance on minimum survey effort provided within their Method Statement Document which is provided below:

Impact type and location	Potential terrestrial habitat - loss or damage (ha)	Presence/ likely absence survey (4 survey visits)	Population size class assessment (6 survey visits)	HSI
Permanent habitat loss or damage				
Pond(s) lost or damaged, with or without other habitat loss or damage	≥0	Yes	Yes	Yes
No ponds lost or damaged, development within 50m of nearest pond	≤0.01	Yes	No	Yes
	>0.01	Yes	Yes	Yes
No ponds lost or damaged, development 50-100m from nearest pond	≤0.2	Yes	No	No
	>0.2	Yes	Yes	Yes
No ponds lost or damaged, development 100-250m from nearest pond	≤0.5	Yes	No	No
	>0.5	Yes	Yes	Yes
No ponds lost or damaged, development >250m from nearest pond	≤5	Yes	No	(JNCC, 1998) (Froglife, 2001)No
	>5	Yes	No	Yes
Temporary habitat loss or damage				
Pond(s) lost or damaged, with or without other habitat loss or damage	≥0	Yes	Yes	Yes
No ponds lost or damaged, development within 50m of nearest pond	≤0.05	Yes	No	Yes
	>0.05	Yes	Yes	Yes
No ponds lost or damaged, development 50-100m from nearest pond	≤0.5	Yes	No	No
	>0.5	Yes	Yes	Yes
No ponds lost or damaged, development >100m from nearest pond	≤5	Yes	No	No
	>5	Yes	No	Yes

Survey visits were undertaken on the following dates:

Visit number	Date	Methods used
1	08.04.14	Egg searching, bottle trapping and torching
2	29.04.14	Egg searching, bottle trapping and torching
3	20.06.14	Egg searching, bottle trapping and torching
4	12.06.14	Egg searching, bottle trapping and torching

This level of survey effort meets the Natural England requirements.

During each visit the weather, including air temperature, wind, precipitation and cloud cover, was recorded. If the air temperatures dropped below 5°C then consideration was given to the time of year and water temperature to determine whether it was considered that newts would remain active. If not, the survey was aborted and undertaken on a separate visit. The vegetation cover across the pond and the turbidity of the water were also recorded on a scale of 0-5, 0 indicating no vegetation obscuring survey/clear water and 5 indicating that the water was completely obscured by vegetation or very turbid.

Egg searching

Egg searching was undertaken around the periphery of the pond(s). Great crested newts lay eggs singly and fold pliable material, usually the leaves of aquatic plants, around them. All areas of the pond were searched and once a folded leaf was found by the surveyor, it was carefully opened to check for the presence of an egg. Once the presence of great crested newt were confirmed, through finding eggs or adults, no further folded leaves were opened. Egg searching is best done from April to June, though small numbers can be found in March and July.

Bottle trapping

Both adult and larval newts can be trapped in ponds by the use of bottle traps. These can be made from empty plastic two-litre drink bottles with the ends removed, inverted and replaced to create a funnel. They are then held in place around the banks of the pond by canes with a spacing of 2m between traps. Newts find their way into the bottles but usually cannot leave. Bottle traps are an effective way of detecting a population. Bottle trapping requires two visits to a pond for each trapping session; an evening visit to set the traps, followed by an early morning visit to check them. The use of bottle traps demands considerable care and should be carried out only by thoroughly trained surveyors. If traps are fully submerged and prevent newts rising to the surface of the water to breathe, then they may eventually suffocate. Warmer water holds less oxygen, so this risk increases in hot weather and also in small, well-weeded ponds.

The traps were deployed less than an hour before dusk, left overnight and then checked between 06.00 and 11.00 hours. Traps were placed around the pond margins, facing towards the centre. Each trap was firmly fixed at the water surface, so that captured animals can take air from within the bottle. Because of the potential danger to wildlife posed by lost bottle traps it is vital to ensure that all traps set were counted in and out to ensure none were left.

Since newt activity decreases at low water temperatures bottle trapping below 5°C cannot be relied upon to detect newts.

Night Torching

Torchlight searching was undertaken from approximately 1 hour after dusk, ensuring completion before midnight. A high powered torch of one million candle power was used to actively search for newts. The surveyors walked once slowly around each pond paying particular attention to marginal vegetation and potential display areas on the pond bottom.

