

Great Crested Newt (Triturus cristatus)
Survey and Assessment Report
Pond Adjacent to Dove Way, Uttoxeter

Final Report

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Quality Assurance

Title:

**Great Crested Newt (*Triturus cristatus*)
Survey and Assessment Report
Pond adjacent to Dove Way, Uttoxeter**

A Report to:

Mr M. Montague, MMA Design (Architects)

Report Number:

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Description:

Great Crested Newt (*Triturus cristatus*)
Survey and Assessment Report

Revision:

Final Report

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Checked:

A handwritten signature in black ink, appearing to read 'R. A. Pearce', with a long horizontal flourish extending to the right.

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Approved:

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Principal Ecologist

Executive Summary

Habitat Suitability Index

- Three ponds are shown on the OS 10,000 map within 250m of Phase 1 of the proposed Dove Way mixed use development.
- One of the ponds, which lies inside the grounds of Thomas Alleyne's High School, was assessed using the Great Crested Newt Habitat Suitability Index (HSI). The remaining two ponds shown on the OS map were found to no longer exist.
- The HSI score for the pond in the school grounds is Average.
- The pond in the school grounds has been subjected to organised pond dipping monthly for the past 10 years with no newts of any species found (Mr Barker, School Farm Manager and Environmental Science Technician, 2011).
- The pond was subjected to a pollution event approximately 5 years ago that resulted in the pond becoming filled with raw sewage. This had a detrimental effect on the health of the pond but it has been recovering.
- It would appear highly unlikely that Great Crested Newts are present in the pond and no further survey regarding Great Crested Newts is thought to be required.

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1 Background

Staffordshire Ecological Services Ltd. was commissioned in August 2011 to undertake an assessment for the suitability of three ponds adjacent to Dove Way, Uttoxeter for Great Crested Newt (*Triturus cristatus*). The survey was recommended as a result of a Phase 1 Habitat Assessment and Protected Species Scoping Report Carried by SES in April 2011 (P36.T46.11 SES, 26 April 2011). The Phase 1 survey found that the proposed development site contained terrestrial habitat suitable for Great Crested Newt and as a result, all ponds within 250m of the proposed site should be assessed with regard to their suitability for this species.

The purpose of the assessment is to:

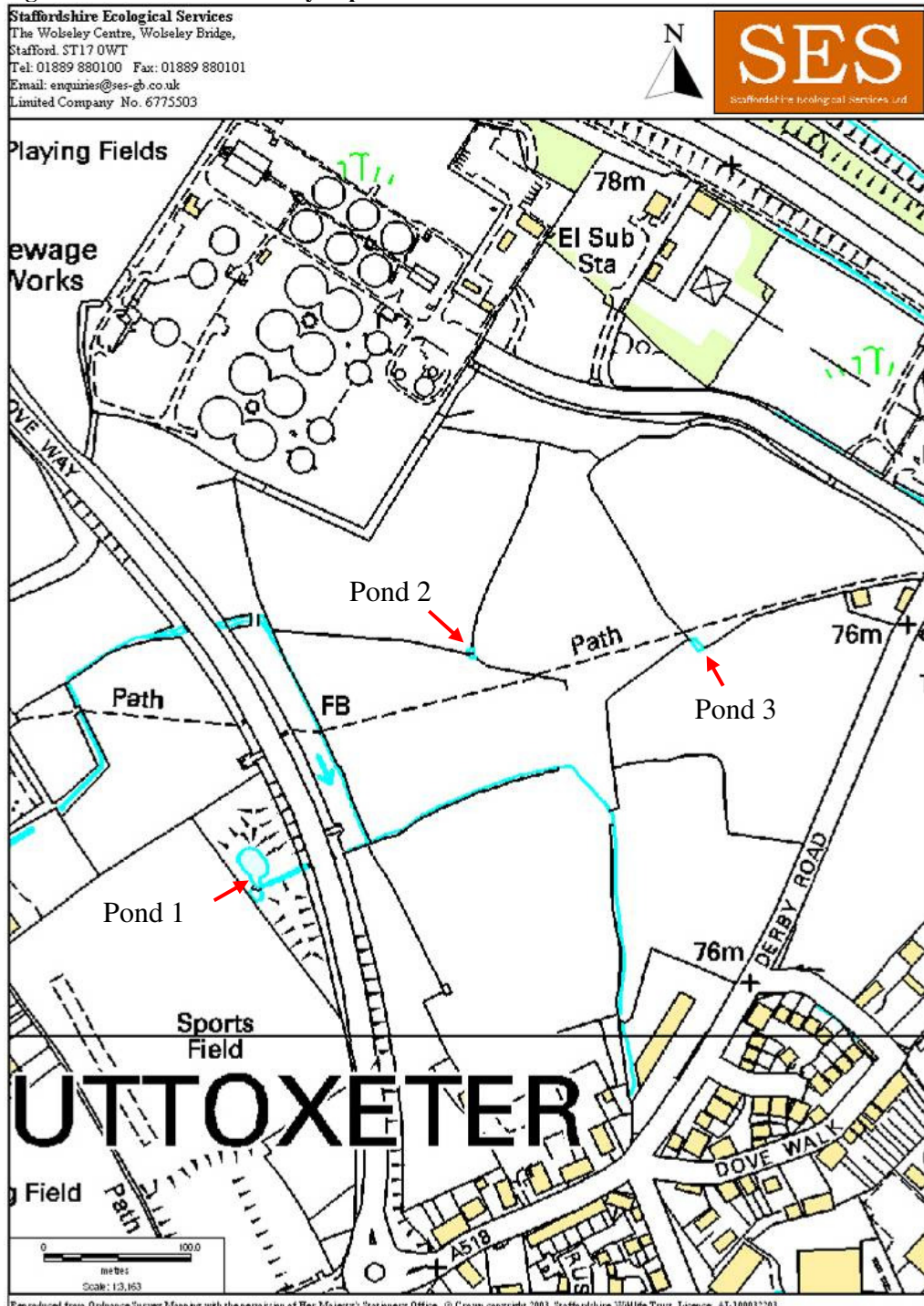
- Undertake a Habitat Suitability Index assessment for Great Crested Newts on ponds within 250m of Phase 1 of the proposed development off Dove Way, Uttoxeter.
- Based upon the assessment of the ponds, recommend further more detailed surveys or actions with regard to potential impacts on Great Crested Newts and the mixed use development of land adjacent to Dove Way, Uttoxeter.

