Oxfordshire Highways

Cogges Link Road
Great Crested Newt Survey

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Great Crested Newt Survey

Carter Ecological 2003

Executive Summary

- Surveys have been undertaken in order to determine whether great crested newts will be subject to impact from the Cogges Link Road (CLR). Surveys were undertaken at all ponds within 500m of the proposed scheme.
- Surveys were carried out in 2003. The level of survey and the combination of survey techniques employed provided sufficient data to conclude that great crested newts were not present in any of the ponds within the CLR study area.
- As a result of the time elapsed since the 2003 surveys further surveys in 2006 were regarded as necessary to assess the current situation. This report summarises the findings from each of the surveys.
- The presence of great crested newts has not been established. Impacts on great crested newts are not likely to occur as a result of road construction and operations associated with the CLR.

Contents

1 Introduction

1.1 Background

1.1.1 Oxfordshire Highways has commissioned an investigation into the potential ecological impacts on protected species and habitats for the proposed Cogges Link Road (CLR).

1.1.2 A Great Crested Newt Survey was undertaken in 2003 (Carter Ecological 2003). Updated information was assessed to be necessary to inform this 2007 Environmental Statement, as a result of the ability of great crested newts to colonise suitable ponds and further surveys were carried out in 2006.

1.1.3 This report summarises the findings from each of the surveys.

1.1.4 The survey area comprises land to the southeast of Witney from Witan Way across the River Windrush and agricultural land north and south of the A40. Witney Meadows Country Park would be directly affected by the road scheme. The country park encompasses the two arms of the River Windrush along with a smaller mill stream. To the north of the A40 east of Witney, habitats within the country park include the riparian zones, willow dominated scrub, a shallow *Typha latifolia* choked pond and an area of wet meadow.

1.2 Status and Legislation

1.2.1 Great crested newts are protected by both national and international law. It is illegal to deliberately kill, injure, capture or disturb them or to obstruct access to areas where they live and breed. Great crested newts are currently afforded protection under the Wildlife and Countryside Act 1981 (as amended), the Conservation (Natural Habitat and c.) Regulations 1994 (as amended) and the CROW Act 2000. Any development that would result in the destruction of great crested newts (all life stages – eggs, tadpoles and juveniles, as well as the adults), their breeding areas or places of shelter, would require the provision of a European Protected Species licence (English Nature 2001).

2 Methodology

2.1 Desktop Study

2.1.1 Ecological records for the study area were requested from the Thames Valley Environmental Records Centre. These records include details of designated sites and protected species within 1km of the site. There are no records for great crested newts.

2.2 Pond Survey

2.2.1 For the 2003 surveys the methodology followed English Nature guidelines (English Nature 2001). The survey comprised two parts:

- An initial survey undertaken at each water body. The aim of this was to assess the potential value of the aquatic and terrestrial habitat for great crested newts and to search for eggs.
- Four site visits specifically searching for great crested newts by torching, bottle trapping and egg searching.

2.2.2 As well as a brief assessment of the site, each pond was assessed for its suitability for great crested newts according to the following criteria:

- Size and depth of pond;
- Water cleanliness;
- Estimated trophic status;
- Aquatic fauna;
- Marginal and aquatic vegetation;
- Surrounding habitat.

2.2.3 Suitable ponds were subject to torching, bottle trapping and egg search. Night time torch survey involves traversing the perimeter of the pond, where access allows, using a high powered torch to illuminate the pond. Surveys are conducted in mild temperatures and calm weather conditions. The egg search requires searching both live and dead submerged vegetation. Bottle traps are left overnight at a density of approximately 1 trap per two metres around the pond margins. Trapping nights require temperatures >5 degrees Celsius.

2.3 Limitations

2.3.1 Four survey visits were made to Ponds 5 and 5a in 2003; these comprised four torch survey visits and 3 bottle trapping sessions at each pond. Bottle trapping was not undertaken at Pond 5a on 24th June due to high daytime air temperatures. The water level in the pond had dropped increasing the likelihood of lower oxygen levels and hence the risk to any newts caught in the bottle

traps.

