
Great Crested Newt Late Season Survey 2013

Rockingham

Harworth Estates



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Field Investigations and Data

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Appendix 1: Raw Survey Data

FIGURE 1: Pond Location Plan

1.0 INTRODUCTION

- 1.1 Applied Ecological Services Ltd. was commissioned to undertake a great crested newt (*Triturus Cristatus*) survey in ponds located on the Rockingham site. The purpose of the survey was to establish the presence or absence of great crested newt (GCN) within ponds deemed suitable for supporting such species in the Phase 1 Habitat Survey. The surveys described were conducted outwith the 'Peak activity Period' for GCN.

2.0 CONSERVATION STATUS

- 2.1 GCN and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981.
- 2.2 It is an offence for anyone to intentionally kill, injure or disturb a GCN to possess one (whether live or dead), or to sell or offer one for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by great crested newt for shelter. The species is protected in all life phases: egg, larvae and adult.¹

3.0 SITE SETTING AND DESCRIPTION

- 3.1 The Rockingham site was located 0.5 kilometres west of the village of Hoyland, near Barnsley. The M1 motorway was situated 0.5 kilometres to the east of the site with the A6195 forming the centre of the site at grid reference SE 354 010 (approximate central point). The site was a mix of broadleaved woodland and rough grassland. Pond 3 and Pond 4 were located within the redline boundary of the site. Pond 1, Pond 2 and Shortwood Pond were located outside of the redline boundary (see Figure 1, Pond Location Plan).

¹ Regulation 41 of the Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981.

POND DESCRIPTIONS

PONDS 1, 3 & 4

- 3.2 Ponds 1, 3 & 4 were set along the route of the watercourse running through the site, and may act as settlement ponds for particulate matter draining from the former open cast site. The ponds were between 900-1100m². The ponds appear deep in the centre and were considered to rarely dry up. Reed (*Phragmites* sp., *Typha* sp.) and rush *Juncus* sp. populate the shallow marginal areas and there was little bankside shading (0-10%). Macrophyte cover ranges between 25-75% and was considered to provide suitable GCN egg laying material (see AES Ltd Rockingham Hoyland Preliminary Ecological Appraisal Report 2013).

POND 2

- 3.3 Pond 2 is of similar nature to Ponds 1, 3 & 4, and lies at the end of a culvert running northeast. The pond was approximately 300m² at springtime level, but at the time of the GCN survey was dry. There was more shading to this pond than Ponds 1, 3 and 4 (see AES Ltd Rockingham Hoyland Preliminary Ecological Appraisal Report 2013).

SHORTWOOD POND

- 3.4 Shortwood Pond was a medium sized water body approximately 500m² and appears deep in the centre. The pond was surrounded by rough grassland. The pond was completely dominated by greater reedmace *Typha latifolia* with small areas of broad-leaved pond weed *Potamogeton natans* L. being present.

4.0 METHODOLOGY

4.1 Ponds in the site were surveyed in accordance with the standard methodology as described by English Nature (2001)². The ponds on the Rockingham site were visited on four separate occasions. Surveys were undertaken between the 28th June and 18th July 2013. Those methods used in the survey are detailed below:

- Egg search: Suitable aquatic vegetation was searched for great crested newt eggs.
- Netting: sweep netting in water bodies using a large fine net to detect newts and newt nymphs (Juvenile newts).
- Terrestrial refugia search – searching for resting/inactive newts under logs, stones, rubbish such as old carpets, sheeting, etc, within 20 metres of the surveyed pond.

5.0 CONSTRAINTS TO SURVEY

5.1 The survey was conducted late in the GCN survey season and was outside of the usual March - June active survey period. As the survey was started so late in the season, survey effort was focused upon egg searching, netting, and hand searching. Bottle trapping and torch light surveys were not conducted as these methods are more likely to record the adult form of GCN. At the time of year that this survey was conducted (mid - June – mid -July) it was unlikely that adult GCN would still be present in ponds.

