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GREAT CRESTED NEWT SURVEY OF LAND NORTH OF TETBURY, GLOUCESTERSHIRE

CLIENT: FAY AND SON

OUR REF: FAYSON-TETBUR-2711

Issue	Date of Issue	Written By	Reviewed + Approved By
One	23 June 2010	SK	KH

FAYSON-TETBUR-2711

GREAT CRESTED NEWT SURVEY OF LAND NORTH OF TETBURY, GLOUCESTERSHIRE

NON-TECHNICAL SUMMARY

Site location and size	Land north of Tetbury; 10.25ha
Scope of Works	Great crested presence/absence survey and population survey of three ponds (two on site and one adjacent to the site)
Purpose of Works	To inform the development of the site as residential housing
Dates of site visits and names of surveyors	Mid-April to mid-June 2010; led by Jo Clarke
Overview	Small populations of great crested newts were recorded within all three ponds surveyed (adults recorded but no eggs found). Smooth newts were also recorded within all ponds The ponds are considered to be breeding ponds and are likely to form a metapopulation
Recommendations for protection of ecological features of value	Any works that will affect great crested newt habitats (aquatic and/or terrestrial habitat, considered to extend up to 500m from ponds) will require a Natural England licence. This licence will need to be accompanied by a detailed mitigation strategy to ensure maintenance of favourable conservation status
Key recommendations and other recommendations for enhancement	Pond enhancements through appropriate planting schemes, provision of terrestrial habitats and management of over-hanging trees (advice should be sought before undertaking any works to avoid any risk to great crested newts)

CONTENTS

1 INTRODUCTION

1.1 In January 2010, ecosulis ltd was commissioned by Fay and Son to undertake great crested newt surveys of ponds on land north of Tetbury, Gloucestershire. These surveys follow on from the extended Phase 1 habitat survey (report reference: LANASS-TETBUR-2486), and daytime bat assessment and survey and great crested newt Habitat Suitability Index (HSI) assessment (report reference: FAYSON-TETBUR-2632).

1.2 Two members of staff representing ecosulis ltd undertook the surveys between mid-April and June 2010. Access was provided by the landowner.

Objectives of Study

1.3 The objectives of this study are: To determine the presence of great crested newts within ponds (and subsequent population size, if present); to consider potential constraints and opportunities that great crested newts may pose to the development plans; and to identify any further actions that may be required to ensure that great crested newts are fully considered within the proposals.

General Description of Site

1.4 The site is situated on the northern fringes of Tetbury (centred on OS grid reference ST 895 941; refer to Figure 1), with residential areas to the south, arable and grazed farmland to the north, east and west and the A4135 (London Road), with industrial and commercial premises beyond, to the south-east. The site comprises poor semi-improved grassland, ponds, hedgerows, trees and woodland copses. Stone walls are present throughout the site. In total the site covers approximately 10.25ha.

1.5 The site is adjacent to Highfield Farm and Sir William Romney's School. Highfield Farm comprises a farmhouse and outbuildings including a stable yard, gravel parking, several further cottages and the Cherish Salon, a number of cattle and horse-grazed fields, hedgerows, two ponds and small patches of woodland. Sir William Romney's School comprises hedgerows, amenity grassland and a gravel parking area.

2 NOMENCLATURE

2.1 The common name only of flora and fauna species is given in the main text of this report; however, Latin names are used for species where no common name is available. A full list of all species recorded on site during the surveys is given in Appendix I with their Latin names. All plant names follow the nomenclature of Stace (1997).

3 METHODS

3.1 The survey area comprised three ponds; two on site and one adjacent to the site, as shown on Figure 1. HSI assessments of the ponds were undertaken as part of the scope of previous surveys (report reference: FAYSON-TETBUR-2632). A summary of the assessments is included in the results section.

Great Crested Newt Presence/Absence Survey

3.2 In order to determine presence, the Great Crested Newt Mitigation Guidelines (English Nature 2001) requires three survey techniques to be employed where possible, including; bottle-trapping, torch searches and egg searches. All of these methods were used within the three ponds surveyed.