Where newts were recorded, their species, sex and age class were noted. When wind and rain were particularly strong, torching could not be carried out as viewing beyond the water surface became difficult.

D RESULTS

D.1 Desktop Study

D.1.1 Pre-existing Information

OS map & aerial photographs

Figures 1 (A1) and 3 (C1) show that the general land use in the surrounding area is dominated by pasture fields and some scattered scrub. Some residential dwellings are present within 500m and the village of Diggle lies to the north of the site, in addition to a former mill. The most recent aerial photograph of the development area (Figure 2, C1, 2009) indicates that habitats on site are dominated by pasture fields. A small stream (Diggle Brook) flows south through the centre of the fields and the Huddersfield narrow canal lies adjacent to the site on the eastern boundary. A small stand of broadleaf woodland is present on the northern boundary which adjoins other woodland and scrub, and connects the site into the wider area. Other woodland is present within 500m and includes a small stand to the west, and a large mosaic of woodland and scrub to the south of the site, adjacent to the canal.

D.1.2 Consultation

The records from the local records centre suggest that within the local area, great crested newts are:

- Rare or absent - likely to be absent locally, or c. <5 ponds within 10km

D.2 Field Survey

D.2.1 Terrestrial Habitats

Full details of the terrestrial habitats present on site are provided within the accompanying Extended Phase 1 Survey Report (3485 Saddleworth EX PH1 R01) for the site.

Habitats recorded on site are dominated by buildings, hard standing and amenity grassland, with amenity trees present associated with the site boundaries.

D.2.2 Aquatic Habitats

Pond Ref.	Distance from site boundary	Pond type	Pond size	Surrounding habitats
1	Within site	Small pond located to the south of the site. Vegetation covers approximately 90% of the pond and the surrounding scattered scrub shades approximately 75% of the perimeter. No evidence of fish was recorded although stickleback may be present. Water quality is good although mallard were recorded on the pond.	40m ²	Scattered scrub and improved grassland.

D.2.3 Habitat Suitability Index

Pond Reference	Location		Pond Area (m ²)		Pond Permanence (years in 10 that it dries out)		Water Quality		Shade (%)		Fowl		Fish		Pond Density		Terrestrial Habitats		Macrophytes (%)		Overall Score	
	Field value	H.S.I.	Field value	H.S.I.	Field value	H.S.I.	Field value	H.S.I.	Field value	H.S.I.	Field value	H.S.I.	Field value	H.S.I.	Field value - area	Field value - barriers	H.S.I.	Field value	H.S.I.			
Pond 1	A	1	150	0.3	1	1	Good	1	75	0.7	2	1	Minor	0.33	0	0.1	1	Moderate	1	90	0.9	0.601863

The Habitat Suitability Index assessment therefore indicates that the pond is of average suitability for great crested newts.

D.2.5 Limitations

There were not considered to be any significant constraints to the survey.

E CONCLUSION

The value and significance of the habitats and species found was assessed against the following criteria developed from the Guidelines for Ecological Impact Assessment produced by the Institute of Ecology and Environmental Management².

Level of Value	Examples
International	<ul style="list-style-type: none"> • An internationally designated site or candidate site. • A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. • Any regularly occurring, nationally significant population/number of any internationally important species.
National	<ul style="list-style-type: none"> • A nationally designated site. • A viable area of a priority habitat identified in the UK BAP, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county. • A regularly occurring regionally or county significant population/number of any nationally important species. • A feature identified as of critical importance in the UK BAP.
Regional	<ul style="list-style-type: none"> • Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. • A regularly occurring, locally significant number of a regionally important species.
County	<ul style="list-style-type: none"> • County designated sites. • A viable area of a habitat type identified in the County BAP. • Any regularly occurring, locally significant population of a species which is listed in a County "red data book" or BAP on account of its regional rarity or localisation. • A regularly occurring, locally significant number of a species important in a County context.
District	<ul style="list-style-type: none"> • Areas of habitat identified in a District level BAP. • Sites designated at a District level. • Sites/features that are scarce within the District or which appreciably enrich the District habitat resource. • A population of a species that is listed in a District BAP because of its rarity in the locality.
Parish	<ul style="list-style-type: none"> • Area of habitat considered to appreciably enrich the habitat resource within the context of the Parish. • Local Nature Reserves.
Local	<ul style="list-style-type: none"> • Habitats and species that contribute to local biodiversity, could only be replicated in the medium term, but are common in the local area. • Loss of such habitats would ideally be mitigated if local biodiversity is to be conserved and enhanced.
Low	<ul style="list-style-type: none"> • Habitats of poor to moderate diversity such as established conifer plantations, species poor hedgerows and unintensively managed grassland that may support a range of Local BAP species but which are unexceptional, common to the local area and whose loss can generally be readily mitigated.