² English Nature: Great crested newt mitigation guidelines (2001)

6.0 RESULTS

WEATHER CONDITIONS

Table 1: Temperatures and summary of weather conditions for survey dates at the Rockingham site

Date	Temperature	Weather conditions
28 th June 2013	13 °C	Rain / light wind
5 th July 2013	16 °C	Light wind / fair
12 th July 2013	20 °C	Fair
18 th July 2013	24 °C	Fair

SURVEY RESULTS

- 6.1 No adult GCN were recorded on the Rockingham site during the survey period. GCN nymphs, the aquatic juvenile life stage of GCN, were recorded in Pond 4 (see Plate 1). Smooth newt (*Lissotriton vulgaris*) nymphs and frog poles (*Rana temporaria*) were also recorded in Pond 4. Smooth newt nymphs and frog poles were recorded in the Shortwood Pond. Frog poles, Juvenile frogs and toad poles (*Bufo bufo*) were recorded in Pond 3. Frog poles were also recorded in Pond 1. Some newt nymphs netted during the survey were too early in the life stage to be identified to species level. These nymphs have been recorded as unidentified newt nymph (see Appendix 1 for raw data). Sticklebacks (*Gasterosteus aculeatus*) were recorded in all of the Rockingham ponds with the exception of Pond 4.
- 6.2 In addition to GCN nymphs, life stages of toad were also recorded in the site. This species is listed as a priority species in the UKBAP and consequently it is listed with the same priority in the Local Biodiversity Action Plan. In this regard, consideration must be given to this species within the development proposals and suitable mitigation will be proposed following completion of a dedicated amphibian survey to be undertaken in 2014.

Plate 1: GCN nymph recorded in Pond 4, Rockingham (July 2013)



Table 2: summary of raw data for Rockingham 2013 GCN survey season showing presence/absence of amphibian species (see Appendix 1 for raw data)

Pond	Presence / absence				
	Great crested newt	Smooth newt	Palmate newt	Frog	Toad
Pond 1	0*	0	0	✓	0
Pond 2	0	0	0	0	0
Pond 3	0	0	0	✓	✓
Pond 4	✓**	✓	0	✓	0
Shortwood Pond	0	✓	0	✓	0

0* Species unrecorded. ✓** Species present

7.0 DISCUSSION & RECOMMENDATIONS

7.1 The results of the 2013 GCN 'late season survey' conducted on the Rockingham ponds indicate a breeding population of GCN was present within the site. GCN nymphs were observed in Pond 4. Ponds 1, 3 and the Shortwood Pond all recorded the presence of amphibians during the survey period, however no GCN were recorded in these ponds. Pond 4 was the only pond noted to be free of sticklebacks, a significant predator of GCN in their egg and nymph stages. This absence of stickleback in Pond 4 may explain the presence of GCN nymphs within it and their absence within all of the other surveyed ponds. Pond 2 was dry throughout the survey period. It is recommended that in accordance with English Nature great crested newt mitigation guidelines (2001), a further dedicated GCN survey is undertaken throughout a full season and in addition a population size class assessment is also conducted on the Rockingham site in the 2014 GCN survey season, as required within the guidelines.

Appendix 1
Amphibian Species Record Sheet (raw data)
Pond: 1

Date	Temp (°C)	Weather conditions	Methods (Tick methods used)					Species captured / observed & number (Indicate sex / life stage)					
			Hand search	Egg search	Torch	Net	Bottle trap	Great crested newt	Smooth newt	Palmate newt	Unidentified newt nymph	Frog	Toad
28 th June 2013	13 °C	Rain / light wind	✓	✓		✓		0	0	0	0	Frog poles	0
5 th July 2013	16 °C	Light wind / fair	✓	✓		✓		0	0	0	0	Frog poles	0
12 th July 2013	20 °C	Fair	✓	✓		✓		0	0	0	0	0	0
18 th July 2013	24 °C	Fair	✓	✓		✓		0	0	0	0	0	0