3.3 Four data sets are required to determine presence/absence of great crested newts (English Nature 2001). The eight site visits required to obtain these data sets were undertaken between 20 April and 10 May 2010, which falls within the aquatic phase of the great crested newt life cycle (mid-March to mid-June). At least half of the visits were undertaken between mid-April and mid-May. The visits were undertaken when the temperature was consistently above 5°C and when the night-time weather was suitable, i.e. little or no wind and no rain.

Torch Searches

3.4 Searches of the water bodies were conducted by torch light at night. The perimeters were walked slowly and searched using a 1,000,000-candlepower lamp (operated off a 12V battery). Any newts sighted within the torch beam were identified to species and gender, where possible, counted and recorded. Other amphibians were also recorded.

Bottle-trapping

3.5 Bottle-traps constructed from two-litre plastic bottles were secured around the margins of each pond at intervals of approximately 2m. Bottles were angled to allow for a bubble of air. The traps were left overnight and checked the following morning. Any newts found were identified to species and gender, counted and recorded before being released. Other amphibians were also recorded.

Egg Searches

3.6 Aquatic and marginal vegetation (and other suitable substrates) were searched for the presence of great crested newt eggs. Once eggs were found and identified to

species, no further egg searches were undertaken within that water body. The presence of eggs of other species of amphibian was also noted.

Personnel

3.7 All surveys were undertaken by experienced representatives of **e**co*sulis* ltd, led by Jo Clarke, working under a Natural England Great Crested Newt survey licence.

Great Crested Newt Population Survey

3.8 In order to determine population size class, should the presence/absence survey record presence, the Great Crested Newt Mitigation Guidelines (English Nature 2001) requires an additional two data sets. To obtain these data sets, four further visits to the site are required. These visits were undertaken between 17 May and 1 June 2010 (note that half of the six data sets required for the presence/absence survey and population survey combined were obtained between mid-April and mid-May in accordance with best practice).

3.9 Methods employed for the population survey were the same as for the presence/absence survey (torch searches and bottle-trapping were employed; the egg searches were not continued).

Assessment

Great Crested Newt - Population Size Class Assessment

3.10 From the results of the surveys, the maximum adult count per pond per night gained through either the torch searches or bottle-trapping is used to categorise the population size of great crested newt within each pond. The categories are shown in Table 1 below.

Table 1: Population Size Class Assessment (English Nature 2001)

Population size class	Peak count
Small	For maximum counts up to 10
Medium	For maximum counts between 11 and 100
Large	For maximum counts over 100

4 RESULTS

Pond Descriptions and HSI Scores

4.1 A description of the two ponds on site and one pond adjacent to the site is included below. The locations of the ponds are shown on Figure 1.

Pond 1

4.2 Pond 1 is located within grazed pasture and is shaded by mature ash and oak trees with little macrophyte vegetation, comprising duckweed. The pond covers approximately 15m by 10m. Marginal vegetation is limited as common nettle dominates and water quality was moderate at the time of survey. The HSI score for this pond is 0.69.

Pond 2

4.3 Pond 2 lies across a hedgerow to the south of Pond 1. The pond covers approximately 5m by 5m. Water levels at this pond decreased significantly during the survey period. Brooklime is present on the flooded margins of the pond. The HSI score for this pond is 0.58.

Pond 3

4.4 This pond is located just outside the site boundary at the northern corner, within a small copse between the grounds of Highfield Farm and Sir William Romney's School. The pond is approximately 25m by 15m with moderate water quality and some macrophyte content. Mature ash and scrub surround the pond. The HSI score for this pond is 0.72.

Presence / Absence Survey and Population Survey

4.5 The presence/absence survey recorded great crested newts present in all three water bodies; therefore, the subsequent population survey results has been combined with the presence/absence survey results and the six data sets displayed in Tables 2 and 3 below (bottle-trapping and torch searches respectively). Results of the egg searches (forming part of the presence/absence survey only) are shown in Table 4.