2 Site Description

2.1 Location

Three ponds that lie within 250m of Phase 1 of the proposed Dove Way development site were surveyed. The location of the ponds is shown in Figure 2.1. Pond 1 lies within the boundary of Thomas Allayne's High School and is to be retained. Ponds 2 and 3 lie on farm land within 250m of Phase 1 of the development, and will be lost when Phase 2 of the development takes place.

Figure 2.1 Locations of surveyed ponds.



3 Survey Methodology

The survey was carried out on 31st August 2011 By Richard Pearce BSc (Natural England GCN License 20112615).

3.1 Background information

Ed Barker, Farm Manager and Environmental Science Technician at Thomas Allayne's School was contacted on 6th September 2011 with regard to background information pertaining to Pond 1. Mr Barker has supervised pond dipping sessions at the pond on a monthly basis over the last 10 years and is familiar with identifying amphibians and aquatic invertebrates.

3.2 Habitat Suitability Index

Measuring the Habitat Suitability Index (HSI) for great crested newts is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so. The ponds within the survey area were assessed according to the Habitat Suitability Index (HSI: Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. 2000).

HSI scoring can be useful in:

- Evaluating the general suitability of a sample of ponds for great crested newts
- Comparing general suitability of ponds across different areas
- Evaluating the suitability of receptor ponds in a proposed mitigation scheme.

There is also a positive correlation between HSI scores and the numbers of great crested newts observed in ponds. So, in general, high HSI scores are likely to be associated with greater numbers of great crested newts. However, the relationship is not sufficiently strong to allow predictions to be made about the numbers of newts in any particular pond. Ten indices are used to determine the HSI score for each pond, these are:

- SI1 - Geographic location
- SI2 - Pond area
- SI3 - Pond drying (frequency)
- SI4 - Water quality
- SI5 - Pond shading
- SI6 - Water Fowl
- SI7 - Fish
- SI8 - Pond density
- SI9 - Surrounding terrestrial habitat
- SI10 - Macrophyte (aquatic plant) density

Each of these criteria is given a score between 0.01 and 1 depending upon how they compare to the diagnostic data provided in the HSI guidelines. The final HSI score is then calculated using the following equation:

$$\text{HSI} = (\text{SI1} * \text{SI2} * \text{SI3} * \text{SI4} * \text{SI5} * \text{SI6} * \text{SI7} * \text{SI8} * \text{SI9} * \text{SI10})^{1/10}$$

Ponds can then be categorised dependant upon the HSI score as follows:

Assessment for Great Crested Newts
Staffordshire Ecological Services Ltd.