Key: A = adult; j = juvenile; m = male; f = female; n = nymph 0 = not recorded

Amphibian Species Record Sheet (raw data)

Pond: 2

Date	Temp (°C)	Weather conditions	Methods (Tick methods used)					Species captured / observed & number (Indicate sex / life stage)					
			Hand search	Egg search	Torch	Net	Bottle trap	Great crested newt	Smooth newt	Palmate newt	Unidentified newt nymph	Frog	Toad
28 th June 2013	13 °C	Rain / light wind	✓					0	0	0	0	0	0
5 th July 2013	16 °C	Light wind / fair	✓					0	0	0	0	0	0
12 th July 2013	20 °C	Fair	✓					0	0	0	0	0	0
18 th July 2013	24 °C	Fair	✓					0	0	0	0	0	0

Key: A = adult; j = juvenile; m = male; f = female; n = nymph 0 = not recorded

Amphibian Species Record Sheet (raw data)

Pond: 3

Date	Temp (°C)	Weather conditions	Methods (Tick methods used)					Species captured / observed & number (Indicate sex / life stage)					
			Hand search	Egg search	Torch	Net	Bottle trap	Great crested newt	Smooth newt	Palmate newt	Unidentified newt nymph	Frog	Toad
28 th June 2013	13 °C	Rain / light wind	✓	✓		✓		0	0	0	0	Frog poles	0
5 th July 2013	16 °C	Light wind / fair	✓	✓		✓		0	0	0	0	Frog poles	0
12 th July 2013	20 °C	Fair	✓	✓		✓		0	0	0	0	j frogs	Toad pole
18 th July 2013	24 °C	Fair	✓	✓		✓		0	0	0	0	j frogs	0

Key: A = adult; j = juvenile; m = male; f = female; n = nymph 0 = not recorded

Amphibian Species Record Sheet (raw data)

Pond: 4

Date	Temp (°C)	Weather conditions	Methods (Tick methods used)					Species captured / observed & number (Indicate sex / life stage)					
			Hand search	Egg search	Torch	Net	Bottle trap	Great crested newt	Smooth newt	Palmate newt	Unidentified newt nymph	Frog	Toad
28 th June 2013	13 °C	Rain / light wind	✓	✓		✓		0	0	0	1n	Frog poles	0
5 th July 2013	16 °C	Light wind / fair	✓	✓		✓		1n	0	0	0	Frog poles	0
12 th July 2013	20 °C	Fair	✓	✓		✓		3n	4n	0	0	0	0
18 th July 2013	24 °C	Fair	✓	✓		✓		1n	2n	0	1n	0	0