² Institute for Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment in the United Kingdom (Version 7 July 2006). <http://www.ieem.org.uk/ecia/index.html>.

E.1 Impacts

No newts were recorded within the pond during survey work, however common toad and common frog were present.

Overall, the development is considered to have a **negligible** impact on great crested newts, because:

- Survey work did not record the species on site.
- Terrestrial habitats being lost are considered to be of low value to great crested newt, comprising predominantly improved grassland.
- The pond is likely to be retained post development.
- No records of the species were provided from within 2km of the site.

E.2 Mitigation

The following mitigation measures are likely to be required:

- Works will be undertaken to a careful amphibian method statement (Appendix 2).
- Good quality terrestrial habitats should be created around the pond to provide both dispersal routes to and from the pond, and foraging habitats.

F APPENDICES

F.1 Appendix 1: Habitat Suitability Index (HSI) Methodology

The Habitat Suitability Index (HSI) for the great crested newt was developed by Oldham *et al.* (2000) as a means of evaluating habitat quality and quantity for the species. It was developed to provide a numerical index of between 0 and 1 to aid in assessing habitats in a more objective manner. 0 indicates unsuitable habitat, 1 represents optimal habitat. The HSI for the great crested newt incorporates ten suitability categories, all of which are factors thought to affect great crested newts and are described in the text below in more depth.

The HSI for great crested newts is a measure of habitat suitability and it is not a substitute for newt surveys undertaken at the correct time of year as the system is not sufficiently precise to allow conclude that a pond does or does not support newts. Ponds with greater HSI scores are likely to support greater populations of the species, however again an assessment of a population cannot be made by an HSI score alone.

According to Natural England guidance, HSI scores can be useful when employed for the following tasks:

- 1) in **surveys**, to assess habitat quality in a repeatable, objective manner.
- 2) in **impact assessments**, to allow a measure of how damaging a development could be.
- 3) in **risk assessments**, helping to decide whether an offence might be committed, and therefore whether a license should be applied for.
- 4) in **habitat enhancement**, HSI could be used to identify the low-scoring factors in an existing pond that need addressing to improve its quality for newts.
- 5) in **post-development monitoring**, to allow an assessment of habitat condition.

The factors used in the calculation are explained below:

- **Geographic location (SI₁):** Based upon national newt distribution.
- **Pond Area (SI₂):** The optimum size of ponds for great crested newt occupancy is in between 500 and 750m², calculated from the National Amphibian Survey (Sweet & Oldham, 1993). Ponds of a larger size become less suitable as are smaller ponds, which are unlikely to support viable breeding populations.
- **Pond permanence (SI₃):** Pond permanence is essential to permit the completion of metamorphosis in any given year and if a pond successively dries out before metamorphosis is complete this could lead to extinction of a population. However, occasional drying out can be of benefit, by preventing colonisation by fish which may predate upon newt eggs. The optimal frequency of drying out is assumed to be one year per decade.
- **Water quality (SI₄):** The presence of indicator organisms is used to assess water suitability. Normally clear water with an abundant and diverse invertebrate community including relatively sensitive groups such as mayfly larvae, water shrimps and amphibians is considered the optimum state.
- **Pond shading (SI₅):** Shade can reduce the growth of beneficial macrophytes and excessive tree cover may increase the organic content through leaf fall and cause eutrophication. The National Amphibian Survey found that newt occurrence was significantly reduced above a threshold of 75% shade.
- **No. of waterfowl (SI₆):** Common waterfowl, such as moorhens and mallards, in naturally occurring numbers have little adverse effect upon newt populations but when encouraged by supplementary feeding, they can seriously damage the habitat, partly by direct mechanical interference, but also by excessive nutrient enrichment.

