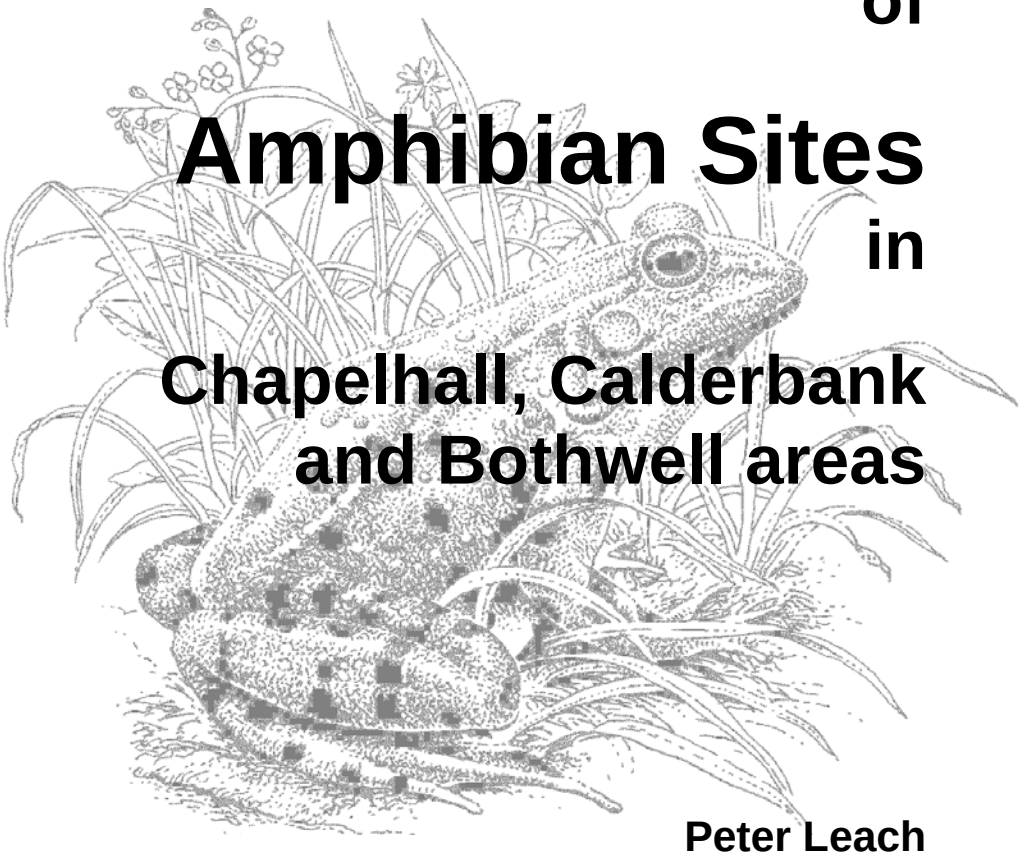
Appendix 10.5b

Great Crested Newt Surveys (2005)

Technical & Safety Services

A Survey for Young Associates of Amphibian Sites in Chapelhall, Calderbank and Bothwell areas



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1 SUMMARY

This study was commissioned in February 2005, and followed surveys of 21 ponds in this area in 2004 by the Ecological and Wildlife Consultancy (Ecological Consultancy 2004 (1) & Ecological Consultancy 2004 (2).

The field work was undertaken during the period between 30 April and 13 May 2005.

A total of nine ponds were surveyed for amphibians using the following methods:

- refuge searches during daylight
- egg searches during daylight
- torch searches after dark

A further two ponds were included in the contract but were not surveyed because access permission could not be obtained. These ponds were surveyed for amphibians (Wildlife Partnership 2005) in April 2005 and reference is made to their findings in Appendix 1.

