UK Coal Mining Limited

PROTECTED SPECIES SURVEY REPORT

Land at Little Houghton, Barnsley

August 2008

fpcr

CONTENTS:

1.0 INTRODUCTION

2.0 METHODOLOGY & LEGISLATION

3.0 RESULTS

4.0 DISCUSSION & RECOMMENDATIONS

FIGURES:

1 LOCATION PLAN

2 SITE LAYOUT PLAN

APPENDIX:

1 GCN SURVEY RESULTS

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1.0 INTRODUCTION

1.1 FPCR were commissioned by White Young Green Ltd (WYG) to conduct surveys to investigate the presence or absence of reptiles and great crested newts *Triturus cristatus* on a site at Little Houghton, Barnsley on behalf of UK Coal Mining Limited. The site location is shown on Figure 1 and is centred on grid reference SE 422 063.

1.2 Great crested newt and reptile surveys were recommended in an Ecological Assessment carried out by WYG in April 2008. The great crested newt surveys were carried out in accordance with the methodologies described in the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) between March and June 2008. Two of the four survey occasions were completed between mid-April and mid-May to comply with the requirements of this methodology. Reptile surveys followed the methodologies described in the Herpetofauna Workers Manual (JNCC and Froglife Advice Sheet 10, Reptile Survey and were completed between May and July 2008 during periods of clement weather (no rain, temperatures between 15 and 22°C).

Objectives

1.3 The objectives of the ecological survey were to:

- identify the presence, or the potential for the presence of any great crested newts and reptiles on site.

Summary

1.4 The ecology of the site has been assessed by White Young Green and the reader is referred to their documentation for further information. Reptile surveys were carried out between May and July 2008 during times of suitable weather conditions. Over seven survey occasions, only one adult grass snake was found on site. Great crested newt surveys were carried out between May and June 2008; over four survey occasions no great crested newts were recorded.

2.0 METHODOLOGY & RELEVANT LEGISLATION

2.1 Ecological surveys are undertaken to satisfy the requirements of Planning Policy Guidance 9: Biodiversity and Nature Conservations and paragraph 99 of OPDM Circular 06/2006 which, in summary, state that reasonable effort must be made to determine the presence or absence of protected species from a potential development site. The above policy also indicates that where present, they are a material consideration to any planning application.

2.2 The Wildlife and Countryside Act, 1981 (as amended) (WCA) and Habitat Regulations 1994 (as amended) serve to protect threatened flora and fauna in the UK. Taken broadly together, it is an offence to disturb or harm these species.

Great crested newt

2.3 This species is afforded full protection through its inclusion on Schedule 5 of the WCA and Annexe II of the Habitat Regulations. Survey methodology for this species followed that described in the *Great Crested Newt Mitigation Guidelines* (English Nature, 2001) of four surveys undertaken during periods of clement weather (minimum night time temperature must be >5°C) between mid-March and mid-June, with two of the four visits carried out in the optimum survey period of mid-April to mid-May). There are four survey techniques described in the standard methodology, these are bottle trapping, egg-searching, torchlight survey and sweep netting, of which the latter is used only when one of the other three cannot be due to its disruptive nature.

Reptiles

2.4 There are several species of reptile present in the British Isles, the group includes snakes and lizards which are afforded varying levels of protection in reflection of their relative abundances. The most frequently encountered species and those that could be present on site are grass snake *Natrix natrix* and common lizard *Zootoca vivipara*, which are protected against deliberate killing or injury by the WCA.

3.0 RESULTS (see Figures 1 and 2 and Appendix I)

3.1 A desk based assessment has been carried out by White Young Green, the consultation for baseline data included amphibian & reptile record searches. The local herptile recorder returned no records of protected herpetofauna (amphibians & reptiles) within 2km of the site boundary.

3.2 As identified in the White Young Green ecological appraisal of the site, habitats present included species poor semi-improved grassland and dense continuous scrub, with trees also present. No waterbodies were located on apart from a section of wet ditch; three waterbodies the continuation of the aforementioned ditch were located within 200m of the site.

