

Appendix 6.3

Amphibian Survey

Whiteknights Campus, University of Reading

Amphibian Survey

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1 Introduction

- 1.1 RPS was commissioned to carry out an amphibian survey of four waterbodies located at the University of Reading Whiteknights Campus (figure 1).
- 1.2 The site is a major University campus and contains numerous buildings of mixed styles and ages, areas of woodland and parkland, sports areas plus associated infrastructure and road/footpath systems.
- 1.3 The survey aims to establish whether amphibians are using the ponds for breeding purposes, and in particular to establish if the European protected species great crested newt (*Triturus cristatus*) is present on the site.
- 1.4 Chapter 2 of this report outlines legislation relating to amphibians and Chapter 3 describes the methodology of the survey. The results are presented in Chapter 4 and their implications discussed in Chapter 5.

2 Legislation

- 2.1 There are six species of amphibian native to Britain, including common frog (*Rana temporaria*), common toad (*Bufo bufo*), natterjack toad (*Bufo calamito*), palmate newt (*Triturus helveticus*), smooth newt (*Triturus vulgaris*) and great crested newt (*Triturus cristatus*). All species except the natterjack toad are common within lowland Britain.
- 2.2 All species are protected under the Wildlife and Countryside Act 1981 as amended (Schedule 5), although some species are awarded more protection than others. The great crested newt and the natterjack toad are additionally protected under the European Habitats Directive 1992 (Annexes II and IV) which is transcribed into British law under the Habitats Regulations 1994 (Schedule 2).
- 2.3 The Wildlife and Countryside Act (as amended) affords two levels of protection to amphibians as follows:
- Full protection under Section 9, paragraphs (1) – (5) is afforded to the natterjack toad and the great crested newt. This prohibits intentional (or reckless) killing, injuring or taking (capture etc), possession, intentional disturbance whilst occupying a 'place used for shelter or protection' and destruction of these places, sale, barter, exchange, transporting for sale and advertising to sell or to buy.
 - Partial protection under Section 9, paragraph (5) is afforded to the smooth and palmate newts, the common frog and the common toad. This prohibits sale, barter, exchange, transporting for sale and advertising to sell or to buy of these species. Collection and keeping of these widespread amphibian species is not an offence.
- 2.4 The Habitats Regulations make it an offence (with certain exceptions) to:
- deliberately capture or kill a wild animal of a European protected species (i.e. the great crested newt and the natterjack toad);
 - deliberately disturb any such animal;

- deliberately take or destroy the eggs of such an animal;
- damage or destroy a breeding site or resting place of such an animal.

- 2.5 It is also an offence (with certain exceptions) to keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.
- 2.6 The offences described above under the Habitats Regulations apply to all stages of the life of the animals to which they are appropriate.
- 2.7 Where great crested newts and/or natterjack toads are found on or near development sites, it is necessary to put mitigation measures into place in order to prevent an offence being made.
- 2.8 Natterjack toads have very specific requirements in terms of their habitat, breeding in shallow temporary pools in early successional habitats, for example in upper saltmarsh, sand dunes and heathland. As none of these habitats are present on the site at Reading University Whiteknights Campus, this species is not considered further.
- 2.9 Great crested newts, however, are found in a variety of habitats and in ponds of very differing quality. The presence of four waterbodies on the site at the Whiteknights Campus means that there is potential for this species to be present and a survey following standard methodology should be carried out in order to establish presence/probable absence. If found, a population size class assessment must also be made.

3 Survey Methodology

3.1 The study consisted of two phases: a desk study and a field survey following the methodology set out in the "Great Crested Newt Mitigation Guidelines" (English Nature 2001).

Desk Study

3.2 The purpose of the desk study was to review the existing information for the site that may aid the purpose of the study. The aim of this is to supplement the field surveys with data and information on amphibians previously collated for the area.

3.3 Information was sought within a 2km radius of the site. A list of the statutory and non-statutory consultees that information was requested from are given below:

- Natural England;
- Environment Agency;
- Thames Valley Environmental Records Centre (TVERC);
- The Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (BBOWT);
- Berkshire Amphibian and Reptile Group;
- Berkshire County Local Biodiversity Action Plan (LBAP).