In summary, the following were found:

- common frogs (Rana temporaria) adults in two ponds
- common toad (Bufo bufo) adults in one pond
- common toad (Bufo bufo) tadpoles in two ponds
- small newts in four ponds

- no evidence was found of Great crested newts *(triturus cristatus)*

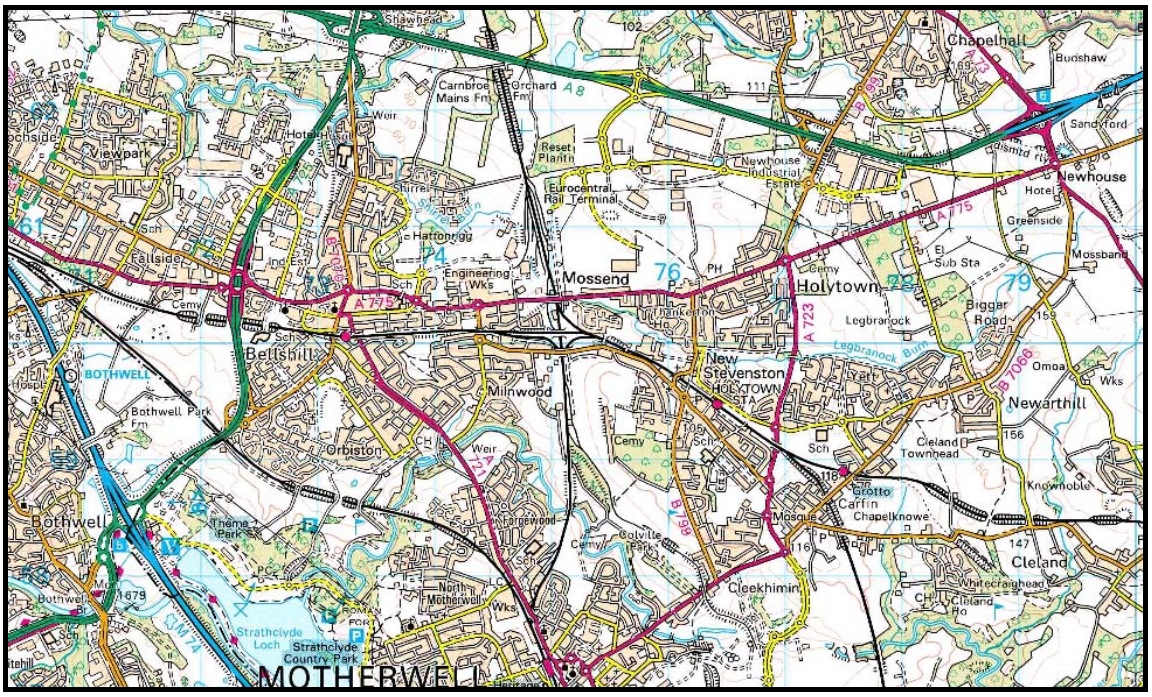
2 INTRODUCTION

2.1 Terms of reference

This report presents the findings of **Technical and Safety Services** in a survey for **Young Associates** of the status of amphibians in a series of ponds in the Chapelhall, Calderbank and Bothwell areas adjacent to the M8 and M74 motorways and A8 primary route.

The area is illustrated in Figure 2.1.

Figure 2.1 Location of survey area



Scale approximately 1:55,000

The survey was conducted between 30 April and 13 May 2005 under license number 6053 from Scottish Natural Heritage.

The nine ponds which were the subject of this survey were part of a larger group of ponds (21 sites) which were surveyed in 2004 by the Ecological and Wildlife Consultancy, in all but one of which amphibians were found. Site numbers used in this earlier survey were retained.

2.2 Chapelhall, Calderbank and Bothwell areas

This area stretches some ten kilometres from Newhouse in the East to Bothwell in the West and features post-industrial dereliction, pastoral farming, new commercial developments, recreational facilities and old and new housing. It has a comprehensive network of roads and railways.

3 METHODOLOGY

3.1 Study sites

Details of the sites to be included in this survey were provided by Young Associates.

Partial ownership details were also provided and access arrangements made by Technical and Safety Services for the dates when surveys were conducted.