Reptile Survey

3.3 Table 1 below shows the results of the seven reptile surveys undertaken on site:

Survey #	Date and Time	Personnel	Weather	*Z. vivipara*	*N. natrix*	*A. fragilis*	*Other*
1	30/05/2008 1830	MH+ AN	80% cloud, no wind 19°C	0	0	0	0
2	4/06/2008 0930	MH+ AN	15% cloud, light breeze 18°C	0	0	0	0
3	13/06/2008 0930	DF	30% cloud, gusting 14°C	0	0	0	0
4	13/07/2008 0900	MH	20% cloud light breeze 18°C	0	0	0	0
5	14/07/2008 0830	MC	60% cloud, light breeze 21°C	0	1 Adult	0	0
6	15/07/2008 0845	MH	10% cloud, no wind 18°C	0	0	0	0
7	16/07/2008 0800	AN	90% cloud, light breeze 17°C	0	0	0	0

Table 1: Reptile Survey Results 2008

3.4 The reptile survey results yielded one record of an adult grass snake. It can therefore be assumed that if other reptile species are present on site they are at very low population levels due to a lack of evidence recorded during surveys. The consequences of the presence of grass snake on site are discussed in section 4 below.

Great Crested Newt Survey

3.5 Results of the four great crested newt surveys undertaken on site are included in appendix I and summarised (highest count data) in table 2 below.

Survey #	Date	Personnel	Weather	*Triturus cristatus*	*T. vulgaris*	*T. helveticus*	*Other*
1	12/05/2008	MH+ GD	50% cloud, no wind 16°C	0	2 (ditch)	0	1 (P5)
2	15/05/2008	MH+ DF	15% cloud, light breeze 18°C	0	1 (P2); 6 (ditch)	0	1 (ditch)
3	3/06/2008	MH & AN	90% cloud, light rain 10°C	0	1 (P3); 1 (ditch)	0	0
4	19/06/2008	MH & AN	30% cloud light breeze 11°C	0	0	0	3 (ditch)

Table 2: GCN Survey Results 2008

3.6 From the summary of results above it is evident that no great crested newts were recorded during any of the four surveys, and that each of the surveys were completed within the optimum survey window and during clement weather conditions.