2.3.2 Surveys in 2006 were confined to those ponds identified in 2003 as potentially suitable for supporting great crested newts and these were subject to torching, bottle trapping and egg search on three occasions. A fourth survey would normally be required to comply with the survey guidelines to establish presence / absence. However the effort carried out in 2003 together with that in 2006 was assessed to be sufficient to confirm the 2003 assessment that no ponds in the CLR study area supported great crested newt populations.

2.3.3 Pond 5 survey in 2006 was confined to one event. Initially the presence of another nearby shallow, dried up depression was assumed to be that of Pond 5. Pond 5 was located on 22 May 2006 and subject to survey with negative results. Pond 5 is within 50 metres of Pond 5a, a less eutrophic pond with more emergent vegetation and therefore more suited to newt presence. Surveys in 2003 together with the absence of newts from Pond 5a in 2006 implies and confirms there were no significant limitations to the 2006 survey results for Pond 5.

3 Findings

3.1 Desktop Study

3.1.1 The Thames Valley Environmental Records Centre have no records for great crested newts in the CLR study area.

3.2 Pond Survey

3.2.1 Surveys in 2003 identified eight ponds as not being suitable to support great crested newts and two ponds (ponds 5 and 5a) potentially suitable but found no evidence of great crested newt presence. Survey methodology conformed to English Nature guidelines. Results from those surveys are included in Appendix I.

3.2.2 Surveys in 2006 found no evidence of great crested newts and confirmed the findings of the 2003 surveys. Additionally these surveys found frogs in Pond 5a.

3.2.3 Tables 1 and 2 provide a summary of 2006 survey results.

Table 1 Pond 5a

Date	Temperature		Survey Type	Smooth Newt		Great Crested Newt		Other
	Min	Max		Male	Female	Male	Female	
08/05/06	8°C	11°C	Bottle Trap	Nil	Nil	Nil	Nil	18 frog tadpoles
			Torch Survey	Nil	Nil	Nil	Nil	
			Egg search	Nil	Nil	Nil	Nil	
15/05/06	10°C	16°C	Bottle Survey	Nil	Nil	Nil	Nil	21 frog tadpoles
			Torch Survey	Nil	Nil	Nil	Nil	
			Egg search	Nil	Nil	Nil	Nil	
22/05/06	6.5°C	7.5°C	Bottle Survey	Nil	Nil	Nil	Nil	22 frog tadpoles 1 great diving beetle
			Torch Survey	Nil	Nil	Nil	Nil	
			Egg search	Nil	Nil	Nil	Nil	

Table 2 Pond 5

Date	Temperature		Survey Type	Smooth Newt		Great Crested Newt		Other
	Min	Max		Male	Female	Male	Female	
22/05/06	6.5°C	7.5°C	Bottle Trap	Nil	Nil	Nil	Nil	1 tubificid / blood worm
			Torch Survey	Nil	Nil	Nil	Nil	
			Egg search	Nil	Nil	Nil	Nil	

4 Evaluation

4.1 **Desktop Study**

4.1.1 Desktop study provides confirmatory evidence for the absence of great crested newts in the CLR study area, to back up the findings from pond surveys.

4.2 **Pond Survey**

4.2.1 Great crested newt surveys of ten ponds within 500m of the CLR were carried out during the 2003 breeding season. The initial part of the survey which comprised an initial assessment of each water body, resulted in eight of the ten ponds being excluded from the full presence/ absence survey as they were considered to be unsuitable for great crested newts. A full presence/ absence survey was carried out at the remaining ponds (5 and 5a).

4.2.2 The findings of the 2003 surveys indicate that none of the ponds surveyed support great crested newts. The majority of the ponds represent sub-optimal or poor quality habitat for great crested newts. The level of survey and the combination of survey techniques employed provide sufficient data to conclude that great crested newts are not present in any of the ten ponds.

4.2.3 Results from the 2006 surveys confirm the 2003 findings.

5 Mitigation and Recommendations

5.1 **Habitat Loss**

5.1.1 A single pond will be directly lost as part of the scheme. This pond was identified as Pond 3 in the 2003 report and is a fenced, heavily vegetated pond situated within a country park owned by Witney Town Council. The pond area is approximately 12m x 12m and at the time of the initial inspection, 31 March 2003, contained less than 10cm of water.