3.2 Pond descriptions

Pond	Grid reference	Description
8	NS 753 624	The position of the pond is shown in *figure 3.1*. Lies to the North of the A8 and is at a late stage of succession. The area has evidence of quarrying. There are a number of small areas of open water amongst Sweet grass (*Glyceria sp.*) and Common reedmace (*Typha latifolia*). A thick substrate of silt and mud makes access difficult. Superficially suitable for amphibians but reducing areas of open water likely to be an inhibition to continuing use.
12	NS 770 611	The position of the pond is shown in *figure 3.1*. A very small (4m x 3m) area with shallow water amongst Soft rush (*Juncus effusus*) and Common reedmace (*Typha latifolia*). It lies to the West of the B 799 in an area used by dog walkers and recreational motor cyclists. Surrounding scrub is encroaching on this "pond" and it is likely that it dries up in Summer. Unlikely to continue to be suitable for amphibians.
14	NS 790 620	The position of the pond is shown in *figure 3.2.* An area of flooding in a corner of the M8 / A73. The water appears to be persistent as there are a number of aquatic plant species present, but it is shallow and showed signs of reduced water levels in the 13 day period between survey visits. Superficially suitable for amphibians but possible dries in Summer.
15	NS 794 616	The position of the pond is shown in *figure 3.2.* A disused reservoir which has been used for the dumping of building rubble. The Northern half has water up to approximately one metre deep but the Southern half is largely dry. Little vegetation, some algae and much rubbish. In an elevated position with barriers to migration around some 75% of the perimeter.
16	NS 710 783	The position of the pond is shown in *figure 3.3.* Some open water amongst Soft rush *(Juncus effusus*) in a field used for grazing horses. The owner reports that the "pond" is a result of bad drainage caused by a blocked drain which should take water from the field, below the A725 road and into the River Clyde. Water relatively shallow, vegetation increasing but suitable for amphibians.
17	NS 711 588	The position of the pond is shown in *figure 3.3.* Some 200 metres to the North-East of pond 16. The pond lies immediately to the West of the M74 embankment. It is well used by wildfowl and has an extensive marginal area of floating mats of vegetation which made access difficult. The pond and surrounding habitat is suitable for amphibians.

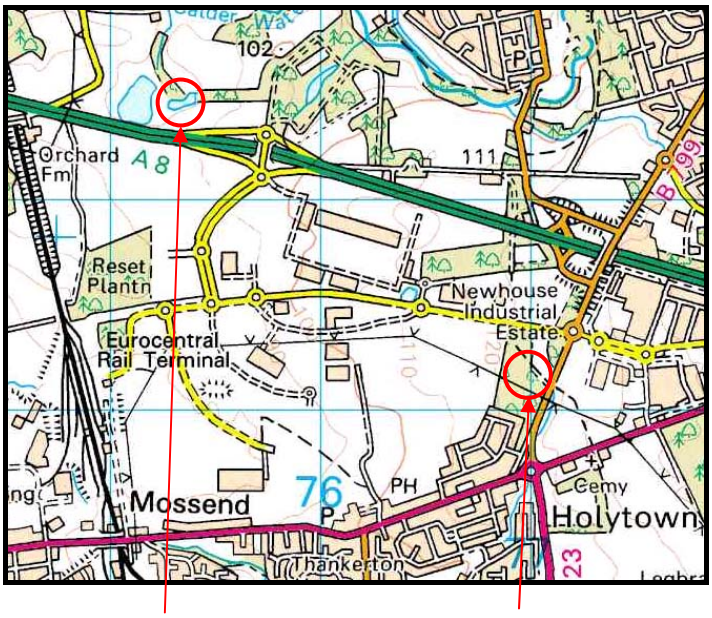
19 NS 713 578 The position of the pond is shown in *figure 3.3.*
A large pond to which access was impossible due to floating mats of marginal vegetation dominated by Common reedmace (*Typha latifolia*). The pond appeared to be shallow, extensively used by wildfowl and to have muddy margins. It is located within a triangle formed by the M74 motorway, A725 road and the River Clyde. Unlikely to be suitable for amphibians.