4.0 DISCUSSION & RECOMMENDATIONS

Reptiles

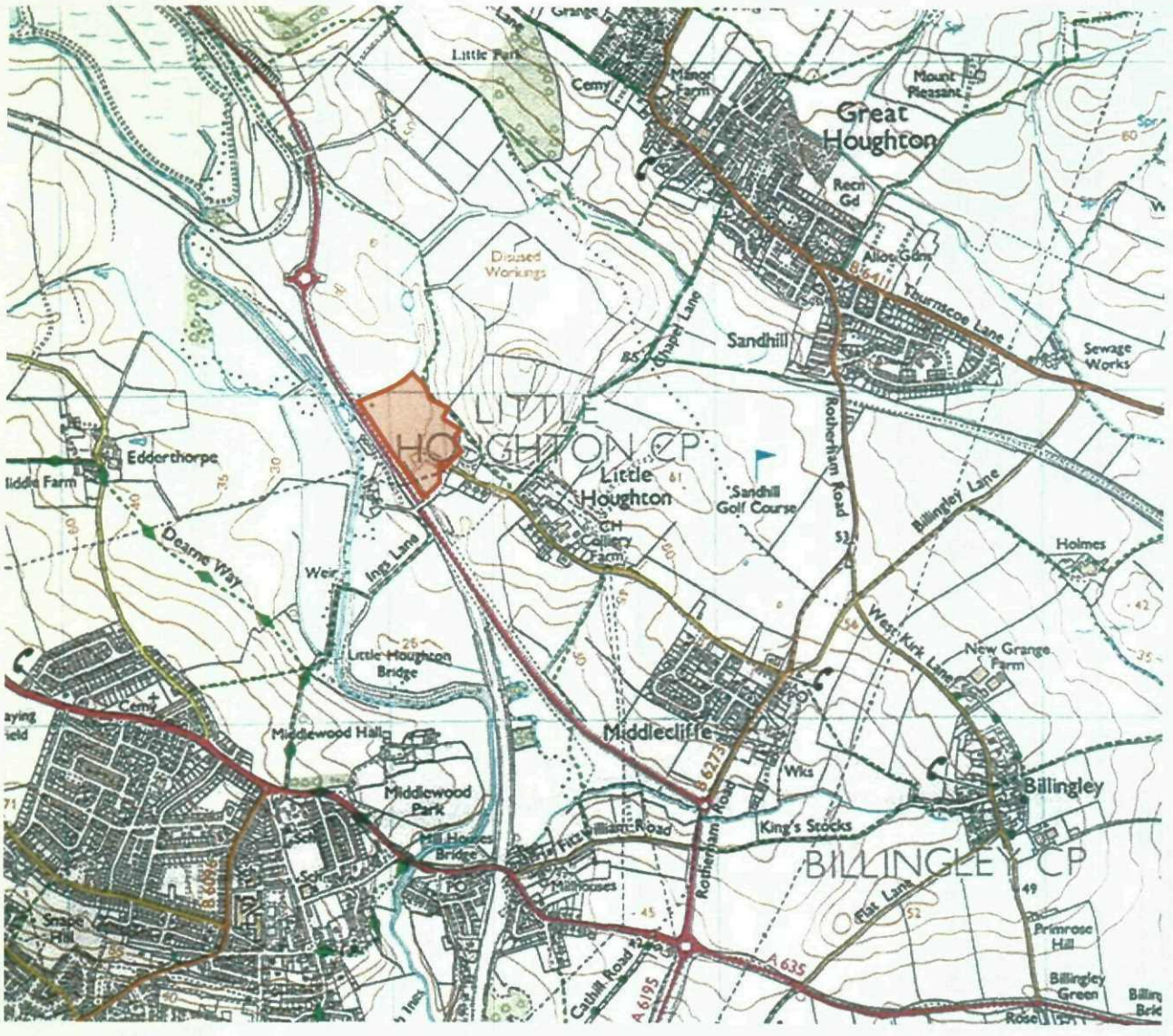
4.1 One adult grass snake was recorded during the seven reptile surveys, which took place during optimum conditions between May and July 2008. From this record it can be assumed that a small population of this species is present within the local area. Grass snake are a highly mobile species, covering up to 5km per 24 hour period, often using watercourses as corridors of movement as well as foraging areas. Recommendations depend on the programme of work, if site clearance is scheduled to take place before the end of October 2008 then the site should be cleared sympathetically in order to displace reptiles; if clearance is scheduled for during or after November (and prior to March), the site can be stripped as normal as there are no features on site suitable for hibernating reptiles, apart from an area of scrub which would need to be cleared in advance of the remainder of the site to make it unsuitable as an hibernacula. Displacement should be undertaken under supervision of an ecologist by firstly removing the scrub and subsequently mowing/ strimming the remaining vegetation down to 200mm, leaving for 2 hours then cutting again to 50mm prior to undertaking a soil scrape to clear the site. This is dependent on the vegetation height at the time of site clearance.

Great Crested Newts

4.2 No great crested newts were recorded during any of the surveys. Furthermore, there are no locally known populations of this species, within 500m of the site. Therefore no further statutory constraints should impinge upon the development of this site with regard to amphibians, including the great crested newt.

Habitat Enhancement

4.3 Where feasible reptile refugia and hibernacula should be incorporated into the design of the scheme, engineered into features such as hedgerows. Suitable refuge/ hibernacula habitat enhancements include log piles, rubble mounds through to long trenches backfilled with rubble and removed branches/ trees which lie adjacent to the base of any new hedges to be planted.



Site Boundary

N

Land at Little Houghton, Barnsley

Figure 1 - Location Plan
1:25000
August 2008

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J:/3700/3718/Fig 1 - Location Plan.cdr



Key

X X Artifical Refugia Locations for Reptile Survey

P# Waterbodies with reference

revisions

fpcr

architecture •
landscape •
ecology •
environmental assessment •
masterplanning •

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client White Young Green and UK Coal Mining Ltd

project LAND AT LITTLE HOUGHTON, BARNSLEY

title Pond & Reptile Refugia Location Plan August 2008

scale 1:2,000 @ A3

drawing 3718/E/002

status DRAFT

Job Name & No.	3718 Little Houghton	Survey Number	1	Survey Type	Pres/Abs	Date	12.05.08	Ecologist(s)	MH / GD	Torch Power	1.000.000

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
1		4	0	16	0	0	3	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
20 X 5		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		1	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments	Eutrophic, overgrown with algae. Torching v.difficult due to algae.												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
2		4	0	16	0	0	0	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
10 x 6		3	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments	Lots of algae, but with aquatic vegetation (*Juncus* and *Phragmites*). Tadpoles present, v.shallow. Both ponds at end of woodland section, scrub likely to encroach these ponds.												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
3		4	yes	16	0	0	0	4