5.1.2 The surrounding habitat comprises amenity grassland on all sides and consequently there is no shading. There was a small area of open water 3m x 3m towards the centre of the pond, the remainder being dominated by a dense stand of *Typha latifolia* Bulrush with no other aquatic vegetation visible. Common frog spawn was recorded in the pond. This pond was noted to have no water in September 2006.

5.1.3 Pond creation should be undertaken to compensate for the loss of this pond. There is potential for mitigation and compensation measures within the country park that include a replacement pond, reed beds and wetland scrapes. All associated planting should be of native and preferably local origin (southern England). These mitigation measures will require consultation with the Environment Agency and subsequent approval.

5.2 **Further Survey**

5.2.1 Sufficient survey effort has been carried out in 2003 and 2006 to establish that there is no evidence for great crested newt presence in the CLR study area. There is no current requirement for further surveys.

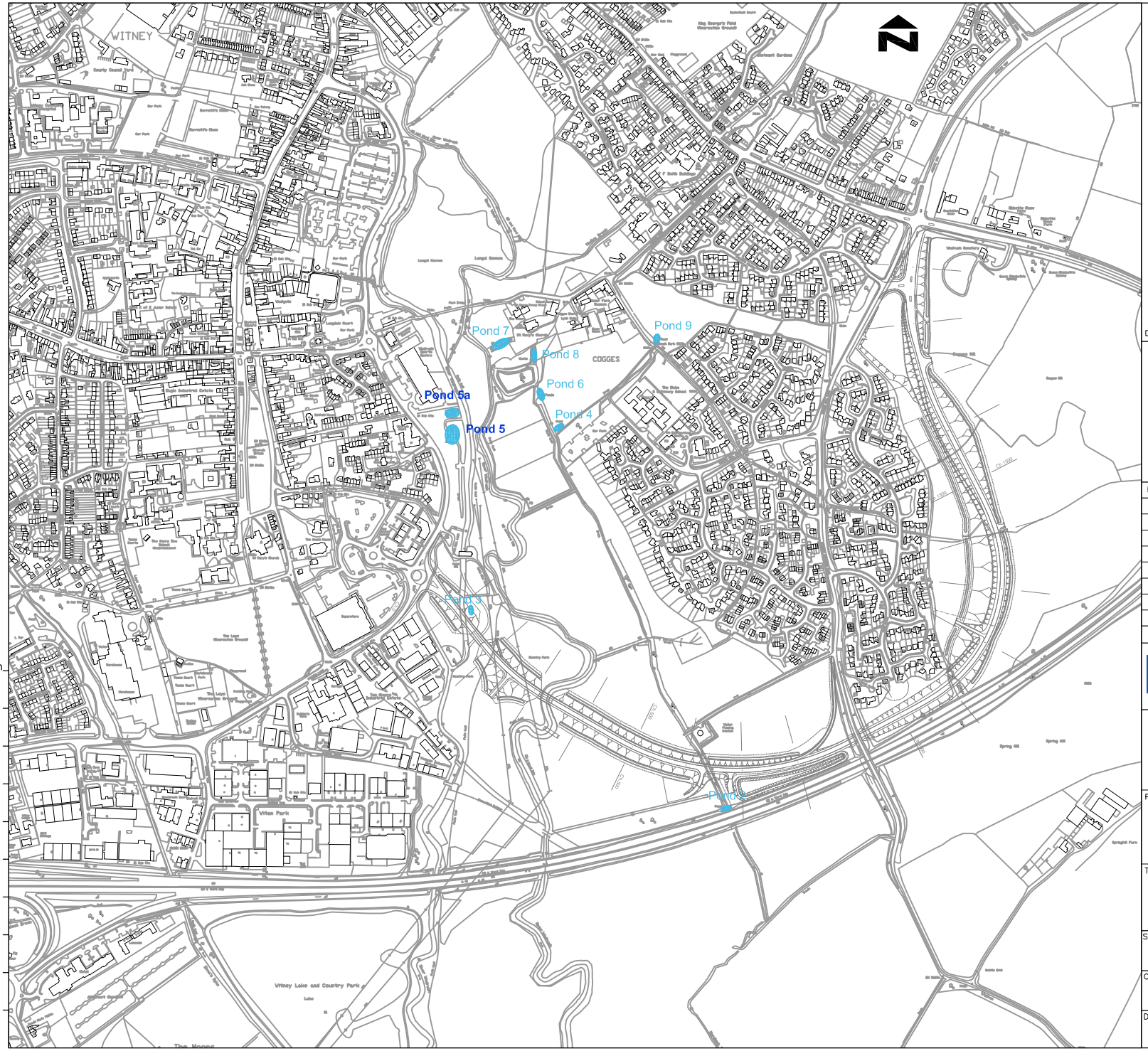
5.2.2 Whilst it is not currently considered necessary to undertake any further survey work, if subsequently, records or other evidence is found for their presence further work will be necessary to establish the impacts and comply with national and international legislation.