- **Occurrence of fish (SI₇):** Fish can have a negative impact on great crested newt presence, particularly stickleback, which can be both predatory and competitive. Other species such as goldfish and carp appear in some conditions to be benign.
- **Pond density (SI₈):** Great crested newts are known to occur in metapopulations and population persistence depends, in part, upon the distance separating breeding sites. The optimum density of ponds for great crested newts is 4 per km².
- **Proportion of “newt friendly habitat” (SI₉):** In the terrestrial stage of their life-cycle newts are known to occur more frequently on land with low intensity use, than on pasture and arable. Scrub, unimproved grassland, woodland (both deciduous and coniferous) and gardens are regarded as providing newt-friendly habitat, unlike improved pasture, arable and urban land. The greater the area of good habitat, the greater the confidence that the site is suitable. Habitat features such as hedges and ditches also enhance the suitability of the site. The presence of barriers to terrestrial dispersal of newts modifies the importance of newt-friendly habitat within range of the breeding site. Roads and rivers are perhaps the two most serious amongst the many man-made and natural barriers interfering with newt migration.
- **Macrophyte Content (SI₁₀):** Although not a direct food source for great crested newts, macrophytes fulfil a number of roles. They provide a food source (direct or indirect) for prey organisms, cover from predators and a substrate for egg attachment. The National Amphibian Survey data showed the highest occurrence of great crested newts in ponds with emergent vegetation cover between 25 and 50% and submerged vegetation between 50 and 75%.

Calculation of the Habitat Suitability Index

$$HSI = (SI_1 * SI_2 * SI_3 * SI_4 * SI_5 * SI_6 * SI_7 * SI_8 * SI_9 * SI_{10})^{1/10}$$

HSI = Habitat Suitability Index; SI = Suitability indices (expressed as values between 0 and 1) in respect of each of the key habitat features.

The result of the above HSI calculation is a single number between 0 and 1. In evaluations of the Habitat Suitability Index the lowest HSI obtained at a site known to support breeding great crested newt was 0.43, the highest 0.96.

This is based on Lee Brady’s categorisation of the scores.

If a pond has a very low HSI score (<0.5) then there would be a minimal chance of great crested newt presence. Therefore in some limited circumstances, the HSI might be used to help conclude that an offence is highly unlikely and therefore development could proceed in an area without a license. The use of the system in this way could only be used when other factors such as distance from the pond, proposed area of habitat loss and quality of habitats to be lost further minimise the risk of newts being impacted by the development. There would still be a risk of committing an offence, but it would typically be so low as to be negligible.

F.2 Appendix 2: Amphibian Method Statement

This statement must be copied to the site owner, designer, clerk of works, and to those contractors whose work may affect amphibians including those involved in all elements of the work detailed above. A signed copy should be kept at the site offices.

This method statement contains information regarding:

- Species identification ecology
- Working methods

	Print Name	Signature	Date
Supervisor:			
Operative:			

Great Crested Newts

Relevant Legislation

Great crested newts are protected under the Wildlife and Countryside Act 1981 (as amended), and the Habitat Regulations (2010). As a result it is illegal to kill, injure or disturb a great crested newt or damage, destroy or obstruct access to its place of rest or shelter. **Prosecution could result in imprisonment, fines of £5000 per animal affected and confiscation of vehicles and equipment used.**

Ecology

Adult great crested newts are present in ponds during the spring period, generally February to June, where they lay their eggs. Larvae hatch out and emerge as small newts in the summer. Most of the year is spent on the land, generally in areas that provide good cover and an invertebrate food source such as woodland, hedges, marshy grassland and coarse grassland. The majority of newts will stay within 150m of the breeding pond, but some may be present up to 500m from a pond and can certainly move over greater distances than this.



Male great crested newt with a white flash along the tail and crest

Underbelly of a great crested newts, note the bright orange colouration and granular skin as well as white spots



Male great crested newt underwater

Great crested newts (see photographs above) are up to 170mm long, larger than smooth or palmate newts, which are rarely longer than 100mm and have a coarse, dark (almost black) granular skin with very fine white spots on the lower flank and a brightly coloured orange-yellow belly, with dark spots.