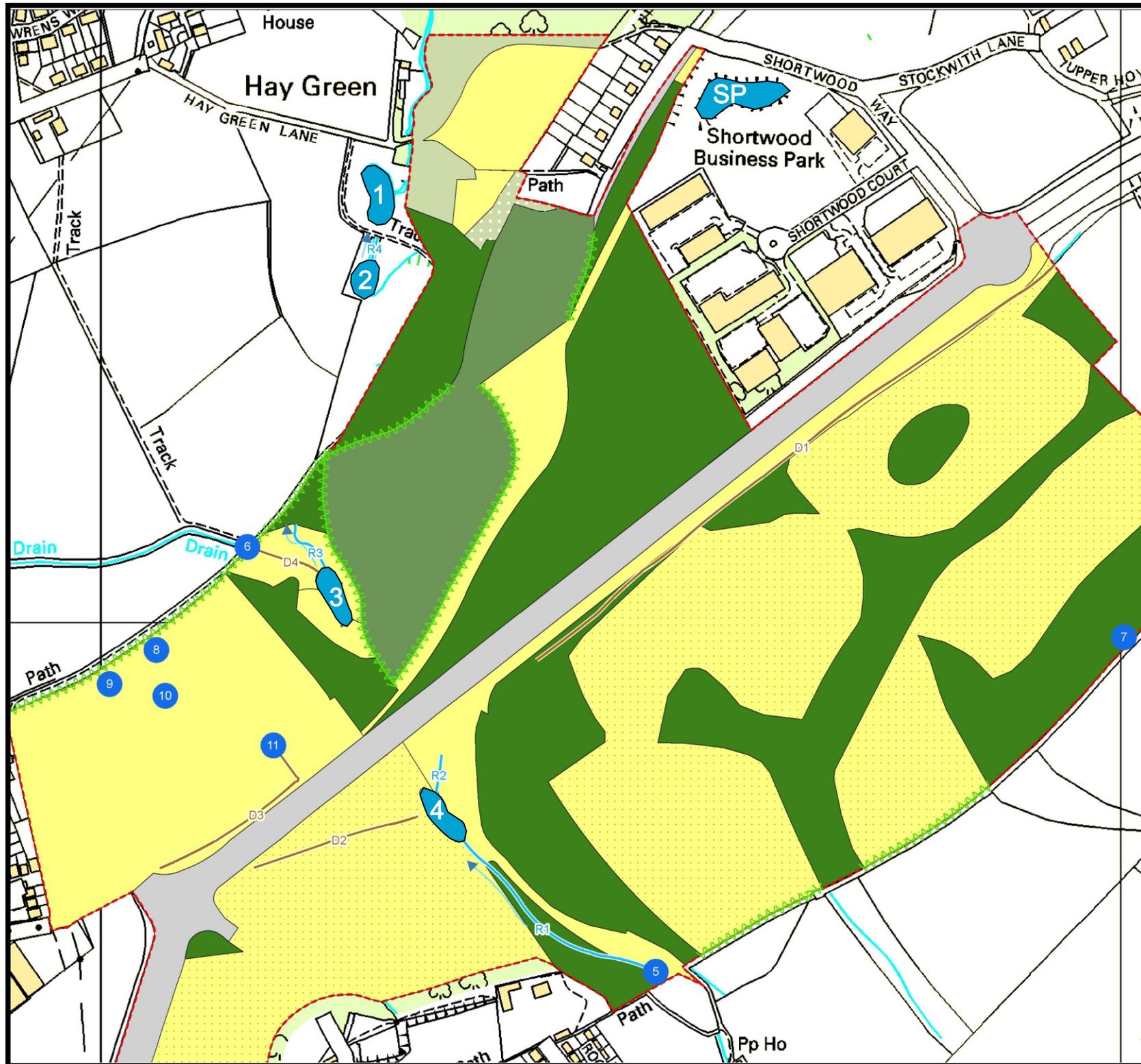
Key: A = adult; j = juvenile; m = male; f = female; n = nymph 0 = not recorded

Amphibian Species Record Sheet (raw data)

Shortwood Pond

Date	Temp (°C)	Weather conditions	Methods (Tick methods used)					Species captured / observed & number (Indicate sex / life stage)					
			Hand search	Egg search	Torch	Net	Bottle trap	Great crested newt	Smooth newt	Palmate newt	Unidentified newt nymph	Frog	Toad
28 th June 2013	13 °C	Rain / light wind	✓	✓		✓		0	0	0	0	Frog poles	0
5 th July 2013	16 °C	Light wind / fair	✓	✓		✓		0	0	0	0	Frog poles	0
12 th July 2013	20 °C	Fair	✓	✓		✓		0	1n	0	0	Frog poles	0
18 th July 2013	24 °C	Fair	✓	✓		✓		0	0	0	0	0	0

Key: A = adult; j = juvenile; m = male; f = female; n = nymph 0 = not recorded



Key

- Pond
- 1 Pond 1
- 2 Pond 2
- 3 Pond 3
- 4 Pond 4
- SP Shortwood Pond

SITE	Rockingham
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Figure 1: Pond Location plan

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