6 References

Carter Ecological 2003. Great Crested Newt Survey

English Nature 2001. Great Crested Newt Mitigation Guidelines. English Nature.

Figure 1



10cm

Key:

Pond 2 - Location of ponds surveyed in 2003

Pond 2 - Location of ponds surveyed in 2003 & 2006

Do not scale this drawing

Rev	Description	By	Date	Chk'd	Apprd

Purpose of issue	Rev	Date	Apprd

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Project
COGGES LINK ROAD

Title
GREAT CRESTED NEWT SURVEY

Scale	Drawn By	Checked By	Approved By
N.T.S.	ALB	MJ	JM
	Date 19.03.07	Date 20.03.08	Date 20.03.08

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Rev

Appendix I: Results from 2003 surveys

3 RESULTS

3.1 Summary

Ten ponds were surveyed. The first and second visits to the ponds were carried out between 31st March 2003 and 12th May 2003. The third and fourth visits to the ponds were carried out between 12th May 2003 and 24th June 2003. As detailed previously an initial daytime inspection revealed that eight of the ten ponds were considered to be unsuitable for great crested newts and a presence/absence survey was not undertaken.

Details of these ponds and reasons for their unsuitability are detailed in the following sections. Four survey visits were made to the remaining two ponds; these comprised four torch survey visits and 3 bottle trapping sessions at each pond. Bottle trapping was not undertaken at Pond 5a on 24th June due to high daytime air temperatures.

3.2 Assessment of Pond Habitat

The habitat quality and survey results for each of the surveyed water bodies are described in the following paragraphs.

3.2.1 Pond 1

A hollow in the ground (approximately 5m x 4m) containing a few small puddles of water at the time of the survey visit on 1st April 2003. The pond area is contained within a wide hedge line which is fenced to the south and unfenced to the north. The hollow is densely shaded by *Crataegus monogyna* Hawthorn and *Rubus fruticosus* agg. Bramble on all sides. Tall ruderals including *Urtica dioica* Stinging Nettle and *Rubus fruticosus* agg. Bramble are growing up in the centre of the hollow covering approximately three-quarters of the area.

The hollow did not contain sufficient depth of water to sustain amphibians at the time of the survey and probably has not contained water of any depth for some time. As such this area represents unsuitable habitat for great crested newts and a presence/absence survey was not undertaken.

3.2.2 Pond 2

A concrete sided structure (approximately 2m x 2m) containing water at a depth of approximately 0.80m, situated immediately north of a culvert running underneath the A40. The structure does not contain any marginal or aquatic vegetation. This structure represents unsuitable habitat for great crested newts due to its extremely small size. A presence/absence survey of this ‘pond’ was therefore not undertaken.

3.2.3 Pond 3

A fenced, heavily vegetated pond situated within a country park owned by Witney Town Council. The pond area is approximately 12m x 12m and at the time of the initial inspection (31st March 2003), contained less than 10cm of water. The surrounding habitat comprises amenity grassland on all sides and consequently there is no shading. There is a small area of open

water (3m x 3m) towards the centre of the pond, the remainder being dominated by a dense stand of *Typha latifolia* Bulrush no other aquatic vegetation was visible. Common frog spawn was recorded in the pond.

This pond could potentially be suitable for great crested newts but during the initial inspection of this pond on 31st March 2003 (which included a torch survey during which no newts of any species were recorded) it contained insufficient water to sustain a breeding population of great crested newts. The water level in the pond was monitored throughout the months of April, May and June but the depth of water during this period remained insufficient to provide suitable great crested newt habitat.