Field Survey

3.4 The guidelines state that where ponds are to be surveyed, three methods must be used on each visit, preferably torch survey, bottle trapping and egg searching, although netting, pitfall trapping and refuge searches are also valid methods. Further details of all methods can be found within the guidance.

3.5 For a presence/absence survey, four visits are required between mid-March and mid-June, with at least two of these visits during mid-April to mid-May. If great crested newts were to be found, an additional two visits would be carried out in order to make a population size class assessment – a requirement for licensing.

- 3.6 The surveys at the Whiteknights Campus were carried out on 8th/9th May, 14th/15th May, 22nd/23rd May and 30th/31st May by suitably experienced/licensed ecologists or their agents.
- 3.7 The survey used three methods per visit, including bottle trapping, egg searching, netting and torching as appropriate. The methods used each time are shown in Tables 1 to 4.
- 3.8 Bottle traps were set at approximately 1 – 2 metre intervals in suitable locations (i.e. near vegetation in the water) where access permitted a few hours before dusk, left overnight and checked first thing in the morning.
- 3.9 Torching required searching for amphibians in the water at night using a high powered torch (1,000,000 candlepower) into the water around as much of the ponds as possible.
- 3.10 Netting was carried out after bottle traps had been checked in the morning, and involved dipping a net into the water wherever suitable vegetation was present, checking the contents of the net before replacing in the pond.
- 3.11 Egg searches were also carried out in the morning and involved searching for newt eggs on the leaves of vegetation within the pond.

4 Results

Desk Study

- 4.1 A number of organisations and individuals, both statutory and non-statutory, were asked to provide records of protected or otherwise notable amphibians within the study area. No records of amphibians were provided for the study area.

Field Survey

- 4.2 The following paragraphs briefly describe the four waterbodies that were surveyed. The locations of these waterbodies can be seen on Figure 1.

Pond 1 – Adjacent to the Palmer Building

- 4.3 Pond 1 is surrounded by a concrete walkway, adjacent to The Palmer Building. It is a concrete pond with vertical sides and very little vegetation.

Pond 2 – Adjacent to Urban and Regional Studies (URS) Building

- 4.4 Pond 2 is located in a covered courtyard adjacent to the URS building. It is a concrete, vertical sided pond with emergent/submergent vegetation and large ornamental fish.

Pond 3 – Harris Gardens

- 4.5 Harris Gardens contains one larger pond and four smaller ponds. The larger pond is lined with black plastic with shallow, sloping sides and emergent and submergent vegetation. The pond is surrounded by amenity grassland on one side, and ornamental shrubbery and planting on the other side. The surface of the water is covered by duckweed (Lemnaceae). The four smaller ponds are concrete lined, very shallow and are connected by channels through which water often flows.

Waterbody 4 – Whiteknights Lake

- 4.6 Whiteknights Lake is a large waterbody with fringing vegetation including unimproved grassland, woodland and mature trees. Mute swans (*Cygnus olor*), Canada geese (*Branta Canadensis*), mallard ducks (*Anas platyrhynchos*),

moorhens (*Gallinula chloropus*), grey heron (*Ardea cinerea*) and coots (*Fulica atra*) were present, and people were seen fishing.

4.7 The results of the amphibian survey are shown in Tables 1, 2, 3 and 4 below, and are discussed in Chapter 5.

Table 1 – Results of amphibian survey for pond 1 (Adjacent to the Palmer Building)

Visit	Date	Netting	Torching	Egg search
1	8 th /9 th May 2007	Nothing	Large fish only	Nothing
2	14 th /15 th May 2007	Nothing	Large fish only	Nothing
3	22 nd /23 rd May 2007	Nothing	Large fish only	Nothing
4	30 th /31 st May 2007	Nothing	Large fish only	Nothing

Table 2 – Results of the amphibian survey for Pond 2 (Adjacent to URS Building)

Visit	Date	Netting	Torching	Egg search
1	8 th /9 th May 2007	Nothing	Nothing	Nothing
2	14 th /15 th May 2007	Nothing	Nothing	Nothing
3	22 nd /23 rd May 2007	Nothing	Nothing	Nothing
4	30 th /31 st May 2007	Nothing	Nothing	Nothing