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
100 x 20		25	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	1	0				0	1
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
G	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
0	Other		0	0	0	0	fish	0				0	0
Comments	Medium size, recently built 'doughnut' shaped balancing lagoon, gentle sloping sides, probably over 1m deep.												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
Ditch		4	0	16	0	1	4	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
1m wide		6	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	2	0	0				0	2
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
M	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
95	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
4		1	0	16	0	0	1	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
200		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0				0	0	0	0	0
1	Smooth Newt		0	0	0				0	0	0	0	0
Water Quality	Palmate Newt		0	0	0				0	0	0	0	0
B	Common Frog		0	0	0				0	0	0	0	0
Percentage Shade	Common Toad		0	0	0				0	0	0	0	0
80	Other		0	0	0				0	0	0	0	0
Comments	24 x fish and tadpoles. Pond completely eutrophic, covered in algae, very difficult to access due to overgrowth and steepness of sides. Well shaded in places due to willow etc. Not possible to torch due to 100% *Lemna* cover.												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
5		4	yes	16	0	1	3	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
80 x 20		25	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
G	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	1				0	1
0	Other					0	0	0				0	0
Comments	Lagoon, water flows in from river. Lots of reedbed areas along banks. Located between river and factory over the road. Hundreds of tadpoles present. Found common toad and 4-5 fish.												

No. of Waterfowl	Number of waterfowl seen per pond or per 1000m² in large ponds.
No. of Fish	1-4, 4 = Absent, 3 = Possible, 2 = *Minor* (*crucian* carp and sticklebacks) 1 = Major (other species or carp/sticklebacks in dense populations)
Rain	0-5 (0=no rain, 5 = heavy rain) if 5 abandon survey
Wind	0-5 (0 = still, 5 = strong wind) if 5 abandon survey
Vegetation Cover	0-5 (0 = no cover, view clear, 5 = completely covered) this doesn't include duckweed
Turbidity	0-5 (0 = completely clear, 5 = very turbid) if 5 do not torch
Water Quality	Good, Moderate, Poor, Bad Good - Water supports an abundant and diverse invertebrate community. Netting reveals handfuls of diverse invertebrates, including groups such as mayfly larvae and water shrimps. Moderate- Moderate invertebrate diversity Poor- Low invertebrate diversity (e.g. species such as midge and mosquito larvae. Few submerged plants. Bad- Clearly polluted, only pollution-tolerant invertebrates (such as rat-tailed maggots), no submerged plants.
Permanence	0-3 (0 = never dries, 3 dries annually)
Percentage Shade	Estimate the percentage of the pond perimeter that is shaded, to at least 1 m from the shore. Shading is usually from trees, but can include buildings but should not include emergent pond vegetation

Full guidance on the HSI scoring criteria can be found S:\Ecology resources\GCN Surveys 2008\HSI_guidance.pdf

Job Name & No.	3718 Little Houghton	Survey Number	2	Survey Type	Pres/Abs	Date	15.05.08	Ecologist(s)	DF MH	Torch Power	1.000.000

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
1		4	0	14	0	0	1	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
20 X 5		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
2		4	0	14	0	0	2	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
10 x 6		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		3	0	0	0	1	0				0	3
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
3		3	0	14	0	0	0	0

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
100 x 20		40	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
0	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	1				0	0
0	Other		0	0	0	0	0	0				0	0
Comments	Tadpole present												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
Ditch		4	0	14	0	0	4	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
1m wide		3	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	1	0	4	2	0				0	6
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
M	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	1	0	0	0	0				0	1
95	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
4		1	2	14	0	0	2	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
30x15		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
0	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
B	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
5		1	4	14	0	0	3	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
80 x 20		40	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
0	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
G	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
0	Other		0			0	0	0				0	0
Comments	Tadpoles present												

Job Name & No.	3718 – Little Houghton	Survey Number	3	Survey Type	Pres/Abs	Date	03.06.08	Ecologist(s)	MH & AN	Torch Power	1 Mill

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
1		0	0	10	1	0	3	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
20 x 5		2	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
2		0	0	10	1	0	4	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
10 X 6		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
2	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
Drainage Ditch		0	0	10	1	0	4	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
1m wide		3	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	1	0				0	1
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
M	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
95	Other		0	0	0	0	0	0				0	0
Comments	Water levels fluctuated between setting traps and torching												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
3		0	2	10	1	0	0	4