20 NS 714 589 The position of the pond is shown in *figure 3.3.*
This has been a large pond (150 m x 30m) which is now at late stage of succession, leaving only a very small (8m x 8m) area of shallow open water amongst Rush (*Juncus sp.*), Horsetail (I.) and Common reedmace (*Typha latifolia*). Of rapidly reducing suitability for amphibians.

21 NS 716 588 The position of the pond is shown in *figure 3.3.*
A large pond (80m x 40m) with permission to survey the Southern half only. It is extensively used by waterfowl and has broad margins of Common reedmace (Typha latifolia) and Common reed (Phragmites australis) which make access to the shoreline impossible except a stretch of some 25 metres.
The pond and surrounding habitat appears to offer conditions which amphibians may tolerate but which are far from ideal.

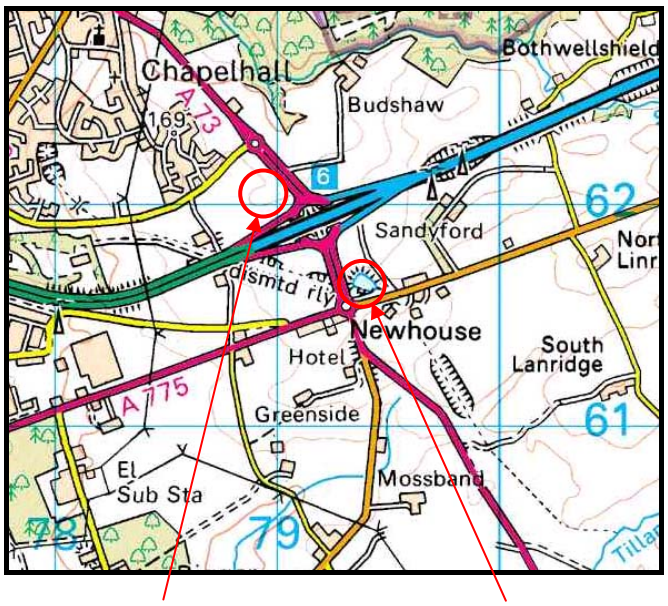
Digital photographs of these sites are contained on a CD which accompanies this report.