Table 3 - Results of the amphibian survey for Pond 3 (Harris Gardens)

Visit	Date	Netting		Torching		Egg search	
		Large pond	Smaller ponds	Large pond	Smaller ponds	Large pond	Smaller ponds
1	8 th /9 th May 2007	Snails	Tadpoles	One common frog	Nothing	Nothing	Nothing
2	14 th /15 th May 2007	1 male smooth newt	Nothing	Tadpoles	Nothing	Nothing	Nothing
3	22 nd /23 rd May 2007	Snails, tadpoles	Nothing	2 common frogs	Nothing	Nothing	Nothing
4	30 th /31 st May 2007	1 common frog	Nothing	3 common frogs	Nothing	Nothing	Nothing

Table 4 - Whiteknights Lake

Visit	Date	Bottle traps	Torching	Egg search
1	8 th /9 th May 2007	Tadpoles	Smooth newts: 3F, 1M	Nothing
2	14 th /15 th May 2007	Smooth newts: 1M	Smooth newts: 1F. Lots of fish.	Nothing
3	22 nd /23 rd May 2007	Smooth newts: 1M, 1F	Smooth newts: 2F	Nothing
4	30 th /31 st May 2007	Smooth newts: 1F	Smooth newts: 2F, 1M. 1 Common frog. Lots of fish.	Nothing

5 Discussion

- 5.1 The amphibian survey was carried out in accordance with standard methodology and is considered to be robust.
- 5.2 No evidence of great crested newts was found on site.
- 5.3 No newts were observed in ponds 1 and 2, which is likely to be for the following reasons:
- Pond 1 had concrete, vertical sides, which would not provide suitable access. The large fish would feed on any eggs, efts and young newts and there is a lack of vegetation within the pond for shelter and egg-laying; and
 - Pond 2 also had concrete, vertical sides, which would not provide suitable access.
- 5.4 One male smooth newt and common frogs were identified in Pond 3. Torching was limited due to an extensive covering of duckweed, and this in addition to the presence of ducks and fish may be responsible for low amphibian numbers.
- 5.5 A maximum count of 4 smooth newts (three female and one male) was made at waterbody 4. According to the population size class assessment of English Nature's 'Great Crested Newt Mitigation Guidelines' this equates to a 'small population'. The lake provides small areas of suitable habitat for newts in the shallow areas of fringing vegetation where there is shelter from fish. Common frogs and a large number of tadpoles were also found here. The presence of wildfowl, fish, and limited suitable aquatic vegetation may be responsible for the low amphibian numbers in waterbody 4.
- 5.6 Although it is not possible to completely rule out the presence of great crested newts, the methodology used is considered appropriate to satisfy planning conditions. The results of the survey make it extremely unlikely that great crested newts are present, therefore this species does not present any further constraint to the development.

- 5.7 A small population of smooth newts and common frog was recorded within the Harris Garden pond and Whiteknights Lake. Smooth newts and common frog are protected by Section 9(5) of the *Wildlife and Countryside Act 1981* (as amended). This means that their protection extends only as far as prohibiting sale, transporting or advertising for sale. Subject to controls relating to animal welfare these species of amphibians cannot be intentionally killed.
- 5.8 Mitigation measures for the smooth newts and common frog are unlikely to be required if existing waterbodies on site are retained as part of any future campus redevelopment. Opportunities for enhancement of these habitats should be considered for the benefit of the existing amphibian populations.

References

English Nature (2001) *Great Crested Newt Mitigation Guidelines*

HMSO (1981) *The Wildlife and Countryside Act (as amended)*. HMSO, London.