4.6 Information regarding water turbidity, vegetation cover, air temperature, the number of bottle-traps used and the torch power utilised at each pond for each site visit is detailed within Appendix II.

Table 2: Great Crested Newt Bottle-trapping Results (presence/absence and population surveys) 2010

Water Body	Site Visit						Maximum Count	Field Observations Maximum count
	20 April	26 April	4 May	10 May	17 May	1 June		
Pond 1	0	0	0	0	0	1♀	1	4SN
Pond 2	0	1♂	0	1♂	0	0	1	6SN
Pond 3	0	0	0	1♂	0	1♂	1	13SN

Key
♀ Female great crested newt
♂ Male great crested newt
SN - Smooth newt

4.7 Referring to Table 2, the method of bottle-trapping recorded presence of great crested newts in all ponds, with a maximum count of one individual recorded in each pond.

4.8 Smooth newts were also recorded in each pond by this method.

Table 3: Great Crested Newt Torch Search Results (presence/absence and population surveys) 2010

Water Body	Site Visit						Maximum Count	Field Observations Maximum count
	20 April	26 April	4 May	10 May	17 May	1 June		
Pond 1	0	1♂	1♂	1♂	1♂	0	1	3SN, 4SN/PN
Pond 2	0	1♂	0	0	0	0	1	13SN, 2SN/PN
Pond 3	8♂, 2♀	7♂, 1♀	5♂, 2♀	4♂, 4♀	2♂, 2♀	4♂, 1♀	10	18SN, 3SN/PN

Key
♀ Female great crested newt
♂ Male great crested newt
SN - Smooth newt
PN – Palmate newt

4.9 Referring to Table 3, the method of torch searching recorded presence of great crested newts in all ponds, with maximum counts of one, one and ten for Ponds 1, 2 and 3 respectively.

4.10 Smooth newts (and/or palmate newts) were also recorded in each pond by this method.

Table 4: Great Crested Newt Egg Search Results 2010

Water Body	Site Visit				Field Observations
	20 April	26 April	4 May	10 May	
Pond 1	A	A	A	A	-
Pond 2	A	A	A	A	SN eggs present
Pond 3	A	A	A	A	SN eggs present
Key P – Eggs present A – Eggs absent SN - Smooth newt					

4.11 Referring to Table 4, no great crested newt eggs were recorded in any of the water bodies on any of the presence/absence survey visits. Smooth newt eggs were recorded in Ponds 2 and 3.

4.12 Referring to Tables 2, 3 and 4, other species recorded during the survey were smooth newt (count of three in Pond 1, 13 in Pond 2 and 18 in Pond 3, taken from the torch searching results only). Possible palmate newts were recorded within these ponds (count of four in Pond 1, two in Pond 2 and three in Pond 3) but due to the difficulty in distinguishing between smooth and palmate newts by torch searches their presence cannot be confirmed. No palmate newts were recorded during the bottle-trapping survey and therefore it is likely that the species recorded are smooth newts.

Assessment

Great Crested Newt Population Size Class Assessment

4.13 The population size class assessment of Ponds 1, 2 and 3, using the torch searching results (which provided the peak counts for all three ponds), is summarised in Table 5 below.

Table 5: Great Crested Newt Population Size Class Assessment

Water Body	Maximum Count	Population Size	Great crested newt eggs present/absent
Pond 1	1	Small	Absent
Pond 2	1	Small	Absent
Pond 3	10	Small	Absent

4.14 A small population of great crested newts were recorded within each pond (1, 2 and 3) during the survey (refer to Figure 1 for the location of these ponds). Smooth newts were recorded in these three ponds also and their eggs were found in Ponds 2 and 3. No great crested newt eggs were recorded during the survey however suitable opportunities for egg laying were noted.