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

The Ordnance Survey map shows three ponds (labelled 1-3 on Figure 2.1) within 250m of Phase 1 of the proposed development. Ponds 2 and 3 were found to no longer exist; the dry and shallow grassy depressions now present indicate that they stopped holding water some years ago.

3.3 Great Crested Newt Life Cycle

Great Crested Newt Life History and Key Activity Periods.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
POND												
EGGS				XX	XX	X						
LARVAE					XX	XX	XX	XX				
IMMATURES												
ADULTS			XX	XX	XX	X						
LAND												
JUVS+IMMS	X								XX	XX	XX	XX
ADULTS	XX	X					X	XX	XX	XX	XX	XX
KEY ACTIVITIES												
HIBERNATION												
ADULT EMERGENCE + MIGRATION TO POND												
COURTSHIP + EGG-LAYING												
LARVAL GRP WTH + DEVELOPMENT												
ADULT EMIGRATION FROM POND												
METAMORPHOSIS + JUVENILE EMIGRATION												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Ref: Modified from: Great crested newt mitigation guidelines (August 2001, English Nature ISBN 1 85716 568 3).

X-Indicates the period of maximum newt activity.

The coloured bars indicate the time of year for the life stages of newts.

N.B. Immature newts can be found within ponds at all times of the year but they will not be found in large numbers.

3.4 Aquatic Search

Pond 1 (Figure 2.1) was sampled at accessible points along the margins for the presence of newts by hand netting. The sampling also assessed the invertebrate diversity within the ponds which gives an indication as to the water quality.

4 Results

4.1 Background information

Over the past 10 years, no newts of any kind have been captured during monthly pond dipping sessions carried out on Pond 1, as supervised by Mr Barker of Thomas Alleyne's High School. Mr Barker also stated that approximately 5 years ago Pond 1 was subjected to a major pollution incident where sewage from a nearby sewage works was discharged into Pond 1. This had a severe impact on the health of the pond, although in recent years the pond has shown signs of recovery including re-colonisation with fish and an increase in diversity of aquatic invertebrates.

4.2 Habitat Suitability Index (HSI).

The resulting Habitat Suitability Index (HSI) for Pond 1 is **0.6**, which is categorised in the HSI as **Average**

	Pond 1	
HSI Indices	Attribute	Score
SI1 - Geographic location	A	1
SI2 – Pond area to nearest 50m ² (m ²)	400	0.8
SI3 - Pond drying (frequency)	Never	0.9
SI4 – Water quality	Moderate (assessed using BMWP aquatic invertebrate scores)	0.67
SI5 – Pond shading (%)	0%	1
SI6 – Water Fowl	Minor	0.67
SI7 - Fish	Minor – (5-10) small fish observed during survey	0.33
SI8 – Pond density	0.1 - Three ponds within 1km - relatively poor habitat connectivity	0.1
SI9 – Surrounding terrestrial habitat	Moderate - Closely grazed immediately around pond – good quality habitat (long grass and scrub) within 10m	0.67
SI10 – Macrophyte (aquatic plant) density(%)	90%	0.8
HSI SCORE		0.6
CATEGORY		Average

4.2 Pond Sampling.

No amphibians were netted when sampling Pond 1. The invertebrate fauna present in the samples suggests that the water quality of the pond is moderate. Fish of unidentified species (approximately 10cm in length) were observed in low densities in the pond whilst sampling.

5 Recommendations

Ponds 2 and 3 no longer exist as ponds and as a result are not a consideration with regard to Great Crested Newts.

Pond 1 scores Average on the Habitat Suitability Index. The HSI guidelines state that ponds that score as average have a 55% chance of occupation by Great Crested Newts. However, taking into consideration the history of regular pond dipping at Pond 1 with no newts found, lack of other ponds close by and the relatively recent pollution event it seems highly unlikely that Great Crested Newts are present.

As a result, no further survey regarding Great Crested Newts are recommended.

6 References

- ANON (2001) *Great crested newt mitigation guidelines*, Peterborough, English Nature.
- LANGTON, T.E.S., BECKETT, C.L., AND FOSTER J.P. (2001) *Great Crested Newt Conservation Handbook*, Froglife
- OLDHAM R.S., KEEBLE J., SWAN M.J.S. & JEFFCOTE M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

7 Site Photographs

Plate 1: Pond 1



Plate 2: Pond 2 - Dry



Plate 3: Pond 3 – Dry