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
100 x 20		30	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	1	0				0	1
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
G	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
0	Other		0	0	0	0	0	0				0	0
Comments	Water levels fluctuated between setting traps and torching												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
4		0	2	10	1	0	1	3

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
30 x 15		2	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
P	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
80	Other		0	0	0	0	0	0				0	0
Comments	Water levels fluctuated between setting traps and torching												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
5		0	6	10	1	0	2	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
80 x 20		40	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0				0	0
1	Smooth Newt		0	0	0	0	0	0				0	0
Water Quality	Palmate Newt		0	0	0	0	0	0				0	0
G	Common Frog		0	0	0	0	0	0				0	0
Percentage Shade	Common Toad		0	0	0	0	0	0				0	0
0	Other		0	0	0	0	0	0				0	0
Comments	Water levels fluctuated between setting traps and torching												

Job Name & No.	3718 – Little Houghton	Survey Number	4	Survey Type	Pres/Abs	Date	19/06/08	Ecologist(s)	MH & AN	Torch Power	1 Mill

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
1		4	0	11	0	2	3	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
8x3		2	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0	0	0	0	N/A	0
1	Smooth Newt		0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt		0	0	0	0	0	0	0	0	0		0
M	Common Frog		0	0	0	0	0	0	0	0	0		0
Percentage Shade	Common Toad		0	0	0	0	0	0	0	0	0		0
50	Other		0	0	0	0	0	0	0	0	0		0
Comments	TADPOLES												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
2		4	0	11	0	2	3	2

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
12x2		5	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0	0	0	0	N/A	0
0	Smooth Newt		0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt		0	0	0	0	0	0	0	0	0		0
M	Common Frog		0	0	0	0	0	0	0	0	0		0
Percentage Shade	Common Toad		0	0	0	0	0	0	0	0	0		0
80	Other		0	0	0	0	0	0	0	0	0		0
Comments	TADPOLES												

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
Drainage Ditch		4	0	11	0	2	4	1

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
1.5x10		3	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0	0	0	0		0
1	Smooth Newt		0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt		0	0	0	0	0	0	0	0	0		0
G	Common Frog		0	0	0	0	0	0	0	0	0		2
Percentage Shade	Common Toad		0	0	0	0	0	0	0	0	0		1
0	Other		0	0	0	0	0	0	0	0	0		0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
3		4	0	11	0	2	0	4

Pond Area (m^2)		No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
100x50		35	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt		0	0	0	0	0	0	0	0	0	N/A	0
0	Smooth Newt		0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt		0	0	0	0	0	0	0	0	0		0
P	Common Frog		0	0	0	0	0	0	0	0	0		0
Percentage Shade	Common Toad		0	0	0	0	0	0	0	0	0		0
0	Other		0	0	0	0	0	0	0	0	0		0
Comments													

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
4		1 2 3 4			0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5

Pond Area (m^2)	No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
40X10	2	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt	0	0	0	0	0	0	0	0	0	n/a	0
0	Smooth Newt	0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt	0	0	0	0	0	0	0	0	0		0
M	Common Frog	0	0	0	0	0	0	0	0	0		0
Percentage Shade	Common Toad	0	0	0	0	0	0	0	0	0		0
65	Other	0	0	0	0	0	0	0	0	0		0
Comments	Quality of water better than during previous surveys											

Pond No	Grid Reference	No. of fish	No. of Waterfowl	Air Temp (°C)	Rain	Wind	Veg Cover	Turbidity
5		2	4	11	0	2	2	2

Pond Area (m^2)	No. Bottles	Bottle Trapping			Torching			Netting			Egg Search	Highest Count
100X5	32	Male	Female	Juvenile	Male	Female	Unknown	Male	Female	Juvenile		
Permanence	Great Crested Newt	0	0	0	0	0	0	0	0	0	n/a	0
0	Smooth Newt	0	0	0	0	0	0	0	0	0		0
Water Quality	Palmate Newt	0	0	0	0	0	0	0	0	0		0
G	Common Frog	0	0	0	0	0	0	0	0	0		0
Percentage Shade	Common Toad	0	0	0	0	0	0	0	0	0		0
10	Other	0	0	0	0	0	0	0	0	0		0
Comments	7 Fish seen. Well developed tadpoles.											