Smooth newts are delicate and often yellow-brown in colour and significantly smaller than great crested newts being up to around 100mm in size, have smoother skin and are much lighter in colouration than the great crested newts. During the breeding season, males develop a crest, which is absent in palmate newts. Both males and females generally have spots under their chins (see photo above left).



Palmate newts are slightly smaller than smooth newts, and are generally less spotty on the belly and under the chin. Males develop a widened tale during the breeding season and have black hind webbed feet.

Newts are mainly active at night, particularly in warm and wet conditions, and are most likely to be found under stones and logs, discarded rubbish or within piles of rock, bricks and the like.

Toads

The Common Toad is a UK Biodiversity Action Plan priority species.

The Common Toad is a widespread amphibian found throughout Britain although absent from Ireland. The Common Toad can be found in almost any habitat and is common in gardens. It prefers larger water bodies in which to breed and, because toxins are also present in the skin of the tadpoles, they are able to breed in ponds and lakes containing fish which learn to avoid the distasteful tadpoles. Common Toads congregate at breeding ponds in early April but for the rest of the year will wander well away from water as they are far more tolerant of dry conditions than the Common Frog.

Common Toads feed on any moving prey small enough for them to swallow. They are most active at night when they will wander about in search of food. If they find a good source of food they can become quite sedentary. Their life cycle is similar to that of the Common Frog, spawn is laid in strings (see picture) and the tadpoles are black and often move about in shoals. The toadlets emerge in August usually after heavy rain and in huge numbers. At this stage of their lives they are extremely small and speckled with gold.



Working Methods

Standard working methods, to minimise the risk of harming or killing amphibians should include the following:

- The working area will be hand searched by a licenced ecologist immediately prior to the start of vegetation clearance, who will search any potential refuges. This must be carried at a time when newts are active between March and October inclusive.
- Hand searching should be completed within 24hours of the start of the vegetation clearance.
- Vegetation clearance will be undertaken by hand within areas of tall grassland ruderal or scrub and be undertaken progressively to allow animals to move out of
- If there are areas which are inaccessible to the ecologist due to dense vegetation, the ecologist will undertake a hand search as the vegetation removal within these areas progresses and will liaise with the contractors on site as to how to proceed within these areas to minimise the risk of harm to great crested newts. Measures will include the removal of vegetation supported by woody stems or trunks to a height of 20cm above ground level and removal of debris by hand from the working area.
- Debris will be removed from the working area, either from the site entirely or piled in areas which will remain undisturbed.
- Traffic within the site will be minimised through the use of clearly marked access routes. Where possible existing tracks or areas of hard standing will be utilised within this system. The access will remain the same throughout the development.
- Vegetation that has been cleared will remain cut to ground level throughout the development process, never getting more than 5cm in height. Should any areas of vegetation re-colonise or grow during the works due to inactivity within these areas, they will be progressively cut down by hand trimmers to 5cm with the cuttings immediately removed from the working area and removed from the site or stored in an area to remain unaffected by the works.
- Should any trenches be created, they will be filled in within the day as an ongoing process to prevent amphibians, which are nocturnal, from falling in. If this is not possible, a ramp of a maximum of 45° will be provided to allow animals to escape.

Prior to the re-commencement of works in these trenches, a hand search will be carried out to ensure that no amphibians remain within these areas.

- Excavated material will be stored on sheeting or wooden boarding to minimise habitat damage, if not already on bare ground. The excavated material should be compacted as much as possible to minimise the risk of amphibians taking refuge within. If possible any sheeting will be doubled back onto the excavated material to further minimise the risk of amphibians accessing these areas.
- If amphibians are found during the clearance operations they should be moved to adjacent areas of suitable habitat that are not affected by development.
- If great crested newts are found at any time during the works, works will stop in that area immediately and the ecological consultant for this project (E3 Ecology Ltd. 01434 230982) will be contacted. If newts are likely to be harmed without immediate action handle them with care, place in a cool, humid and shaded receptacle and release them in tall grassland/scrub outwith the construction area in a location that will not be disturbed in the future

In case of queries please contact the project ecologists E3 Ecology Ltd 01434 230982.