4.15 Due to the close proximity of the ponds to one another, and good connectivity between them (hedgerows connect the ponds), it is assumed that they form a metapopulation. No great crested newt eggs were recorded within the ponds; however, as there are small populations evident in the ponds, and presence of male and female adults, these ponds are considered to be breeding ponds.

5 CONSIDERATIONS AND RECOMMENDATIONS

5.1 This section provides considerations in relation to great crested newts and any adjacent habitats that should be considered within the development proposals to ensure that impacts on great crested newts are avoided and / or mitigated within the scheme.

5.2 Great crested newt is protected under the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010 from deliberate capture, injury and killing, intentional or reckless disturbance, intentional or reckless obstruction of access to any structure or place which any such animal uses for shelter or protection, and deliberate damage or destruction of a breeding site or resting place.

5.3 Great crested newts were recorded within all ponds surveyed, including two ponds on site and one pond adjacent to the site. The presence of a European Protected Species (EPS) will require a licence should any terrestrial habitats within 500m of the ponds be affected by the proposals, or should the ponds be directly affected. The most favourable option with respect to the presence of great crested newts in the ponds is to retain all ponds within the proposals and to provide suitable surrounding terrestrial habitats. Should it not be possible to retain the pond(s) within the design and/or should terrestrial habitats be affected, then the EPS licence application will need to include details of appropriate habitat replacement, a capture/relocation exercise and post-development monitoring and management to ensure the favourable conservation of this species in the long-term. Applications for Natural England licences can only be made once planning permission has been granted (with no outstanding conditions relating to nature conservation). Within the project timescales, consideration will need to be given to the following: The time required for the licensing application process (typically a minimum of 40 working days to compile and process the application); the creation/enhancement of habitats (this element is dependent on the type and scale of habitat loss); capture/relocation effort (minimum 30 consecutive days for a small population, but this is subject to capture rates); and seasonal restrictions.

5.4 An application for an EPS licence should include appropriate mitigation. In general, this could include:

- Terrestrial and aquatic habitat creation/enhancement (as appropriate depending on the type and scale of habitat loss)

- For terrestrial habitats, a trapping and translocation programme comprising a minimum of 30 consecutive capture days (for a small population undertaken between March and October) (for aquatic habitats, this may take longer and span more than one season)
- Destructive searches of habitats following trapping effort
- Watching brief by an Ecological Clerk of Works
- Fence repair/maintenance throughout works
- Monitoring programme

5.5 Within the licence application, consideration will need to be given to enhancing the site for great crested newts through appropriate planting schemes, provision of terrestrial habitats and additional aquatic habitat. For full details of recommended management prescriptions, please refer to the Outline Management Scheme (report reference: FAYSON-TETBUR-2632).

5.6 Consideration should be given to enhancing the ponds to increase their biodiversity potential. A reduction in shading/over-hanging trees is considered to be the key management tool for the ponds, in particular Pond 1. A reduction in shading generally results in an increase in marginal and aquatic plants owing to increased sun light, which in turn improves water quality. Reduction in over-hanging trees will also reduce leaf litter accumulation and prolong the life of the ponds (advice should be sought before any works affecting the ponds and surrounding habitat is undertaken to avoid any risk to great crested newts).

6 LIMITATIONS OF SURVEY AND REPORT

6.1 This report records wildlife found during the survey and anecdotal evidence of sightings. It does not record any plants or animals that may appear at other times of the year and were therefore not evident at the time of visit. Some species that might use the site or be apparent at other times of year, or only in certain years, would not have been detected.

6.2 Variations in the quality of the water bodies during the monitoring period can affect the success of the survey methods used and may influence the results. Owing to the difficulty in accessing and examining all aquatic and marginal vegetation during the egg searches, not all vegetation was surveyed.

6.3 The behaviour of animals can be unpredictable and may not conform to standard patterns recorded in current scientific literature. This report therefore cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats or that they will not occur in locations or habitats that appear unsuitable.

6.4 The advice contained in this report relate primarily to factual survey results and general guidance only. On all legal matters you are advised to take legal advice.