Figure 3.1 Location of Ponds 8 and 12



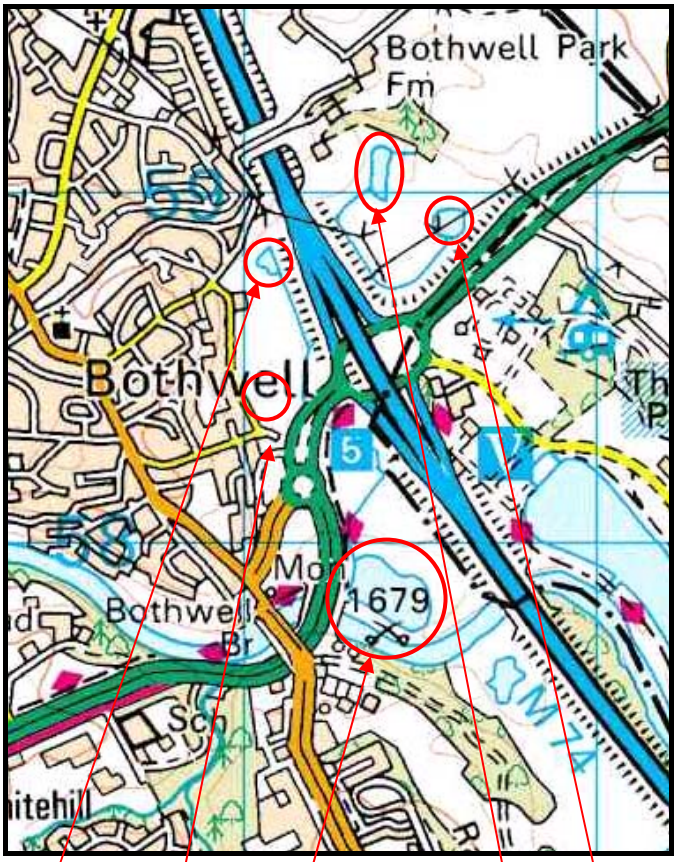
Pond 8 **Pond 12**

Figure 3.2 Location of Ponds 14 and 15



Pond 14 **Pond 15**

Figure 3.3 Location of Ponds 16, 17, 19, 20 and 21



Pond 17 **Pond 16** **Pond 19** **Pond 20** **Pond 21**

3.3 Health and Safety

Technical and Safety Services has a Health and Safety policy which formed the basis of all field activities undertaken in connection with this survey.

A generic risk assessment for amphibian survey work was used to inform safety and a further assessment was made at the site to identify specific hazards and put safety measures in place.

These risk assessments included:

- communications
- protective clothing
- equipment
- first aid and personal safety
- weather
- water hazards
- night working hazards

All staff undertaking survey work were familiar with these risk assessments.

3.4 Survey methods

3.4.1 Background

Surveying methodology and timing followed guidelines from Gent, T. & Gibson, S. 1998 and Langton, T., Beckett, C. & Foster, J 2001.

During a preliminary daytime visit to each pond site, survey methods and the accessibility of the shoreline was ascertained, habitat information and photographs obtained, and a sketch map produced.

Daytime egg and refuge searches were carried out and subsequently a torch survey was conducted of each pond.

Results were recorded on a Survey Record Sheet.

3.4.2 Preliminary visits

A preliminary visit was made to each site on 30 April or 11 May 2005 and the following data collected:

- grid reference – established using GPS
- site name – sites were cross-referenced with designation used in previous report
- condition of pond
- migration route barriers

- length and width of pond
- % open water
- % submerged vegetation across pond
- % emergent vegetation across pond
- site photograph

3.4.3 Survey visits

Survey visits to each site were undertaken between 30 April and 13 May 2005.

The following data was recorded:

- date
- surveyor's name
- water temperature two centimetres below surface – using Hanna HI 98127 digital thermometer
- weather conditions – air temperature, wind direction and strength, precipitation
- turbidity – 1 = clear, torching easily possible
  2 = slightly murky, torching just possible
  3 = murky, torching not possible
- % shoreline surveyed
- along shoreline surveyed - % water column occupied by vegetation
- along shoreline surveyed - % surface obscured by surface vegetation
- the number of amphibians observed
- other observations – fish, wildfowl etc.

Weather during the survey period was favourable, and didn't prevent torch surveys. Winds were no more than moderate, temperatures between 9^0C and 16^0c and precipitation absent.

3.4.4 Refuge searches

A visual search was made amongst stones, wood piles and other suitable refuge material within the site boundary.

3.4.5 Egg searches

A visual search was made around the accessible shoreline of the pond on vegetation and other suitable material, for eggs of all three species of newts and for Common frog (*Rana temporaria*) and Common toad (*Bufo bufo*).

3.4.6 Torch surveys

Torch surveys were carried out using a Cluson Engineering CB2 handlamp (1,000,000 candlepower, 12 volts, 50 watts). Continuous observations were made over the accessible shoreline.

4 RESULTS

Survey results are summarised in Table 4.1.