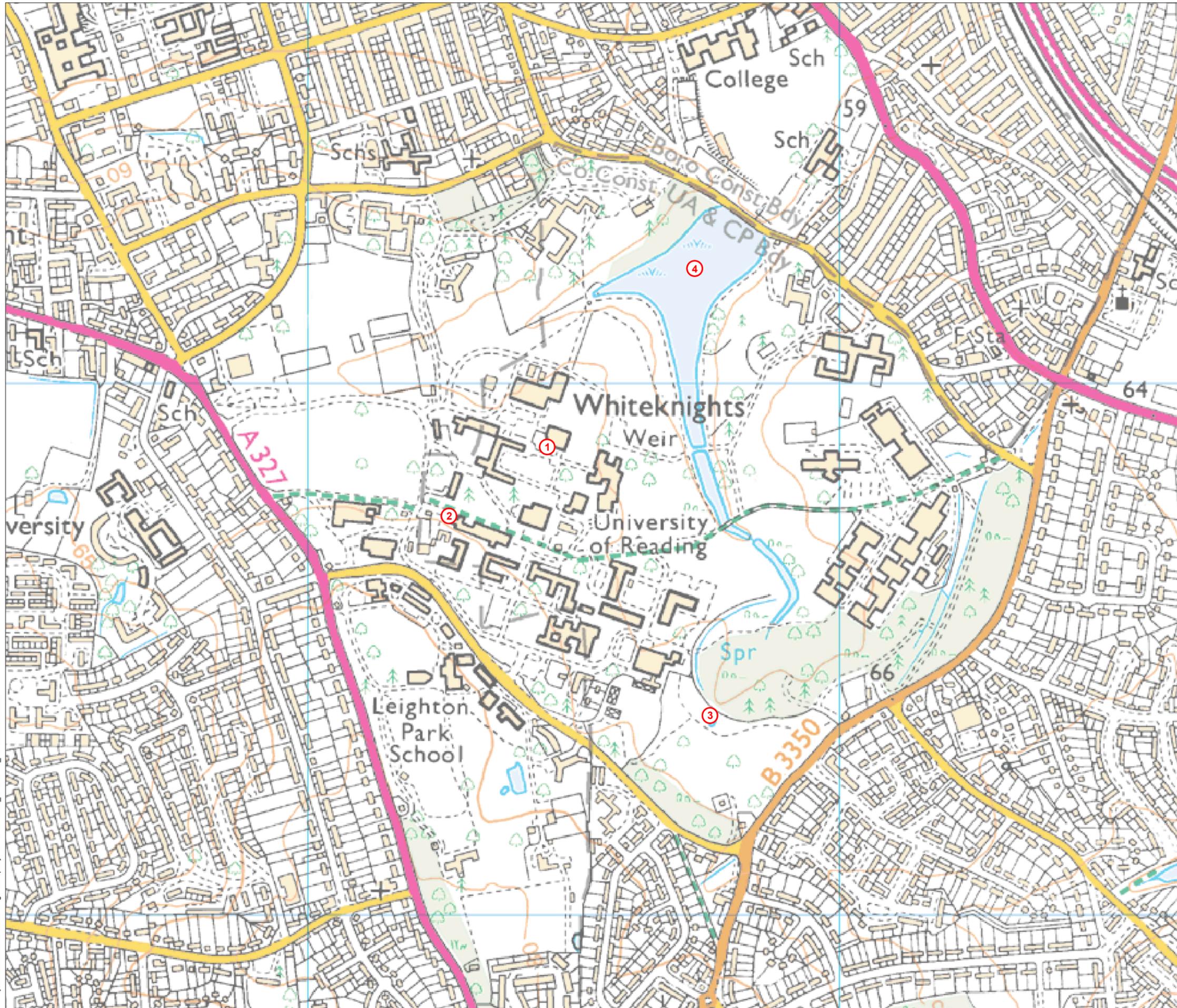
HMSO (2000) *The Conservation (Natural Habitats, &c.) Regulations (as amended)*

Joint Nature Conservation Committee (2003) *Herpetofauna Workers Manual*.

The University of Reading (June 2007) *Campus Capacity Study*

Figure 1

Site Location and Location of Surveyed Ponds



Legend

② Pond Location

Rev:	Date:	Amendment:	Name:	Checked:

Data Source: RPS 2007
 Status: PRELIMINARY



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Client:
 Project: Whiteknights Campus

Title:
 Site Location and Location of Surveyed Ponds

Scale: A3 @ 1:7,000
 0 150 300m

Date: 20/07/2007 Datum: OSGB36 Projection: BNG
 Drawn: MS Checked: Job Ref: 5558b

Figure No: 1 Revision:

Project Ref: O:\5558b White Knight Company\Tech\GIS\5558D_070719MS_PondLocations.mxd