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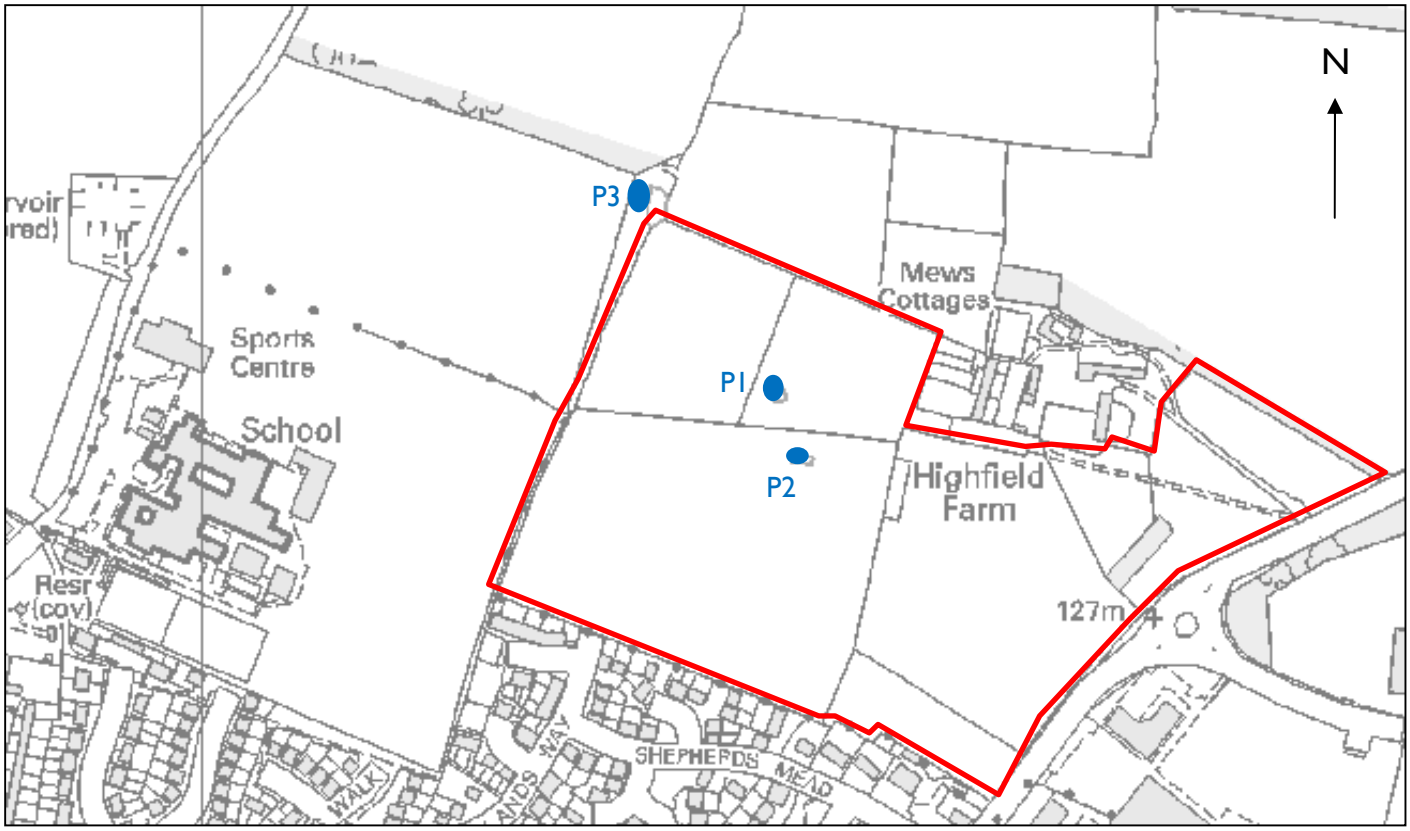
Client	Fay and Son Ltd	
Project	Land North of Tetbury	
Title	Great crested newt survey plan	
Date June 2010	Scale SCHEMATIC ONLY	Figure 1