Table 4.1 Survey results

Pond	Grid reference	Common frog	Common toad	Small newts	Great crested newts
8	NS 753 624	1		6	
12	NS 770 611		Tadpoles		
14	NS 790 620	1	2		
15	NS 794 616				
16	NS 710 783			16	
17	NS 711 588		Tadpoles	Eggs	
19	NS 713 578				
20	NS 714 589			2	
21	NS 716 588				

Although this survey was conducted at the peak of the amphibian breeding season, conditions during the survey were very good (temperature and rainfall within the normal parameters regarded as necessary for amphibian breeding activity) and Small newt (*Triturus vulgaris and Triturus helveticus*), Great crested newt (*Triturus cristatus*), Common frog (*Rana temporaria*) and Common toad (*Bufo bufo*) had all been observed (Ferguson, M. 2005 and Leach, P. 2005) in breeding activities in Central Scotland, only a small number of amphibians were found in the subject ponds:

- adult Common frogs at ponds 8 and 14
- adult Common toads at pond 14
- Common toad tadpoles at ponds 12 and 17
- Small newts at ponds 8, 16 and 20
- and Small newt eggs only at pond 17

No frog tadpoles or any evidence of Great crested newts (*Triturus cristatus*) were found.

5 CONCLUSIONS

- amphibian numbers in the subject ponds were generally very low.

- only four ponds (8, 14, 16 and 17) seem to provide suitable newt or toad breeding conditions, with the appropriate associated habitat. Three of these (8, 14 and 16) are either in the late stage of succession or may become dry because of drainage measures, so are unlikely to continue to be suitable.

- small newts (*Triturus vulgaris and Triturus helveticus*) were present but only confirmed to be breeding at one site (pond 17). It is likely that they also breed at ponds 8, 16 and 20 but the heavy vegetation and difficult marginal conditions makes egg detection a matter of chance.

- the absence of frog tadpoles is surprising, as frogs are generally undemanding when selecting breeding sites. This does, however, reflect anecdotal evidence (Ferguson, M. 2005 and Leach, P. 2005) that frog breeding numbers are substantially reduced this year.

- only pond 17 provides good breeding conditions for Great crested newts (*Triturus cristatus*), but the area of suitable surrounding habitat is limited, the pond is used by waterfowl and there are barriers to migration. No evidence of the presence of Great crested newts was found.

6 ACKNOWLEDGEMENTS

Mr. R. Cherry

Mr. L. Duran

Mrs. R. Elliot

Ms. M. Ferguson

Mr. R. Fox

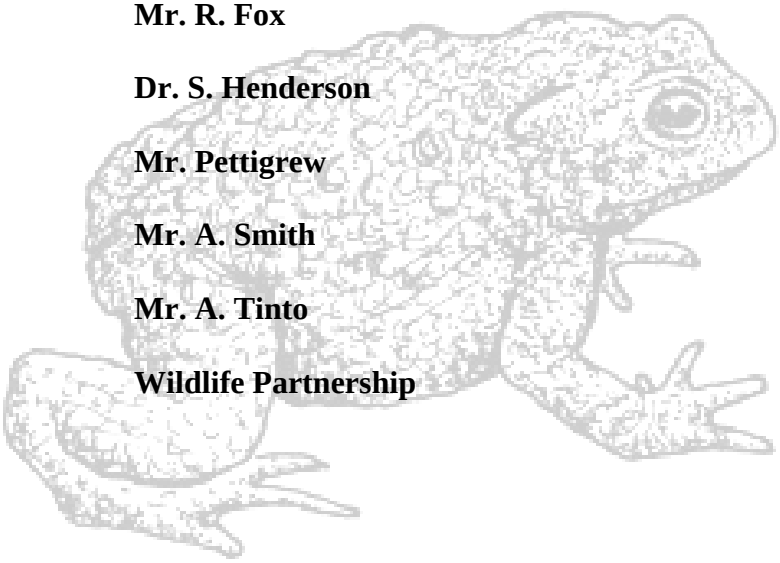
Dr. S. Henderson

Mr. Pettigrew

Mr. A. Smith

Mr. A. Tinto

Wildlife Partnership



7 REFERENCES

Ecological Consultancy 2004 (1) A8 Corridor: *Bargeddie to Chapelhall & Bothwell Park, Amphibian Survey: Preliminary Pond Assessment.* Unpublished report for Young Associates

Ecological Consultancy 2004 (2) A8 Corridor: *Bargeddie to Chapelhall & Bothwell Park, Amphibian Survey.* Unpublished report for Young Associates

Ferguson, M. 2005. *Unpublished survey records of Clyde Amphibian and Reptile Group.*

Gent, T. & Gibson, S. 1998. *Herpetofauna Workers Manual, JNCC.*

Langton, T., Beckett, C. & Foster, J 2001. *Great Crested Newt Conservation Handbook.* Froglife.