Further presence/ absence surveys of this pond were therefore not undertaken.

3.2.4 Pond 4

This pond was dry at the time of the initial daytime inspection on 29th April 2003 and did not appear to have retained water for some time. This pond is therefore unsuitable for great crested newts and a presence/absence survey of this pond was not undertaken.

3.2.5 Pond 5

A medium-sized pond (approximately 18m x 14 m and <0.5m deep) situated in a small area of deciduous woodland immediately west of the River Windrush. The wooded area extends to the west and south of the pond and there is a leisure centre and associated car park to the south, a short distance to the west there is a main road running north south. The pond contains limited marginal vegetation and aquatic vegetation is fairly limited being dominated by *Callitriche* species Water Starwort.

A small amount of willow carr is present at the eastern end and there is a large amount of dead vegetation in the water; the water appears fairly eutrophic.

This pond could be suitable for great crested newts although its shallow nature probably makes it unsuitable for use as a breeding pond. A full presence/absence survey was undertaken.

3.2.6 Pond 5a

This medium-sized water body (approximately 27m x 8m) is fairy shallow in depth (<0.5m) and is located immediately south and directly adjacent to Pond 5 in the same small area of deciduous woodland. Marginal vegetation is dominated by *Glyceria* species Sweet-grass which is particularly prevalent in the eastern section of the pond. The aquatic vegetation is dominated by *Callitriche* species Water Starwort and *Mentha aquatica* Water Mint which are particularly abundant in the western section. The water body is shaded at the southern end by a large *Aesculus hippocastanum* Horse-chestnut tree. A large amount of leaf litter is present on the pond bed; large patches of algae are present on the water surface and the water appears fairly eutrophic.

This pond could be suitable for great crested newts although its shallow nature and eutrophic status reduces its suitability for the species. A full presence/absence survey was undertaken.

3.2.7 Pond 6

This small pond (approximately 2m x 0.5m) is located beside a grassy path which runs south from the Witney Cogges Farm Museum. Improved and semi-improved grassland field lie to the east and west. The pond had approximately 0.05m of water during the inspection on 29th April 2003 and retains only this depth throughout the year (*pers. comms.* Museum gardener). Aquatic vegetation is limited to *Myosotis scorpioides* Water Forget-me-not.

This pond is too shallow to be used by great crested newts and although an egg search of the water mint was undertaken (no newt eggs of any species were recorded) a full presence/absence survey was not carried out due to the ponds unsuitability for this species.

3.2.8 Pond 7

An area identified as a potential pond from the mapping exercise which is in fact a grassy area with no water present. A presence/absence survey was therefore not required.

3.2.9 Pond 8

An area identified as a potential pond from the mapping exercise however no evidence of a water body at this location was found during the inspection on 29th April 2003. A presence/absence survey was therefore not required.

3.2.10 Pond 9

This small ponded area is located at the end of a drainage channel. At the southern end of the ponded area the drainage channel passes under a road and a sluice gate is present at the northern end. Shallow puddles of water were present at the time of the inspection on 31st March 2003. This area of temporary, very shallow, patchy water is not suitable for great crested newts and a presence/absence survey was not required.

3.3 Presence/Absence Surveys

3.3.1 Summary

A summary of the survey results is given in Table 1 below;

Table 1 Summary of survey results

PONDS	Great crested newts present	Other amphibians
Pond 5	No	Frog
Pond 5a	No	None

Results from the presence/absence survey undertaken at Ponds 5 and 5a, together with any constraints encountered, are described below.

3.3.2 Pond 5

Four torch surveys and three bottle trapping sessions were conducted at the pond. No evidence of great crested newt eggs or eggs of the smaller newt species were found during the egg search. No newts of any species were recorded during the torch and bottle trapping surveys.

3.3.3 Pond 5a

Four torch surveys and three bottle trapping sessions were conducted at the pond. Bottle trapping was not undertaken on the fourth survey visit as the day-time air temperature had been very warm and the water level in the pond had dropped increasing the likelihood of lower oxygen levels and hence the risk to any newts caught in the bottle traps.

No evidence of great crested newt eggs or eggs of the smaller newt species were found during the egg search. No newts of any species were recorded during the torch and bottle trapping surveys.