Key

Pond

Site boundary



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Appendix I: SPECIES LIST

Flora	
Common Name	**Latin Name**
Ash	*Fraxinus excelsior*
Brooklime	*Veronica beccabunga*
Common nettle	*Urtica dioica*
Duckweed	*Lemna minor*
Elder	*Sambucus nigra*
Hawthorn	*Crataegus monogyna*
Oak species	*Quercus* species
Fauna	
Common Name	**Latin Name**
Great crested newt	*Triturus cristatus*
Smooth newt	*Triturus vulgaris*

Appendix II: GREAT CRESTED NEWT SURVEY DATA 2010

Table 1: Great Crested Newt Survey Information: Pond 1

Date	Visit	Air temp.	Water temp.	Weather	Veg. cover[1]	Methods used[2]	Number of traps	Torch power	Water Turbidity [3]
20/04/2010	1	6.4 °C	13.2 °C	Clear Skies, cool	1	bt, es, ts	13	1,000,000cp	2
26/04/2010	2	11.5 °C	13.8 °C	Partly cloudy, Warm	1	bt, es, ts	12	1,000,000cp	3
04/05/2010	3	8.2 °C	13 °C	Cloudy dry	1	bt, es, ts	13	1,000,000cp	1
10/05/2010	4	7.7 °C	9.2 °C	Partly cloudy, dry	1	bt, ts	13	1,000,000cp	1
17/05/2010	5	10.2 °C	13.1 °C	Dry, fine, no cloud; clear	3	bt, ts	11	1,000,000cp	3
01/06/2010	6	19.1°C	12.1 °C	Overcast, dry	3	bt, ts	10	1,000,000cp	3

Table 2: Great Crested Newt Survey Information: Pond 2

Date	Visit	Air temp.	Water temp.	Weather	Veg. cover[1]	Methods used[2]	Number of traps	Torch power	Water Turbidity [3]
20/04/2010	1	6.4	13.2	Clear Skies, cool	4	bt, es, ts	5	1,000,000cp	1
26/04/2010	2	11.5	13.8	Partly cloudy, Warm	4	bt, es, ts	4	1,000,000cp	2
04/05/2010	3	8.2	13	Cloudy dry	4	bt, es, ts	5	1,000,000cp	2
10/05/2010	4	7.7	9.2	Partly cloudy, dry	4	bt, ts	4	1,000,000cp	1
17/05/2010	5	10.2	13.1	Dry, fine, no cloud; clear	4	bt, ts	4	1,000,000cp	1
01/06/2010	6	19.1°C	12.1 °C	Overcast, dry	4	bt, ts	4	1,000,000cp	2

Table 3: Great Crested Newt Survey Information: Pond 3

Date	Visit	Air temp.	Water temp.	Weather	Veg. cover[1]	Methods used[2]	Number of traps	Torch power	Water Turbidity[3]
20/04/2010	1	6.4	13.2	Clear Skies, cool	3	bt, es, ts	7	1,000,000cp	1
26/04/2010	2	11.5	13.8	Partly cloudy, Warm	3	bt, es, ts	7	1,000,000cp	3
04/05/2010	3	8.2	13	Cloudy dry	2	bt, es, ts	7	1,000,000cp	1
10/05/2010	4	7.7	9.2	Partly cloudy, dry	2	bt, ts	7	1,000,000cp	2
17/05/2010	5	10.2	13.1	Dry, fine, no cloud; clear	3	bt, ts	10	1,000,000cp	2
01/06/2010	6	19.1°C	12.1 °C	Overcast, dry	5	bt, ts	7	1,000,000cp	1

[1] On a scale where 0 = No vegetation obscuring survey and 5 = Water completely obscured by vegetation
[2] Where bt = bottle trapping; es = egg search; ts = torch search
[3] On a scale where 0 = clear and 5 = Turbid