Leach, P. 2005. *Unpublished survey records of Lothian Amphibian and Reptile Group.*

Wildlife Partnership 2005: *Proposed Dakota Hotel Development, Eurocentral, North Lanarkshire.* Unpublished report for Ironside Farrar

8 APPENDIX 1 – PONDS 9 and 11

It was not possible to survey ponds 9 and 11 as access requests to Eurocentral Business Park were turned down.

In April 2005 the Wildlife Partnership had undertaken a survey of these sites for Ironside Farrar in connection with a proposed hotel development (Wildlife Partnership 2005) and an approach to both parties elicited a copy of this report. Sections appropriate to amphibians are enclosed below:

1. Introduction
The Wildlife Partnership was commissioned by Ironside Farrar to undertake a protected species survey and assessment of a site at Eurocentral in North Lanarkshire. The site is due for imminent development of a hotel and offices. It was particularly requested that specific checks were made for use of the site by protected species including great crested newts and badgers.

2. Method
The site was visited on 1st and 2nd April 2005.

SITE VISIT 1
The site was walked over several times to ensure all signs of activity of protected species were noted.

The two ponds and surrounding areas were searched for great crested newts and other amphibian species. This was achieved by:

- *netting for larvae, juvenile or adults in the water*
- *the examination of vegetation for eggs*
- *a terrestrial search of the surrounding area by lifting stones and other objects to look for juveniles and adults.*

SITE VISIT 2
As a result of the first visit, a night time visit was recommended to establish whether great crested newts were present. This visit consisted of a night-time search for newts in the ponds. The surveyors arrived on site at approx 8pm, as darkness fell. An hour was spent on site with at least 20 minutes torching while slowly walking and pausing round the two ponds. This was undertaken by two surveyors concurrently giving 40 minutes search time for each pond. The temperature was 14.5°C on arrival dropping to 12°C on departure, the evening was still with little wind and no rain, following a day of warm spring sunshine and conditions were therefore ideal for amphibian torchlight survey.

3. Results
The terrestrial searches and netting revealed the following:

- *No newt larvae, eggs, juveniles or adults were found*
- *8 clumps of frog spawn was found in the square pond* (note: Pond 11).

- *Both aquatic and emergent vegetation was present in both ponds. The species present included several known to be used by great crested and other newts for egg laying, including floating sweet grass Glyceria sp., broad-leaved pond weed Potamogeton sp., Callitriche sp., water forget-me-not Myosotis sp. several species of rush Juncus sp. and sedge Carex sp..*
- *The ponds were both deep enough and with significant areas of open water favoured by great crested newts for displaying.*
- *Both ponds had varied invertebrate fauna including Gammarus sp., mayfly larvae, water beetles, water boatmen and caddis fly suggesting reasonable water quality.*
- *There were significant areas of algae (blanket weed) developing most notably in the lower pond.*

Due to the potential suitability of the ponds and associated vegetation for great crested newts, a night time torch survey was undertaken. The following species were noted:

- *Adult, female, (smooth or palmate but NOT great crested) newts occurring in the square pond.* (Note: Pond 11). *Three were seen in total*
- *Leeches occur in both ponds*
- *Small fish occur in the square pond* (Note: Pond 11).
- *The water in the lower pond* (Note: Pond 11) *was more turbid than had been apparent during the daytime survey but it was possible to view some areas of the pond clearly, particularly close to the inlet*

<u>4. Conclusions and recommendations</u>

Palmate and smooth newts have no specific conservation protection although sale or commercial exchange of palmate newts is prohibited in Britain by the Wildlife and Countryside Act, 1981.